

University of Wisconsin-Milwaukee

Graduate School

2017 -2018 Bulletin

Graduate Program and Course Catalog

Current as of **August 1, 2017**

Note: There may be some changes effective Fall 2017 not reflected in this document. The Web pages at the link below have the most current information.

[**uwm.edu/graduateschool/explore-our-programs**](http://uwm.edu/graduateschool/explore-our-programs)



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Degree Programs

Administrative Leadership

School/College: School of Education
Degrees Conferred:

- M.S. in Administrative Leadership

Related Certificates

- [Specialist Certificate in Administrative Leadership](#)
- [Health Professional Education Certificate](#)
- [Graduate Certificate in Teaching and Learning in Higher Education](#)
- [Graduate Certificate in Support Services for Online Students in Higher Education](#)

Overview

The Department of Administrative Leadership offers a graduate program of studies with two emphases: (1) educational administration and supervision and (2) adult, continuing, and higher education administration.

The concentration in educational administration and supervision prepares the student for a career as a school district administrator, elementary, middle, or secondary school administrator, director of special education and pupil services, school business manager, or curriculum director. Through this program of studies, the student can fulfill professional education requirements for administrative and supervisory licenses in Wisconsin and most other states.

The concentration in adult, continuing, and higher education administration prepares the student for positions of administration and leadership in business, community, and higher education environments. These environments can allow the student obtain careers as adult educators, trainers, human resource directors and administrators in vocational and technical education, university extension, continuing professional education; student advisors, managers of support programs for traditionally underrepresented students, student housing specialists, student programming specialists, business managers, and administrative positions at all levels of postsecondary education.

Students in the master's degree with the concentration in adult, continuing, and higher education administration can jointly earn a certification in Teaching and Learning in Higher Education or a certificate in Support Services for Online Students in Higher Education. In this case, the student must complete an application (including the application fee) for both programs (master's program and certificate program).

The master's degree programs are offered online and hybrid.

The Department also offers a course of study leading to the [Specialist Certificate in Administrative Leadership](#)—required for the school superintendency and recommended for other school or adult education administrative or supervisory positions.

Under the auspices of the [Ph.D. program in Urban Education](#), the Department offers doctoral level specializations in educational administration and in Adult, Continuing, and Higher Education Administration.

Graduate Faculty

Professors

Colbeck, Carol, Ph.D., Stanford University
Conceição, Simone, Ph.D., University of Wisconsin-Madison
Daley, Barbara J., Ph.D., Cornell University

Assistant Professor

Baldwin, Cheryl, Ph.D., University of Illinois at Urbana

Master of Science in Administrative Leadership

Admission

An applicant must meet [Graduate School requirements](#) to be considered for admission to the program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the program of studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Concentration in Educational Administration

Credits and Courses

Minimum degree requirement is 33 graduate credits, 27 of which must be in education and 6 of which may be in related fields. Credit distribution must be: 18-24 credits in educational administration and supervision; 9-15 credits in related electives, of which 6 credits may be earned through a thesis or master's paper.

The student plans an individual program of studies in consultation with a major professor. If the student intends to apply for the Specialist Certificate upon completion of the master's degree, the program of studies may satisfy Specialist Certificate admission requirements.

Thesis or Master's Paper

Thesis or Master's Paper Optional. See Credits and Courses above.

Final Portfolio

As a capstone requirement, students who begin the program fall 2011 and thereafter must develop and submit a comprehensive portfolio for review by faculty. The student must pass both the written part of the portfolio and the oral portfolio defense.

Comprehensive Examination

Students who began the program before Fall 2011 have the option of passing a written and/or oral final comprehensive examination as the capstone requirement.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Concentration in Adult, Continuing, and Higher Education Administration

Credits and Courses

Minimum degree requirement is 33 graduate credits, 24 of which must be in education and up to 9 of which may be in related fields. Credit distribution must be: 15 credits in adult education; 9 credits in foundations; and 9 credits in related electives, of which 6 credits may be earned through a thesis or master's paper. The student plans an individual program of studies in consultation with the major professor. If a student intends to apply for a Specialist Certificate upon completion of the master's degree, a program of studies can be arranged so that a portion of the credits earned toward the degree will also partially or completely satisfy admission requirements for a course of study leading to the Specialist Certificate, as detailed below.

Thesis or Master's Paper

Thesis or Master's Paper Optional. See Credits and Courses above.

Final Portfolio

As a capstone requirement, students who begin the program fall 2011 and thereafter must develop and submit a comprehensive portfolio for review by faculty. The student must pass both the written part of the portfolio and the oral portfolio defense.

Comprehensive Examination

Students who began the program before Fall 2011 have the option of passing a written and/or oral final comprehensive examination as the capstone requirement.

Administrative Leadership

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; cons instr; acceptance for Study Abroad Prog.

500 Administration of American Public Schools. 3 cr. U/G.

Prereq: jr st. Available as grad level only.

507 Introduction to Group Leadership. 3 cr. U/G.

Concepts and theories of group and organizational leadership applied to problems of youth-serving organizations and student activities in secondary and post-secondary schools and colleges. Prereq: jr st.

517 Introduction to Adult Education Practice. 3 cr. U/G.

Objectives, organization and practices of postsecondary programs of lifelong learning, adult and continuing education, and community and public service programs. Prereq: jr st.

537 Leadership and Management of Volunteer Programs. 3 cr. U/G.

Introduction to volunteers and organizations which utilize them. Course emphasizes practical application of leadership skills needed for effective management and training of volunteers. Prereq: jr st.

547 The Educational Dimensions of Practice with Older Adults. 3 cr. U/G.

Current problems, issues and research relating to the development and organization of educational programs for older adults. Prereq: jr st.

557 Foundations and Philosophy of WTCS in Wisconsin. 3 cr. U/G.

History, philosophy, objectives, organization and legal bases for vocational education, with special emphasis given the movement in Wisconsin. Prereq: jr st or vocational teachers or cons instr.

567 Supervision and Planning for Vocational and Technical Education. 3 cr. U/G.

Social, economic, philosophical, and historical foundations of career education. Exploration of past, present and projected models. Strategies for program selection, community involvement, evaluation and management. Prereq: jr st or cons instr.

577 Adult Literacy and Workforce Development. 3 cr. U/G.

Analyzes the problem of adult low literacy and its effects on work force development; presents alternative procedures for providing educational programs. Prereq: jr st.

579 Current Topics in Administrative Leadership: (Subtitled). 1-3 cr. U/G.

Current problems, issues and research in administrative leadership and supervision and their implications for practitioners. May be repeated with change in topic to max of 9 cr. Prereq: jr st.

581 Administration and Supervision in Early Childhood Programs. 3 cr. U/G.

Analyzes, from a quality perspective, the administrative roles and responsibilities of various early care and education programs, and the groups with whom they have relationships. Prereq: jr st.

582 Operations Management in Early Childhood Programs. 3 cr. U/G.

An introduction to systems and operations theory. Students explore and apply management concepts, systems, policies, and procedures to improve the quality of programs and services. Jointly offered with & counts as repeat of Ed Pol 582. Prereq: jr st; Ad Ldsp 581(P); or cons instr.

583 Financial Management and Planning in Early Childhood Programs. 3 cr. U/G.

Identifies the principles of sound financial management and develops the ability to apply those principles to the financial planning and management of early childhood programs. Prereq: jr st & Ad Ldsp 581(P); or cons instr.

586 Administrative Seminar: Leadership in Early Childhood Programs. 3 cr. U/G.

Integrates and applies the concepts and skills acquired in the first five courses as demonstrated in the development of a major project by each student. Prereq: jr st & Ad Ldsp 581(P); Ad Ldsp 582(P) or Ed Pol 582(P); Ad Ldsp 583(P); Ed Pol 584(P); CurrIns 585(P).

587 Serving Multicultural and Special Needs Learners. 3 cr. U/G.

Examines the needs of multicultural and adult vocational special needs learners; explores strategies for revising instructional methods/approaches and program development. Prereq: jr st.

591 Early Childhood Leadership: The Personal Disposition of a Leader. 3 cr. U/G.

Leadership definitions and skills and the role of vision, emotional intelligence, resilience, optimism and reflective practice for successful early childhood leaders. Prereq: jr st; completion of childcare credential or cons instr.

592 Early Childhood Leadership: Leading in Your Program. 3 cr. U/G.

Leadership roles, responsibilities and skills necessary for leadership in staff development and excellence in early childhood programs. Prereq: jr st; completion of childcare credential or cons instr.

593 Early Childhood Leadership: Leading in Your Community and the Field. 3 cr. U/G.

Leadership skills necessary for leadership in communities and the profession with a focus on collaboration, interconnections, relationships, transformation and advocacy. Prereq: jr st; completion of childcare credential or cons instr.

594 Early Childhood Leadership: Leading for Change. 3 cr. U/G.

Transformational leadership, theories on change, action research, and advocacy strategies. Completion of action research project to effect change. Prereq: jr st; completion of childcare credential or cons instr.

597 Program Development in Occupational Education. 3 cr. U/G.

Technical, administrative, organizational, and participatory skills and knowledge associated with program development in occupational education for adults and adolescents. Prereq: jr st.

598 Introduction to Workforce Education and Development. 3 cr. U/G.

Foundations of workforce education and development; nature and role of education in preparing individuals for work. Prereq: jr st.

605 Survey of Human Resource Development. 3 cr. U/G.

Introduction to human resource development theories, principles, concepts, and practices. Prereq: sr st.

607 Coordination of Staff Development and Training Program. 3 cr. U/G.

Provides knowledge and skills required for the design, coordination and administration of staff development and training programs. Prereq: jr st.

617 Leadership in Youth-Serving Organizations. 3 cr. U/G.

Introduction to the philosophy and operations of youth-serving organizations, administration of programs, and the role of youth-serving organizations in the larger community. Prereq: jr st.

630 Field Work in Schools, Agencies and Institutions. 2-6 cr. U/G.

Field inquiry and experience in applied problems of administrative leadership in school administration, supervision or adult education in conjunction with seminar sessions to relate theory to practice. Retakable to max of 6 cr.

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Prereq: Ad Ldsp 517(P) or 702(P) or 757(657)(P); cons instr.

631 Emerging Research in Human Resource Development. 3 cr. U/G.

Examines the role of research in Human Resource Development (HRD). Counts as repeat of Ad Ldsp 779 with similar title. Prereq: jr st.

632 International Cross-Cultural Experiences in Developing Human Resources. 3 cr. U/G.

Examining Human Resource Development (HRD) in international and global contexts. Counts as repeat of Ad Ldsp 779 with similar title. Prereq: jr st.

647 Evaluation of Adult, Continuing, and Higher Education Programs. 3 cr. U/G.

Provides an awareness, analysis, and synthesis of the purposes, methods, and procedures for evaluating diverse types of adult, continuing, and higher education programs, e.g., HRD, extension/outreach, etc. Counts as repeat of Ad Ldsp 579 with similar title. Prereq: jr st.

667 Program Planning in Adult Education. 3 cr. U/G.

Principles and processes affecting programming of adult education. Focus on planning, execution, and evaluation dimensions of the programming process. Prereq: jr st; Ad Ldsp 517(P) or 757(657)(P).

687 Instructional Design and Teaching Strategies. 3 cr. U/G.

Using an instructional design approach, students develop skills in selecting, using, and evaluating instructional strategies and procedures appropriate to particular domains of adult learning. Prereq: jr st; Ad Ldsp 517(P); or cons instr.

691 Leadership Ethics in Multicultural Organizations. 1 cr. U/G.

Introduction to the concept of ethics and leadership in multicultural organizations. Counts as repeat of Ad Ldsp 579 with similar title. Prereq: jr st

692 Quality Management in Education. 1 cr. U/G.

Introduction to the principles of quality management in education. Counts as repeat of Ad Ldsp 579 with same topic. Prereq: jr st.

693 Decision Making in Multicultural Organizations. 1 cr. U/G.

Introduction to individual planning and decision making in multicultural organizations. Counts as repeat of Ad Ldsp 579 with title 'Planning and Decision Making Skills'. Prereq: jr st.

702 Leadership in Educational Organizations. 3 cr. G.

Governance; social, political, and economic influences; theories of organizations and

organizational behavior related to the administration of elementary and secondary schools. Prereq: grad st.

703 Resources for Self-directed Learning. 1 cr. G.

Resources for self-directed learning to help students succeed in online courses and programs. Prereq: grad st.

704 Technologies for Online Student Support. 1 cr. G.

Synchronous and asynchronous technologies for conducting online sessions for advising, teaching, academic, and student support. Prereq: grad st.

706 Professional Development for Online Instruction. 1 cr. G.

Prepares both current and future instructors of adults to understand online instruction as it relates to pedagogy, professional development, and institutions. Prereq: grad st.

707 Using Technology With Adult Learners. 3 cr. G.

Design and management of web-based instructional programs/classes applying principles of instructional design, media, and software applications for adult learners. Prereq: grad st; Ad Ldsp 757.

708 Online Support Services in Adult, Continuing, and Higher Education. 3 cr. G.

Assessment of trends, theory, and research for online student support; development of a plan for an online student support program. Prereq: grad st.

709 Introduction to Higher Education Administration. 3 cr. G.

Contemporary issues of higher education focusing on historical, philosophical and sociological forces that affect higher education from an administrative perspective. Prereq: grad st

710 Organizational Change and Team Leadership. 3 cr. G.

Organizational change and team leadership is designed to introduce theories and concepts in organizational change and the interpersonal dynamics of working with and leading teams. Prereq: grad st; Ad Ldsp 702 or 757(657) or cons instr.

711 Organization and Governance in Higher Education Administration. 3 cr. G.

Overview of higher education institutions focusing on models of institutional governance, academic organization and higher education constituencies and their respective roles. Prereq: grad st

712 Instructional Leadership. 3 cr. G.

Personnel functions of the building principals recruitment, induction, staff development, supervision, and evaluation. Field experience

integrated into course activities. Prereq: grad st; Ad Ldsp 702 or cons instr.

725 The Politics of Education. 3 cr. G.

An examination of political decision-making at federal, state, and local levels, governments, and education. Prereq: grad st; Ad Ldsp 705 or 657 or cons instr.

729 Qualitative Research and Field Studies in Education Settings. 3 cr. G.

Examination of qualitative techniques as applied to educational research and evaluation in schools, classrooms, and other educational settings. Not open to students who have cr in CurrIns 729 which is identical to Ad Ldsp 729. Prereq: grad st; Ed Psy 528 or equiv.

732 The Politics of Education. 3 cr. G.

School-level politics of education and school-community relations. Focus on effective communication. Community assessment, partnerships, parent education, and related issues. Prereq: grad st; Ad Ldsp 702 or cons instr.

737 Distance Education for Adults. 3 cr. G.

Analysis of concepts, theories, and research in distance teaching and learning focusing on adult learners, program development and assessment of distance teaching and learning. Prereq: Ad Ldsp 757 or cons instr.

740 Seminar in Innovative Technologies for Learning in Education. 3 cr. G.

Examines innovative educational technologies and potential of these technologies for individuals, groups, and organizations; purpose and impact in organizational change; implementation in an organization. Prereq: grad st.

747 Strategic Planning and Budgeting in Adult, Continuing, and Higher Education. 3 cr. G.

Examines theoretical models and research literature on both strategic and operational planning, and the budgeting processes for adult, continuing, and higher education organizations. Prereq: grad st; Ad Ldsp 667(P) or cons instr.

750 Internship in Administrative Leadership. 1-6 cr. G.

Field experience in school and social agency settings under guidance of an experienced administrator and a faculty member. Prereq: grad st; Ad Ldsp 710 & cons advisor.

752 School Law. 3 cr. G.

Authority, power, liability of school personnel, legal status of school districts, officers, pupils. Legal controls on curriculum, property, finances. Emphasis on state, federal court decisions. Prereq: grad st; Ad Ldsp 702 or cons instr.

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757 (657) Principles and Foundations of Adult Education. 3 cr. G.

A study of concepts, theories and principles of adult education, the nature of adult processes, and factors that influence and facilitate adult learning. Prereq: grad st or cons instr.

762 Management of Educational Resources. 3 cr. G.

Building level school finance and fiscal management. Federal, state, and local taxation policies; equity; budgeting, purchasing, and fiscal control of public and student funds. Prereq: grad st; Ad Ldsp 702 or cons instr.

767 Practicum in Program Planning and Implementation. 3 cr. G.

Application of program planning principles including program development, budgeting, marketing, facilities management and evaluation in the implementation of an education program. Prereq: grad st, Ad Ldsp 667 or 702 (705).

772 The Principalship. 3 cr. G.

In-depth seminar examining the problems and issues of school administration at the building level. Prereq: grad st; completion common core.

777 Leadership in Multicultural Organizations. 3 cr. G.

Analyzes concepts and theories of leadership, issues of diversity in organizations, and explores techniques for managing differences that comprise today's multicultural workforce. Prereq: grad st; Ad Ldsp 757(657) or 702(705) or cons instr.

778 Introduction to College Student Personnel Administration. 3 cr. G.

Introduction to college student personnel administration stressing the various components that encompass student affairs practice in collegiate settings. Prereq: grad st

779 Current Topics in Administrative Leadership: (Subtitled). 1-3 cr. G.

Current problems, issues and research in administrative leadership and supervision and their implications for practitioners. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

782 Principalship Field Practicum. 1-3 cr. G.

Field application of knowledge, concepts and skills learned in principal accreditation course work. Seminar attendance required. Retakeable to max of 3 cr. Prereq: grad st; compl common core & Ad Ldsp 772.

787 Administration of Adult Education Programs. 3 cr. G.

Current behavioral concepts, theories, and processes of administration, supervision, and coordination as applied in adult education

organizations and agencies. Prereq: grad st; Ad Ldsp 757 or writ cons instr.

790 Internship in Instructional Leadership. 3 cr. G.

Relevant field experience for candidates seeking the WI DPI Director of Instruction administrative license. Prereq: grad st; completion of common core

792 Principalship Field Practicum. 3 cr. G.

Roles, responsibilities, and operational tasks of principals with practical application of knowledge, theories, systems, and processes. Field experience component and seminar component. Prereq: grad st; compl common core

795 Women and Leadership in Education. 3 cr. G.

Issues of women's leadership within the field of education in the United States. Prereq: grad st

797 The Student in the Collegiate Context. 3 cr. G.

Overview of the collegiate experience from multiple perspectives including race, gender, sexual identities, abilities, and age within the context of various institutions. Prereq: grad st.

798 Seminar in Human Resource Development. 3 cr. G.

Analyzes the concepts, current research, issues, and trends in the area of human resource development and how these issues influence organizational performance. Prereq: grad st; Ad Ldsp 607.

799 Independent Reading. 1-3 cr. G.

For graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr & advisor.

800 Administration of the School Plant. 2-3 cr. G.

Determination of school plant needs based upon educational program, population, and utilization studies. Evaluation of existing school plant. Prereq: grad st; Ad Ldsp 705 & 706.

801 Urban Education: Doctoral Seminar. 3 cr. G.

Administrative leadership and policy development in urban education. Prereq: grad st; admis to Ph.D. prog in Urban Educ; Educ 701(P).

802 District Leadership for Learning. 3 cr. G.

A study of the special problems and opportunities involved in administering school districts, focusing on the role of the district administrator. Prereq: post masters st; or cons instr.

812 Educational Personnel Administration and Supervision. 3 cr. G.

Focus on major concepts, functions and problems of personnel administration in education including recruitment, assignment, evaluation and motivation. Prereq: grad st; Ad Ldsp 802 or cons instr.

827 Seminar in Adult and Organizational Learning. 3 cr. G.

Application of transformative, critical, and action learning concepts to personal and professional development. Prereq: grad st; Ad Ldsp 710(P).

828 Using Qualitative Data Analysis Software for Educational Research. 1 cr. G.

Explores technical and theoretical issues associated with using qualitative data analysis software packages. Prereq: grad st; Ad Ldsp 829(C)

829 Advanced Qualitative Research Techniques for Education Settings. 3 cr. G.

Advanced examination of qualitative research techniques in three areas; conceptual design; data collection methods and data analysis and reporting. Not open to students who have cr in CurrIns 829 which is identical to Ad Ldsp 829. Prereq: Ad Ldsp 729 or cons instr.

832 Educational Politics and Policymaking. 3 cr. G.

An examination of political sources of decision making in education. The role of interest groups in shaping educational policy and implementation at local, state, and national levels. Prereq: post-master's st; Ad Ldsp 802 or cons instr.

839 Practicum in Writing from Qualitative Research for Educational Settings. 3 cr. G.

Practice in writing from qualitative research data and analysis of qualitative text. Not open to students who have cr in CurrIns 839 which is identical to Ad Ldsp 839. Prereq: grad st; Ad Ldsp or CurrIns 729(P) & 829(P).

842 Program Planning and Evaluation in Education. 3 cr. G.

Theory, research, and practice regarding role of the superintendent in planning and evaluating education programs. Case studies, simulations, and field applications. Prereq: grad st; Ad Ldsp 802 or cons instr.

849 Higher Education and the Law. 3 cr. G.

Designed for aspiring college or university administrators to provide knowledge and skills in the area of higher education law and policy. Prereq: grad st.

850 Supervision of Student Teaching. 3 cr. G.

The role and responsibilities of the supervising teacher in planning, guidance and evaluation of the learning experiences of prospective

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teachers. Prereq: grad st; Ad Ldsp 705 or cons instr.

852 Collective Bargaining and Contract Administration in Education. 3 cr. G.

Study of theory and practice of collective bargaining in educational systems. Prepares educators to manage the bargaining process and administer the contract. Prereq: postmaster's st; Ad Ldsp 802 or cons instr.

862 School Finance. 3 cr. G.

Theoretical/contemporary bases for raising/distributing local, state, federal funds for public education. Problems, issues of public school financial support. Analysis of Wisconsin school support. Prereq: post-master's st, Ad Ldsp 802 or cons instr.

867 Seminar in Continuing Education in the Professions. 3 cr. G.

Analysis of the role and nature of continuing education in professions; current issues affecting the development of this field of adult education practice. Prereq: grad st; Ad Ldsp 667 or cons instr.

877 Seminar in Two-Year Post Secondary Institutions. 3 cr. G.

Present status, development, functions, organizational and curriculum trends in postsecondary nonbaccalaureate institutions. Prereq: grad st; Ad Ldsp 657 or cons instr.

880 Proseminar in Urban Education: Administrative Leadership. 3 cr. G.

An examination of selected problems and issues in urban education. Prereq: grad st; admis to the urban education doctoral prog.

882 Practicum in the School Superintendency. 1-3 cr. G.

Field application of the knowledge, concepts, and skills learned in concurrent course work. Seminar attendance required. Repeatable to 3 cr. Prereq: post-master's st; admis to District Administrator Cert Prog; cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Repeatable to 3 cr. Prereq: grad st.

890 Higher Education Finance. 3 cr. G.

Introduction to financing higher education and analyzing the strengths and weaknesses of that system. Counts as repeat of Ad Ldsp 779 with same topic. Prereq: grad st

892 Specialist Applied Research Project. 2-6 cr. G.

Specialist project and inquiry in applied problems of administration and supervision. Prereq: postmaster's st; completion of 15 cr in specialist sequence; cons advisor.

893 Seminar in International Adult Education. 3 cr. G.

Introduction to the foundations, context, global, political, socio-economic, and educational issues for international adult education. Prereq: grad st

897 Seminar in the Philosophy and History of Adult, Continuing & Higher Education. 3 cr. G.

Philosophical foundations related to the historical movement of adult, continuing, and higher education and implications for future directions. Prereq: grad st; Ad Ldsp 657(P) or cons instr.

900 Role of the Professoriate. 3 cr. G.

Analysis of traditional faculty responsibilities of teaching, research, and service and the professional context in which they are conducted. Prereq: doctoral status; counts as repeat of EDUC 900 with same topic.

955 Seminar in Instructional Supervision. 3 cr. G.

Problems of teacher-learner and supervisory relationships in improvement of instructional programs and development of personnel. Analysis of selected problems. Prereq: postmaster's st; eligibility for building administrator or supervisor cert.

960 Seminar in Economics of Education. 3 cr. G.

Financing public education. Efficient allocation and use of facilities and material. Theoretical bases and premises of public education financial support. Federal, state, and local relationships. Prereq: grad st; Ad Ldsp 862.

967 Seminar in Urban Adult, Continuing, and Higher Education. 3 cr. G.

Examines adult, continuing, and higher education programs provided in the urban environment and discusses issues related to the development and delivery of those programs. Prereq: grad st; Ad Ldsp 657(P)

970 Policy Issues in Urban Education. 1-3 cr. G.

Examines recent policy developments in education, socio-political forces which have defined policy direction, and major points of controversy surrounding educational policies. Prereq: postmaster's st or cons instr.

978 Seminar in Student Personnel Administration. 3 cr. G.

Overview of current skills and competencies needed by student affairs professionals with an emphasis on standards, retention, debt, crisis management, accountability and assessment. Prereq: grad st

990 Research or Thesis. 1-3 cr. G.

Prereq: grad st; cons instr.

999 Independent Reading. 1-3 cr. G.

For the benefit of postmaster's students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

Africology

School/College: College of Letters and Science
Degrees Conferred:

- Ph.D. in Africology

Overview

The Ph.D. in Africology is grounded in the axiomatic assumption that, as the imperatives of global integration significantly transform human relations, the twenty-first century will witness an exponential expansion of the institutional delivery of Africological knowledge. Across the planet today, Africa remains the only continent with a vast store of natural resources (e.g., uranium, oil, copper, nickel) that are underutilized. With the demand for energy increasing exponentially worldwide, knowledge and understanding of the cultures and political economies of African countries and societies clearly are in the self-interest of the global community. Because of this twenty-first century imperative, the Department of Africology has designed the Ph.D. degree around two concentrations: Political Economy and Public Policy, and Culture and Society: Africa and the African Diaspora.

The fields of concentration are the substantive core of the Ph.D. program. Political economy entails the normative and empirical relations of political and economic phenomena in given sociocultural contexts. Public policy entails the making of binding, authoritative decisions that produce, allocate, reproduce, and reallocate societal resources. Political, economic, cultural, and social elements interact continually in every political economy, and public policy substantially frames their patterns of interaction. Through a range of research methods and techniques, the concentration in political economy and public policy grounds students in local, national, and transnational political economies and public policies. Relevant courses and seminars in such fields as economics, political science, sociology, urban planning, geography, and history will be utilized.

All cultures share in common at least eight attributes. These are species life, species being, language, religion, food, literature-art-science-technology, institutions, and transgenerational memory. Systematic comparisons of these elements of cultures in Africa and in the African Diaspora worldwide afford sound explanations of, and novel insights into, the behaviors of Africans and their descent. This concentration in comparative cultures will enable students to scrutinize rigorously exchanges, admixtures, fusions, retentions, and disappearances of cultural elements in Africa and the African Diaspora in regard to their contemporary significance. Relevant courses

and seminars in English, foreign languages and literatures, history, and sociology will complement those offered in the department.

Graduate Faculty

Professors

Mbalia, Doreatha D., University of Illinois, Urbana-Champaign

Associate Professors

Gelan, Abera, Ph.D., University of Wisconsin-Milwaukee

Sommers, Jeffrey, Ph.D., Northeastern University

Wilson, Anika, Ph.D., University of Pennsylvania

Winkler, Erin, Ph.D., University of California-Berkeley

Assistant Professors

Kopkin, Nolan, Ph.D., Cornell University

McClerking, Harwood, Ph.D., University of Michigan, Ann Arbor

Doctor of Philosophy in Africology

Admission

To be considered for admission, an applicant must meet UWM Graduate Faculty requirements for admission plus the departmental requirements listed below. A master's degree is not a prerequisite for this Ph.D. program.

1. Possession of an overall undergraduate grade point average of 3.33 (B+)
2. Submission of scores within the last five years from the [Graduate Record Examination](#)
3. Submission of three letters of recommendation from individuals who are familiar with the applicant's academic work
4. Submission of a writing sample (10-15 pages) of the applicant's written work, signaling one's aptitude for graduate study

Normally, students are admitted only for the fall semester. However, in extraordinary circumstances, a student may be permitted to begin Ph.D. studies in the spring semester. The department does not offer a terminal M.A. degree. Students applying without a master's degree are admitted to the Ph.D. program in the equivalent of master's status.

Admission to the graduate program is based on a careful review of the applicant's academic qualifications, and is highly competitive. Successful candidates usually have a high grade point average (GPA) in their undergraduate majors, as well as overall. There are, of course, a variety of factors that come into play over the years of an applicant's studies, and so the admissions committee will consider closely a student's academic profile, as well as

accomplishments that are germane to his/her application.

It is the policy of the Graduate Faculty that "Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses."

The student is expected to satisfy deficiency requirements within three enrolled semesters. No course credits earned in making up deficiencies may be counted as program credits required for the degree."

Language or Mathematics/Statistics Proficiency

Students are expected to enter the Ph.D. program with proficiency in a language other than English and/or in mathematics/statistics. Students may satisfy the language requirement by passing a translation examination administered by a faculty member, or by completing, with a grade of C or better, the final course in a four-semester sequence in a language approved by the department. Native speakers of a departmentally approved language may petition the graduate advisor for an exemption to the foreign language requirement.

Proficiency in mathematics/statistics is indicated by completion of two courses at the upper-division level (numbered 300 and above or requiring junior standing) with at least a B average. Students who have not completed this requirement in the context of their undergraduate (or master's degree) studies must take courses to satisfy the requirement during their Ph.D. studies.

Credits earned in satisfying this requirement do not count toward the required credits for the Ph.D. degree. The language or mathematics/statistics proficiency requirement must be completed prior to the doctoral preliminary examinations. Students are encouraged strongly to have the proficiency requirements completed by the time they take the comprehensive examination.

Major Professor as Advisor

Upon admission to the program, students are required to consult with the Director of Graduate Studies about the department's expectations of them, as well as elucidate their own expectations of the department. Soon afterward, students must secure individual advisors, drawn from the department's faculty.

Residence

The student must complete at least half of the graduate credits required for the Ph.D. [in residence](#) at UWM in doctoral status. In addition, the student must complete at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Africology

Course of Study

The Ph.D. degree requires completion of at least 54 graduate credits—48 credits of coursework, and 6 dissertation credits. Students may count up to a maximum of 6 credits in dual level undergraduate/graduate courses toward the degree. Precise numbers of credits and actual course requirements will be determined after review of the applicant's previous coursework.

Required Courses (12 credits)

During the first three semesters in the program, the following courses in Forms of Reasoning are required:

Africol 700 Foundations and Theories in Africology, 3 credits

Africol 701 Theories and Methods in Empirical Research in Africology, 3 credits

Africol 705 Classic Works: Intellectual

Production in Africa and the Diaspora I

Africol 708 Critical Literary Theory I: Cultural Roots of Africological Literary Theory, 3 credits

Fields of Concentration

Following completion of the core courses, students must select one of two concentrations. The Department of Africology has been structured conceptually and empirically around two fields of concentration: Political Economy and Public Policy, and Culture and Society: Africa and the African Diaspora. Students will select one of these concentrations by the end of their comprehensive exams and will work with their faculty advisor to develop an appropriate program of study. In consultation with their faculty advisor, students may elect to take a concentration of 6 to 9 credits outside of the Department.

The Comprehensive Examination

Prior to the end of each entering student's third semester of enrollment, s/he is required to take and pass the department's graduate student comprehensive examination (written and oral) in order to continue his/her studies toward the Ph.D. degree. There are no exceptions to this requirement. The comprehensive examination is administered in the spring and fall semesters of each academic year.

The examination will be administered by three (3) members of the department's faculty, who will grade the written work and conduct the orals. Members of the examination committee rotate each academic year. Students must pass the written examination to be eligible for the oral examination.

Students who pass the comprehensive examination are permitted to proceed toward the Ph.D. degree. Failing the exam will result in a recommendation to the Graduate School for the student's academic dismissal. The comprehensive examination is not repeatable.

Upon passing the exam, students continue to take courses in the concentrations in preparation for the doctoral preliminary examinations and independent research.

The Doctoral Preliminary Examinations

Students will take written and oral doctoral preliminary examinations in two of their three fields of concentration, which they will select.

To be eligible to take the preliminary examinations, which are administered in the fall and spring semesters of each academic year, student must:

- Be registered.
- Have an overall GPA of at least 3.0 (B), at the time of the examination.
- Have completed all coursework—there shall be no incompletes (Is) at the time of the examination.
- Have satisfied the foreign language or mathematics/statistics requirement.
- Have made one presentation to the department's faculty as a whole in the Departmental Faculty Colloquium Series. The purpose of the presentation is to: I) refine a student's knowledge of a given subject; ii) socialize students in the rigors of making scholarly presentations on one's research before future peers; and iii) prepare students for the demands of interviews for future jobs. A student will not be judged to either have passed or failed the presentation. Rather, s/he will be given constructive comments concerning the substance and style of his/her presentation. Generally, each colloquium will last for two (2) hours.
- Have fulfilled all residency requirements.
- Have secured, in addition to their primary departmental advisor, a secondary advisor from outside the department should they plan to use their extra-departmental field of concentration as one of the two written-examination fields.

Those who pass the written examinations with a grade of at least a B on each shall then proceed to take the oral examination. Should a student fail one of the two written examinations, s/he upon petition to the Director of Graduate Studies and the Graduate Studies Committee, may be permitted to retake it at the next scheduled examination cycle. Students who fail both written examinations will not be permitted to retake them.

Failure of both written examinations, or the retake of a written examination, or the oral examination, will result in a recommendation to the Graduate School for the student's academic dismissal. Students who pass the preliminary examinations shall proceed to prepare a dissertation prospectus.

The preliminary examinations must be taken within five years of enrollment in the Ph.D. program.

A student's dissertation committee shall consist of four (4) graduate faculty members, including his/her major professor. At least three (3) of the four members must be from the Department of Africology.

Dissertation Prospectus (Proposal Hearing)

Prior to undertaking research for the dissertation, a student is required to prepare a dissertation prospectus, with the advice and consent of his/her advisor and Dissertation Committee. Acceptance of the dissertation proposal establishes an agreement between the student and the Dissertation Committee as to the nature and scope of the research to be conducted, and the procedure for completing the dissertation. Prior to the Dissertation Committee's approval of the prospectus, research involving the use of human subjects must receive the approval of the Institutional Review Board.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for dissertator status are described on the Graduate School [Doctoral Requirements](#) page.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to an existing body of knowledge. The original research findings embodied in the dissertation should be acceptable for publication in a refereed journal. The student's advisor and Dissertation Committee provide guidance in completing the dissertation. Once a student's dissertation has been approved by his/her advisor and Dissertation Committee, the document, in approved Graduate School format, is ready to be filed with the Graduate School.

Time Limit

It is expected that students entering the program with a baccalaureate degree should normally complete their Ph.D. degree within six (6) years. However, because circumstances beyond a student's control may prevent completion of requirements according to this timeline, students will be granted a maximum of ten years to complete the degree.

Courses

300 Urban Violence. 3 cr. U/G.

Analysis of the nature, causes, and consequences of urban violence; the possibilities and limits of violence in promoting the good of blacks will be scrutinized. Prereq: jr st.

Africology

311 African Religious Thought and Social Organizations. 3 cr. U/G.

A critical analysis of foundations from which complex social structures and institutions evolved in the diverse societies of the Afroworld. Prereq: jr st.

319 African American Urban History. 3 cr. U/G.

A consideration of the contributions of blacks to the growth and development of the American city. Prereq: jr st.

321 Black Workers in the 21st Century. 3 cr. U/G.

Analysis of scientific and technological changes in America since 1900, and their qualitative as well as quantitative impact on black productivity and participation in the work force. Prereq: jr st.

322 Order and Disorder: The Quest for Social Justice. 3 cr. U/G.

An analysis of the forms, purposes, and effects of order and disorder in relation to black people's quest for social justice. Prereq: jr st.

325 Africa/China Relations. 3 cr. U/G.

Historical and emerging political and economic relationship between the African continent and China. Counts as a repeat of Africol 565 w/similar title. Prereq: jr st.

326 Economic Problems of Black Business. 3 cr. U/G.

Examination of major economic problems of black business; liquidity, credit, market shares, insurance, rents, mortgages, and location are analyzed in relation to black business performance. Prereq: jr st.

329 Economic Growth and Sustainable Development in Africa. 3 cr. U/G.

Economic development in African countries; poverty reduction strategies, role of education and health, Millennium Development Goals, agrarian systems, international trade; U.S. as key trading partner. Prereq: jr st.

344 Global Black Social Movements. 3 cr. U/G.

Analysis of leadership, ideology, and the structure of black political movements and organizations in the twentieth century. Prereq: jr st.

350 The Black Family. 3 cr. U/G.

An examination of the structure and functions of the black family in its urban and rural contexts. Prereq: jr st.

450 Cultural Transmissions: Black Africa and Black America. 3 cr. U/G.

A cross-national and cross-cultural comparison of the societies and cultures of black Americans and black Africans. Prereq: jr st.

451 Rites of Passage in Black Societies. 3 cr. U/G.

Foundations of the use of rites of passage in different societies throughout Africa and the African diaspora. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

545 (effective 09/05/2017) Raising Children, 'Race-ing' Children. 3 cr. U/G.

Analysis of the social meaning of race in the US through the lens of childhood and adolescence; how children come to understand and navigate racism. Counts as a repeat of Africol 565 w/similar topic. Prereq: jr st or grad st.

565 Selected Texts/Topics in Africology: (Subtitled). 3 cr. U/G.

Examination of selected problems, issues, and themes in Africology. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

700 Foundations and Theories in Africology. 3 cr. G.

Seminar on historical, theoretical and institutional development of Africology. Topics examined will include Pan-Africanism, Black Feminism, Afrocentrism, Diaspora Theory, Critical Race Theory, and others. Prereq: grad st

701 Theories and Methods in Empirical Research in Africology. 3 cr. G.

Applicability of particular empirical theories and qualitative/quantitative methods to a range of substantive problems and issues pertaining to peoples of African descent. Prereq: grad st; approp upper-level math or stats course

705 Classic Works: Intellectual Production in Africa and the Diaspora I. 3 cr. G.

Conceptual and value foundations of normative theory in relation to forms of social organization. Prereq: grad st

706 Classic Works: Intellectual Production in Africa and the Diaspora II. 3 cr. G.

Advanced study of elements of normative theory such as justice, equality, freedom, and obligation in societal construction and reconstruction in Africa and the Diaspora. Prereq: grad st; Africol 705(P)

708 Critical Literary Theory I: Cultural Roots of Africological Literary Theory. 3 cr. G.

Exploitation and oppression as primary sources of Africological literary theory; cultural components include identity, enemy, objective, strategy, and tactics. Prereq: grad st

709 Critical Literary Theory II: Modern Concepts in the African World. 3 cr. G.

Intensive examination of cardinal elements in critical literary theory in the context of ideas and behaviors that have shaped the lives of Africans and their descent historically. Prereq: grad st; Africol 708(P)

799 Graduate Independent Study. 1-3 cr. G.

Independent work supervised by a member of the graduate faculty. Retakable w/ chg in topic to 9 cr max. Prereq: grad st; cons instr.

800 Introduction to Qualitative Research Methods in Africology. 3 cr. G.

Various qualitative methods and methodological issues germane to Africology, including archival research, interviewing, focus groups, participant observation, and analysis of representations. Prereq: grad st.

804 Qualitative Interviewing and Grounded Theory. 3 cr. G.

In-depth, hands-on examination of qualitative interviewing in research. Students design, conduct, and analyze qualitative interviews using grounded theory. Seminar-style course. No cr for students who have cr in Africol 880 w/same topic. Prereq: grad st; prior coursework in qualitative methods or cons instr.

812 Political Economy: Conceptual. 3 cr. G.

Advanced analysis of varieties of conceptual frameworks in the literature of political economy. Prereq: grad st

814 Public Policies, Development, and Underdevelopment in Africa & the Diaspora. 3 cr. G.

Investigation into public policy and development in Africa and the Diaspora. Prereq: grad st

816 Political Economy of Development in African Countries. 3 cr. G.

The importance of political institutions in shaping economic performance to advance understanding of economic development in the context of sub-Saharan African countries. Prereq: grad st.

817 Political Economy of Development in African Countries II. 3 cr. G.

Growth-enhancing governance, economic performance, and economic development in sub-Saharan African Countries. Counts as repeat of Africol 880 w/same topic. Prereq: grad st; Africol 816(P) or cons instr.

818 Race Matters: Government and Politics in Latin America and the Caribbean. 3 cr. G.

Presence, role, status, situation, and conditions of Afro-Americans (Afro-Latins and Afro-Caribbeans) in the Americas, from the federal republic of Mexico to the Argentine republic. Prereq: grad st

Africology

820 Political Economy of Income and Wealth Inequality. 3 cr. G.

Seminar on economic inequality, with special emphasis on the United States. No cr for students who have cr in Africol 880 w/same topic. Prereq: grad st.

821 Race and Inequality. 3 cr. G.

Discrimination and racial inequality along socio-economic dimensions. Prereq: grad st

834 Seminar on Slavery. 3 cr. G.

Culture and political economy of slavery; historical context for American slavery; slavery as political and economic issue; social-psychology of slavery; persistence of slavery's legacies. Prereq: grad st

836 Comparative Social Institutions in African World Communities. 3 cr. G.

Origins, nature, and functioning of social institutions in African world communities; continuity and change; development of community and cultural identities of Africans and their descendants; theoretical/analytical approaches. Prereq: grad st

837 Memory and Tradition: Identity-Making and Memory in the African Diaspora. 3 cr. G.

Role of memory and tradition in forming collective and individual identities in the African Diaspora; symbolic value and functional aspects; focus on sub-Saharan Africa. Prereq: grad st

840 Healing Traditions in the African Diaspora. 3 cr. G.

Advanced study of healing traditions, practices, and rituals throughout the African Diaspora. Prereq: grad st

845 Race/Ethnicity and the Psychology of Oppression. 3 cr. G.

Psychological processes involved in creating and sustaining oppressive societies; emphasis on the role of racism societally and the impact of oppression on individuals and groups. Prereq: grad st

851 African-American Literary Theory and Criticism. 3 cr. G.

An intensive study of historical and contemporary trends in African-American literary criticism and theory. Prereq: grad st

852 Folklore in the African World: (Subtitled). 3 cr. G.

A close scrutiny of a particular forms of folk literature of people of African descent. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

862 Development of African-American Children in Urban and Rural Areas. 3 cr. G.

Developmental processes facing African-American children, including identity development and racial socialization, impact of environment, notion of "a single African-American identity;" theories and methodological approaches. Prereq: grad st

865 The Quest for Pan-Africanism. 3 cr. G.

History and future motion of movement to create a united Africa; political, economic, and social barriers to unification; united Africa in the global community. Prereq: grad st

866 Black Power Reconsidered. 3 cr. G.

The salience of black power in the context of campaigns for educational equality, urban politics, economic justice, residential segregation, urban renewal, anti-colonial struggle, and cultural politics. No cr for students w/cr in Africol 880 w/similar title. Prereq: grad st.

867 Problems in African American Urban History. 3 cr. G.

Ways scholars have conceptualized and interpreted 20th century African American urban life; assumptions and logic that undergird various approaches; potential intellectual and political implications. No cr for students w/cr in Africol 880 with similar title. Prereq: grad st.

868 Black Intellectuals and the Public Sphere. 3 cr. G.

How black intellectuals have defined knowledge and positioned themselves politically and professionally; the various spheres in which they operate. Prereq: grad st.

880 Seminar on Issues in Africology: (Subtitled). 3 cr. G.

Research seminar on issues of interest in Africology. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

990 Dissertation Research. 1-3 cr. G.

Research or dissertation work for students in the doctoral program. Retakable as necessary to complete the dissertation. Prereq: grad st; cons instr.

Anthropology

Anthropology

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Anthropology
- Ph.D. in Anthropology

Related Certificate:

- [Certificate in Museum Studies](#)

Overview

The Department of Anthropology offers programs of graduate study designed to provide a broad background in all significant facets of the discipline—biological as well as cultural, analytic as well as descriptive—while still encouraging specialization. It provides training both for students interested in an academic career in anthropology and for those concerned with practical issues approached from the integrative perspective of anthropology.

The department, in cooperation with the Milwaukee Public Museum, also offers a program leading to a [Certificate in Museum Studies](#). The Milwaukee Public Museum, the fourth largest natural history museum in the country, is the site for methods courses that provide the student practical experience in museum work and for courses in the history and theory of museum exhibits. Each student's program of studies includes training in anthropological theory and methods, issues and problems in cultural anthropology, archaeology, anthropological linguistics and physical anthropology, as well as topics that focus on the student's area of particular interest.

Graduate Faculty

Professors

Anapol, Fred, Ph.D., State University of New York at Stony Brook
Applbaum, Kalman Ph.D., Harvard University
Arnold, Bettina, Ph.D., Harvard University
Brodwin, Paul, Ph.D., Harvard University
Gray, J. Patrick, Ph.D., University of Colorado, Chair
Jeske, Robert, Ph.D., Northwestern University
Malaby, Thomas, Ph.D., Harvard University
Turner, Trudy, Ph.D., New York University

Associate Professors

Applbaum, Ingrid Jordt, Ph.D., Harvard University
Heatherington, Tracey, Ph.D., Harvard University
Hudson, Jean, Ph.D., University of California-Santa Barbara
Bornstein, Erica, Ph.D., University of California-Irvine
Campbell, Benjamin, Ph.D., Harvard University
Perley, Bernard, Ph.D., Harvard University

Sherman, R. Jason, Ph.D., University of Michigan

Wood, William Warner, Ph.D., University of Illinois at Urbana-Champaign

Associate Scientists

Richards, John, Ph.D., University of Wisconsin-Milwaukee
Richards, Patricia, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Anthropology

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in anthropology comparable to that at UWM.
2. Three letters of recommendation.
3. A writing sample such as a relevant term paper, article submission, etc.
4. Submission of scores from the General Test of the [Graduate Record Examination](#).

Applicants without an undergraduate major in anthropology can meet the first requirement in either of two ways:

1. By having completed junior-level courses in three of the four subfields of anthropology (archaeology, biological anthropology, cultural anthropology, or linguistics) with grades of B or better. These courses may be taken at any accredited college or university if they were not part of the applicant's undergraduate career. Applicants also may take them as special students at UWM. Applicants planning to take such courses should check with the Director of Graduate Studies to verify that the courses will be acceptable.
2. Applicants lacking courses in anthropology may be admitted to the program and be allowed to take the core classes and advanced seminars without deficiencies under certain conditions. For example, an applicant with an outstanding GPA or very high [GRE](#) scores who has an undergraduate major closely related to his or her proposed field of specialization could be admitted under this option.

Students are expected to satisfy deficiency requirements within three semesters of enrolling in the program. Deficiencies are monitored by the Graduate School and the Director of Graduate Studies. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Application deadlines for admission to the program are January 15th for the following Fall semester and September 15th for the following Spring semester. Applicants requesting financial assistance may have other deadlines to be considered eligible. Contact the department's Director of Graduate Studies for specific financial aid deadlines.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student selects an advisor, in consultation with the Director of Graduate Studies, by the end of the first semester of the program.

Credits and Courses

Students in the Master's degree program in Anthropology are required to take a minimum of 30 credits, some of which are obtained by taking required courses. Required courses differ by concentration (requirements for students seeking to acquire a Certificate in Museum Studies are listed on that page).

Archaeology Concentration

Core courses (9 Credits)

Anthro 801
Anthro 802
Anthro 803

Methods courses (6 Credits)

Anthro 568 (required)

One from the following or an alternative approved by the advisor and the Director of Graduate Studies:

Anthro 380, 501, 525, 535, 562, 566, 567, and 768

Advanced seminar (3 Credits)

Anthro 763

Electives (9 Credits)

Biological Anthropology Concentration

Core courses (9 Credits)

Anthro 801
Anthro 802
Anthro 803

Methods courses (6 Credits)

Anthro 568 (required)

Anthro 701 or an alternative approved by the advisor and the Director of Graduate Studies
Advanced seminar (3 Credits)

Anthro 950 or an alternative approved by the advisor and the Director of Graduate Studies
Electives (12 Credits)

Cultural Anthropology Concentration

Core courses (9 Credits)

Anthro 801
Anthro 802
Anthro 803

Methods courses (6 Credits)

Two of the following:

Anthropology

Anthro 560
Anthro 561
Anthro 568
Advanced seminar (3 Credits)
Anthro 940
Electives (12 Credits)

Students may request a waiver for any of the above required courses except the advanced seminar. To request a waiver, a student must submit a letter to the Graduate Studies Committee. Requests must be accompanied by documentation demonstrating that the student is competent in the subject area of the course for which the waiver is sought. A waived course must be replaced by an anthropology course numbered 700 or above.

Students must maintain a B (3.0) average or better overall. The three core courses must be completed with an average of 3.0 or better. Students with a grade below a B in a core course subsequently accepted into the Ph.D. program must retake the course until they achieve a grade of B or better.

A thesis is required of all students; students may apply up to 6 credits of Research/Thesis courses toward meeting the minimum credits for the degree. The thesis must be formatted in accord with Graduate School requirements. Students will submit an electronic copy of the thesis to the Graduate School and a signed, unbound "hard" copy to the Department of Anthropology.

Thesis Defense

The student must pass an oral thesis defense. The examination committee must consist of at least three individuals, with a majority being members of the Anthropology Department.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

M.S./MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Anthropology offers a M.S./MLIS program (51 credits) to prepare students for positions as curators of museum libraries, and as information specialists and researchers for local history collections and state historical societies. Students enrolled in this program concurrently pursue the M.S. degree in Anthropology (21 credits in Anthropology) and the MLIS degree (30 credits in SOIS). Candidates for the coordinated degree program will be expected to fulfill the degree requirements of both programs. Degrees will be awarded simultaneously.

Doctor of Philosophy in Anthropology

Admission An applicant must meet [Graduate School](#) requirements plus the following departmental requirements to be considered for admission to the program:

1. A general master's degree in anthropology or equivalent preparation without the master's degree. An applicant with a master's degree in another field may be admitted if the student has a grade point average of 3.0 (4.0 scale) in graduate work and is approved by the departmental Graduate Admissions Committee.
2. Three letters of recommendation.
3. A writing sample such as a relevant term paper, article submission, etc.
4. Submission of scores from the General Test of the [Graduate Record Examination](#).

Applicants are accepted into the Ph.D. program only if a faculty member agrees to serve as major professor. Applicants are encouraged to contact the faculty member they wish to work with prior to applying to the program. The applicant's statement of purpose should identify his or her proposed major professor.

Application deadlines for admission to the program are January 15th for the following fall semester and September 15th for the following spring semester. Applicants requesting financial assistance may have other deadlines to be considered eligible. Contact the department's graduate advisor for specific financial aid deadlines.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Residence

The student must meet minimum Graduate School [residence requirements](#).

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. A student lacking any of the courses (or equivalents taken elsewhere) required to attain a Master's degree in his/her major area of concentration must complete these courses as part of his/her Ph.D. work.

Requirements

1. Three core courses (801, 802, and 803).
2. A methods class (approved classes are 380, 501, 525, 535, 562, 566, 567, 560, 561, 568, and 768; other courses with the

approval of the advisor and Director of Graduate Studies).

3. An advanced seminar (approved classes are 940, 942, 950; other courses with the approval of the advisor and Director of Graduate Studies).
4. A foreign language or specialized scholarly skill.

Foreign Language or Specialized Scholarly Skill

The candidate may satisfy this requirement by demonstrating one of the following:

- Proficiency in a foreign language useful in the student's career.
- Proficiency in mathematical, statistical, or computer skills.
- Proficiency in other skills that meet departmental approval.

Doctoral Preliminary Examination and Dissertation Proposal Defense

The candidate must pass an oral doctoral preliminary examination as one of the qualifications for achieving dissertator status. Candidates choose two to four topics in consultation with their advisor for the Preliminary Examination. The topics must be broader than, but related to, the focus of the candidate's proposed dissertation research. The topics must be approved by the Department's Graduate Studies Committee and the Department faculty. The preliminary examination must be passed within five years of initial enrollment for a student to be eligible to continue in the program.

The candidate must pass a formal dissertation proposal hearing prior to starting dissertation research.

Dissertation

The candidate must prepare a dissertation reporting in the candidate's own style the results of an original research investigation representing a substantive creative contribution.

The dissertation must be formatted in accord with Graduate School requirements. Students will submit an electronic copy of the dissertation to the Graduate School and a signed, unbound "hard" copy to the Department of Anthropology.

Dissertation Defense

As the final step toward the degree, the candidate must pass an oral examination before his/her doctoral committee in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Anthropology

Courses

302 Anthropology and Popular Culture. 3 cr. U/G.

Aspects of popular culture including music, information technology, tourism, and film, video, and museum-spectacles in light of anthropological theory. Prereq: jr st; grade of C or better in English 102(P) or score of 637 or higher on EPT.

304 Violence and Warfare in Prehistory. 3 cr. U/G.

Archaeological evidence for the origin and maintenance of violence and warfare in prehistory. How archaeological inquiry is affected by current politics, ethics, and morality. Prereq: jr st; Anthro 103(P) or cons instr.

305 The Celtic World. 3 cr. U/G.

Archaeology, folklore and literature of the Celtic peoples in the British Isles and on the continent, explored and analyzed from an anthropological and historical perspective. Prereq: jr st.

306 European Archaeology. 3 cr. U/G.

Old World cultural development focusing on prehistoric Europe from the Paleolithic to the Roman period; European developments compared to other parts of the Old World. Prereq: jr st; Anthro 103(P) or cons instr.

307 World Archaeology: Foundations of Civilization. 3 cr. U/G.

Cultural developments in selected areas of Old and New Worlds; emphasis on origins of plant and animal domestication, sedentary life, and transition to urban civilization. Prereq: jr st; Anthro 103(P) or cons instr.

308 Archaeology of North America. 3 cr. U/G.

Main pre-Columbian cultures on the North American continent, north of Mexico. AIS 308 & Anthro 308 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 103(P) or cons instr.

309 Archaeology of Central and South America. 3 cr. U/G.

Main pre-Columbian cultures and civilizations of Central and South America, including the Caribbean. Prereq: jr st; Anthro 103(P) or cons instr.

310 Archaeology of Middle America. 3 cr. U/G.

Historical development and ecological settings of cultures and civilizations in Mexico and Central America from earliest times to the Spanish conquest. AIS 310 & Anthro 310 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 103(P) or cons instr.

311 The World of the Ancient Maya. 3 cr. U/G.

Historical development of ancient Maya civilization from its origins to the Spanish Conquest. AIS 311 & Anthro 311 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 103(P) or cons instr.

314 American Indian Societies and Cultures. 3 cr. U/G.

Description and analysis of selected indigenous American cultures including subsistence, sociopolitical organizations, beliefs and Euro-American Indian policy. AIS 314 & Anthro 314 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 102(R).

320 Peoples and Cultures of Africa. 3 cr. U/G.

Description and analysis of the cultures of Africa, especially south of the Sahara. Prereq: jr st; Anthro 102(R); grade of C or better in English 102(P) or score 637 or higher on EPT.

322 Europe in Anthropological Perspective. 3 cr. U/G.

Key topics in the anthropology of Europe, including nationalism and ritual, gender and politics, borders and immigration, and bureaucracy and citizenship. Prereq: jr st; Anthro 102(R).

325 Japanese Culture and Society. 3 cr. U/G.

Japanese culture and society, including marriage and the family, work life, education, rural and urban social organization, gender, ritual and life cycle. Prereq: jr st; Anthro 102(R).

326 Peoples and Cultures of South Asia. 3 cr. U/G.

The subcontinent south of the Himalayas, including India, Nepal, Pakistan, Bangladesh, and Sri Lanka. Prereq: jr st; Anthro 102(R).

328 Comparative Studies of Music, Race, and Gender in Nationalism. 3 cr. U/G.

A comparative study of the processes of nation-formation and of the roles played by race, gender, and music in constructing national identities. Prereq: jr st; Anthro 102(R); grade of C or better in English 102(P) or score 637 or higher on EPT.

335 American Indians of the Southeast. 3 cr. U/G.

Description and analysis of Southeastern Indian cultures, including subsistence, sociopolitical organizations, beliefs, and Euro-American relations. Prereq: jr st; Anthro 102(R) & 314(R).

340 Cultures of Online Games and Virtual Worlds. 3 cr. U/G.

Anthropological understandings of online games and virtual worlds including: conceptual

foundations, current topics, methodological issues, and first-hand experience. Prereq: jr st.

349 Seminar in Ethnography and Cultural Processes. 3 cr. U/G.

How sociocultural processes are confronted and represented through the genre of ethnography; new monographs used to chart innovations in the form. Prereq: jr st; Anthro 102(R).

354 Anthropology of Art. 3 cr. U/G.

Styles, techniques, and aesthetics of the arts of non-Western peoples; their relation to other aspects of culture, prehistoric and contemporary art in selected areas. Prereq: jr st; Anthro 102(R).

361 Applications in Linguistic Anthropology. 3 cr. U/G.

Advanced work in linguistic anthropology designed to give students applied skills in cross-linguistic studies. Prereq: jr st; Anthro 105(360)(P) or cons instr.

362 System Failure: Globalization and Language Extinction. 3 cr. U/G.

Role of globalization in the projected extinction of a large number of the world's languages within the next century. AIS 362, Anthro 362, & Global 362 are jointly offered; they count as repeats of one another. Prereq: jr st; a course in social science; a course in linguistic anthro; or cons instr.

380 Anthropological Applications of GIS. 3 cr. U/G.

Use of GIS in archaeology, cultural anthropology, and physical anthropology. Prereq: jr st; a course in anthro.

400 Human Sociobiology. 3 cr. U/G.

Application of the principles of evolutionary theory and behavioral ecology to the social and cultural life of humans and other primates. Prereq: jr st; Anthro 101(R) or 102(R).

401 Primate Populations. 3 cr. U/G.

Ecological behavioral genetic and multidisciplinary field studies of nonhuman primates. Prereq: jr st; Anthro 301(P) or cons instr; grade of C or better in English 102(P) or score of 637 or higher on EPT.

402 Primate Evolution. 3 cr. U/G.

Evolution, adaptation, and distribution of living primates, including humans, comparative primate adaptations and skeletal anatomy. Evolutionary theory and its application to the primate fossil record. Prereq: jr st; Anthro 301(P) or cons instr.

403 The Human Skeleton. 3 cr. U/G.

Morphological and functional examination of the skeletal system. Microscopic and biomedical considerations of bone and cartilage, age, sex, and regional differences

Anthropology

among modern human populations. Combined lec/lab. Prereq: jr st; Anthro 301(P) or cons instr.

404 Seminar in Human Evolutionary Physiology. 3 cr. U/G.

Evolutionary principles influencing human populations. Variation within and between human groups. Prereq: jr st; Anthro 301(P) or cons instr; grade of C or better in English 102(P) or score level 4 on EPT.

405 Forensic Anthropology. 3 cr. U/G.

Techniques in the forensic analysis of human skeletal material. Introduction to death investigation and forensic pathology. Prereq: jr st; Anthro 403(P).

406 Evolutionary Biology & Human Diseases. 3 cr. U/G.

Evolutionary principles applied to our understanding of infectious and chronic diseases common to human populations, both past and present. Prereq: jr st; Anthro 301(R), Bio Sci 100(R) or 150(R).

407 Neuroanthropology. 3 cr. U/G.

Anthropological theories of human brain evolution, and its role in complex human cultural traits, including sociality, language, tool manufacture, cognition, and emotion. Counts as repeat of Anthro 641 with same topic. Prereq: jr st; Anthro 101(P) or Bio Sci 150(P).

408 Hormones and Behavior. 3 cr. U/G.

Roles of hormones in evolution and expression of animal behaviors, particularly aggression, stress, mating, parenting, and cognition; emphasis on humans. Counts as repeat of Anthro 641 w/same topic. Prereq: jr st; intro course in physical anthro, bio sci, or psych.

409 Evolution, Religion, and Human Biology. 3 cr. U/G.

Nature and evolutionary origins of human religion as well as empirical evidence for the effects of religion on human health. Prereq: jr st; Anthro 101(P) or an intro bio sci course.

420 Power and Ideology in Archaeology. 3 cr. U/G.

Nature of and relationship between power and ideology in past societies; theoretical perspectives and methods used by archaeologists to study power and ideology. Counts as a repeat of Anthro 641 w/similar title. Prereq: jr st; Anthro 103(P) or cons instr.

421 Cities in the Ancient World. 3 cr. U/G.

Cross-cultural comparison of the world's first cities; the emergence of cities and their role in the development of ancient civilizations. Prereq: jr st; Anthro 103(P) or cons instr.

424 Ethnoarchaeology. 3 cr. U/G.

Combination of ethnographic methods with archaeological research questions to achieve a better understanding of material culture. Counts as a repeat of Anthro 641 w/same topic. Prereq: jr st; Anthro 102(P) or 103(P) or cons instr.

425 Hunter-Gatherer Lifeways: Past and Present. 3 cr. U/G.

Cross-cultural comparisons of hunter-gatherer societies, including archaeological, ethnohistorical, and ethnographic approaches. Prereq: jr st; Anthro 102(P) or 103(P) or cons instr.

426 Who Owns the Past? 3 cr. U/G.

Social/political ramifications of the study, interpretation, presentation, conservation of the archaeological past; institutions/stakeholders involved in those processes: museums, scholars, ethnic groups, the public. Counts as a repeat of Anthro 641 w/same topic. Prereq: jr st; Anthro 102(P) or 103(P) or cons instr.

431 Cities and Culture. 3 cr. U/G.

Cross-cultural analysis; relation of urban space to community, capitalism, migration, class, globalization, social and artistic movements; methods for ethnographic study. Prereq: jr st; Anthro 102(R).

440 Medical Anthropology. 3 cr. U/G.

Comparative study of medical systems; cultural meaning of illness and the healing process; social origins of disease. Prereq: jr st; Anthro 102(P); grade of C or better in English 102(P) or score of 637 or higher on EPT.

441 Nature, Knowledge, and Technoscience in Anthropological Perspective. 3 cr. U/G.

Anthropological approaches to contemporary issues of science in society; critical perspectives on knowledge construction with respect to culture and indigenous traditions, race, class and gender. Prereq: jr. st

442 Humanitarianism in Global Perspective. 3 cr. U/G.

Anthropological study of global humanitarianism through specific case studies. Themes include politics of representation, intervention, war, genocide, trauma, child soldiers, and human trafficking. Anthro 442 & Global 442 are jointly offered; they count as repeats of one another. Prereq: jr st; a social science course (P).

443 Medicine and Pharmaceuticals in the Global Age. 3 cr. U/G.

The practices of medicine and the distribution of pharmaceuticals globally. Anthro 443 & Global 443 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 440(R).

445 Psychological Anthropology. 3 cr. U/G.

The relationship between individual and society; cultural influences on cognition, personality, identity, and emotion; and the comparative study of mental disorder. Prereq: jr st; Anthro 102(R).

446 The Child in Different Cultures. 3 cr. U/G.

Relationship of child development to particular cultural milieus; methods of child training in different cultures and their effects on the development of adult personality. Prereq: jr st; Anthro 102(R) or Psych 101(R) or Sociol 101(R).

447 The Global Politics of Human Rights. 3 cr. U/G.

Historical and theoretical context of human rights discourse; anthropology of human rights; case studies of efforts to protect human rights in particular social settings. Anthro 447 & Global 447 are jointly offered; they count as repeats of one another. Prereq: jr st; Anthro 102(R).

448 Cultural and Human Ecology. 3 cr. U/G.

Relationships of human societies to natural environments; energy systems involved in processes of human adaptation; ways in which culture and society operate as dynamic components of that exchange. Prereq: jr st; Anthro 102(R).

449 The Human Economy. 3 cr. U/G.

Uses and allocation of resources; modes of production and distribution and their relationship to kinship, politics, and other aspects of culture. Prereq: jr st.

450 Political Anthropology. 3 cr. U/G.

Political organization: forms of authority, responsibility, accountability, and power in societies at different levels of social complexity and in different ecological contexts. Prereq: jr st; Anthro 102(R).

460 Anthropological Theory. 3 cr. U/G.

Critical examination of the development and current status of the major paradigms and theories employed in anthropological studies. Prereq: sr st; Anthro 102(R).

465 Historic Preservation in Archaeology. 3 cr. U/G.

Historic preservation and cultural resource management in American archaeology; the legislative base, federal and state programs, the national register, regional planning, and research orientations. Prereq: jr st.

466 Historical Archaeology. 3 cr. U/G.

Development of the historical archaeology discipline; issues of method and theory; use of documentary, oral, and material culture evidence to interpret the recent past. Counts as

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repeat of Anthro 641 with same topic. Prereq: jr st; Anthro 103 (P) or cons instr.

467 Archaeological Curation: A Practicum in the Care of Research Collections. 3 cr. U/G.

Practicum in archaeological curation focusing on conservation and preservation, pest management, storage, collection accessibility, accountability, curation policies, federal regulations, and ethics. Counts as repeat of Anthro 641 w/similar topic. Prereq: jr st; Anthro 103(P) or cons instr; or grad st.

501 Archaeology of Death. 3 cr. U/G.

Archaeological study of mortuary behavior and osteology to understand cultural variability in social organization, disease, nutrition, and violence. Prereq: jr st; Anthro 103(P) or cons instr; grade of C or better in English 102(P) or score 637 or higher on EPT.

502 Lithic Analysis: Stone Tools and Human Behavior. 3 cr. U/G.

Stone tool production use, and archaeological analysis; experimental knapping, heat treatment, and other exercises. No cr for student w/cr in Anthro 641 w/similar topic. Prereq: jr st; Anthro 103(P) or cons instr.

525 Zooarchaeology: Analysis of Faunal Remains. 3 cr. U/G.

Theory and method, including practical labs, in the analysis of animal remains from archaeological contexts. Prereq: jr st; Anthro 103(P) or cons instr.

535 Analysis of Archaeological Ceramics. 3 cr. U/G.

Archaeological approaches to ceramic analysis including theory and methods; ethnoarchaeological, experimental, compositional, and stylistic approaches; practical skills including sorting, typing, and reporting ceramic assemblages. Counts as repeat of Anthro 641 with similar topic. Prereq: jr st; Anthro 103(P) or cons instr.

540 Applications of Anthropology. 3 cr. U/G.

Uses of anthropological concepts, methods, and findings in human problems resulting from culture change. Prereq: jr st; Anthro 102(R).

543 Cross-Cultural Study of Religion. 3 cr. U/G.

Various approaches to the study of religion; religions of selected non-Western societies. Prereq: jr st; Anthro 102(R).

560 Introduction to Research Methods in Anthropology. 3 cr. U/G.

Problem and research design formulation. How to ask and answer scientific questions using methods and techniques common to all fields of anthropology. Prereq: jr st; Anthro 102(R).

561 Techniques and Problems in Ethnography. 3 cr. U/G.

Methods of fieldwork for cultural anthropologists; design of field studies; techniques for collection and analysis of field data; field projects. Prereq: jr st; Anthro 102(R).

562 Techniques and Problems in Archaeology. 3 cr. U/G.

Methods of fieldwork in archaeology; strategies of archaeological investigations; introduction to archaeological site mapping Lec, lab. Prereq: jr st; Anthro 103(P) or cons instr.

565 Seminar in Regional Archaeology: (Subtitled). 3 cr. U/G.

Seminar in archaeology of specific geographic areas. Consult Schedule of Classes for specific semester's content. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Anthro 103(P) or cons instr.

566 Archaeological Analysis and Report Preparation: (Subtitled). 3 or 6 cr. U/G.

Students will organize, describe, analyze, and interpret actual archaeological materials. Each student will assist in writing an archaeological report. Fee assessed according to nature and location of field trips. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Anthro 103(P) or cons instr.

567 Archaeological Field School. 3 or 6 cr. U/G.

Archaeological methods and techniques under field conditions, at one or more sites. Field work five days a week, evening lectures. Fee assessed according to nature and location of field school. Retakable to 9 cr max. Prereq: jr st; cons instr.

568 Introduction to Anthropological Statistics. 3 cr. U/G.

Statistical models and their basic assumptions; statistical inference in biological and cultural anthropology; probability theory; nonparametric and parametric methods. Prereq: jr st; Anthro 101(P) or 102(P) or 103(P) or cons instr.

570 Issues in Bilingualism. 3 cr. U/G.

Study of bilingual competence, bilingual community, and second language acquisition from sociolinguistic, psycholinguistic, and general linguistic standpoints. Anthro 570 & Linguis 570 are jointly offered; they count as repeats of one another. Prereq: jr st.

636 Geochronology. 3 cr. U/G.

Theory and application of radiometric and other numerical dating methods in geology, archaeology, and paleoanthropology. Anthro 636 & Geo Sci 636 are jointly offered; they count as repeats of one another. Prereq: jr st, Anthro 101(P) or 103(P) or Geo Sci 100(P), & cons instr; or grad st & cons instr.

641 Seminar in Anthropology: (Subtitled). 3 cr. U/G.

A research seminar in any of the several recognized areas of anthropology. Retakable w/chg in topic to 9 cr max. Prereq: jr st, Anthro 101(P) or 102(P) or 103(P); or grad st.

649 Ethnography of Institutions. 3 cr. U/G.

Method, practice, and theory of institutional ethnography. Counts as a repeat of Anthro 641 with the same topic. Prereq: jr st.

705 Advanced Topics in Ethnography: (Subtitled). 3 cr. G.

Critical examination of peoples and cultures of selected areas of the world. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

720 History and Theory of Museums. 3 cr. G.

History of the museum idea and its contemporary forms; educational, scientific, and changing uses of museums; museums and other institutions; museum professionalism and ethics. Prereq: grad st; cons instr.

721 Administration and Organization of Museums. 3 cr. G.

Administration and organizational problems in modern museums; finances and budgets; legal-administrative problems; relations with support groups and volunteers, record keeping, management of museum projects. Prereq: grad st; cons instr; grade of B or better in Anthro 720(P).

722 Museum Exhibits. 3 cr. G.

Exhibit techniques and technology, philosophy and ethics of museum display, care of exhibit specimens; research use of exhibits. Practical assignments in exhibit design and installation. Prereq: grad st; cons instr; grade B or better in Anthro 721(P).

722 (effective 09/05/2017) Visitor Experience and Design in Museums. 3 cr. G.

Development and design of the museum visitor experience with a holistic approach including exhibitions, programs, and experience design. Prereq: grad st; cons instr; grade B or better in Anthro 721(P).

723 Museum Curation. 3 cr. G.

Practicum in the collection, organization, storage, care and scientific use of museum collections. Projects available in various specialties, dependent upon interest and special faculty arrangements. Prereq: grad st; cons instr; grade B or better in Anthro 721(P).

724 Internship in Museum Studies. 3 cr. G.

Supervised practical experience in museums arranged on an individual basis. Prereq: grad st; Anthro 720(P); cons instr.

Anthropology

744 Theories of Social Action: Understanding Agency & Social Structure. 3 cr. G.

Seminar on theories of social action. Practice and performance theories and the structure vs. agency debate. Prereq: grad st.

762 Advanced Archaeological Analysis: (Subtitled). 3 cr. G.

Study and practice in major phases of archaeological analysis. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

763 Professionalism in Anthropology. 3 cr. G.

Skills needed to work in academia or an applied field; relevant to any of the four sub-fields or anthropology (archaeology, cultural, biological, or linguistic). Prereq: grad st.

768 Topics in Advanced Research Design in Anthropology. 3 cr. G.

Methods of fitting various models to qualitative categorizations of archaeological, ethnographical, and biological data. Includes chi-square and multiclassificatory chi-squares, scaling, cluster analysis, markov chains, and game theory. Prereq: grad st; Anthro 568(R).

797 Study Abroad: (Subtitled). 1-6 cr. G.

Allows graduate students to enroll in UWM sponsored program before course work level, content, and credits are determined and/or in specifically-prepared program course work. Retakable w/ chg in topic. Prereq: grad st; acceptance in Study Abroad Prog.

801 A Survey of Physical Anthropology. 3 cr. G.

Reviews biological principles essential to an understanding of evolution. Reviews fields central to physical anthropology and human evolution: primatology, paleontology, anatomy, human genetics, population genetics. Prereq: grad st.

802 Perspectives on Prehistory. 3 cr. G.

Surveys current theoretical and methodological concepts in archaeology, and their application to specific research problems. Readings include studies from both the old and new worlds. Prereq: grad st.

803 Survey of Cultural Anthropology. 3 cr. G.

A survey of major theoretical and methodological issues central to cultural anthropology. Prereq: grad st.

804 Linguistic Anthropology. 3 cr. G.

A survey of major theoretical and methodological issues central to cultural anthropology. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

920 Advanced Seminar in Museological Problems. 3 cr. G.

Use of museum collections/museums to examine museum work regarding legal considerations, ethics, documentation; use of collections to test theories and develop conceptual exhibits. Prereq: grad st; Anthro 720(P).

940 Seminar in Problems in Cultural Anthropology: (Subtitled). 3 cr. G.

Content varies. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

942 Seminar in Prehistory and Archaeology: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

969 Seminar in Linguistic Anthropology: 3 cr. G.

Advanced topics in the anthropological study of language. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

990 Research and Thesis. 1-3 cr. G.

Prereq: grad st; writ cons instr; writ cons dept chair.

999 Advanced Independent Study. 1-3 cr. G.

Retakable to 6 cr max. Prereq: grad st; writ cons instr.

Architecture

School/College: School of Architecture and Urban Planning

Degrees Conferred:

- Master of Architecture
- Master of Science in Architecture
- Ph.D. in Architecture

Overview

Master of Architecture (M.Arch)

The Master of Architecture, the first professional degree offered by the Department of Architecture, is accredited by the National Architectural Accrediting Board (NAAB). The degree program requires 2 to 3 years of graduate study, depending on the applicant's previous academic background and qualifications. It offers a wide range of courses, with particular strengths in the areas of architectural design and integrated practice, ecological/sustainable design, digital design and fabrication, preservation, urban design, and design as a response to the physical, cultural, and social environment.

The Master of Architecture curriculum emphasizes design studio courses. Each of these studios is taught by faculty members who also offer courses in selective subjects.

A study abroad program allows students to combine international travel and study under the tutelage of a departmental faculty member for program credit. The location of the program may vary from year to year. Additional costs of travel, lodging, etc., must be borne by the student.

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. NAAB, which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Wisconsin-Milwaukee, School of Architecture and Urban Planning, Department of Architecture, offers the following NAAB-accredited degree programs:

M.Arch (pre-professional degree + 60 graduate credits)

M.Arch (non-pre-professional degree + 90 credits)

Master of Science in Architecture (M.S.)

This 30-credit advanced degree program is appropriate for students who want to develop a personalized and specialized program of architectural studies centered on scholarly studies and research. Graduates will bring specialized knowledge to diverse professional settings that involve collaboration, interaction and communication with other professionals. Students propose their own course of study, to be reviewed and approved by faculty in accordance with the program requirements. Students may use the degree to explore their chosen field of research prior to continuation with Ph.D. studies or, if they are mid-career professionals, may shape or extend their expertise in a particular field relevant to their area of practice.

Ph.D. Program

The Department offers a program of advanced study and research leading to the Ph.D. degree in Architecture. Areas of concentration within the program include Environmental Design Research (EDR), Buildings-Landscapes-Cultures (BLC), and Sustainability, Resources and Technology (SRT). Environmental Design Research utilizes the theories and methods rooted in both the environmental design professions and the behavioral/social sciences to explore a broad range of architectural and environmental research questions. The Buildings-Landscapes-Cultures focus introduces an interdisciplinary research track concentrating on the examination of the physical, cultural, and social aspects of the built environment. Sustainability, Resources and Technology encompasses a range of research issues regarding the sustainability of the built environment in terms of economics, equity, and environmental issues. The Ph.D. program is appropriate for persons who wish to study environmental issues from a multidisciplinary research perspective, and who seek research, consulting, or academic careers in architecture or any of the environmental professions or allied fields.

M.Arch/MUP Program

In cooperation with the Department of Urban Planning, the Department of Architecture offers a Master of Architecture/Master of Urban Planning program that prepares students for careers requiring preparation in both fields. Both the M.Arch and MUP degrees are awarded simultaneously upon completion of this 84-credit program. For more detailed information on this program see Credits and Courses section below.

Additional Notes

Individuals seeking to use the School's Shop must first provide evidence of personal accident and health insurance to the Dean's office. Since no accident or health insurance is provided to any user by the University, access to this resource will be prohibited to uninsured individuals.

Graduate Faculty

Professors

Greenstreet, Robert, Ph.D., Oxford Brookes University

Hanlon, Don, M.Arch, University of Washington

Keane, Mark, M. Arch, University of Illinois-Champaign/Urbana

Wasley, James H., M.Arch, Rice University

Associate Professors

Alinder, Jasmine, Ph.D., University of Michigan

Cornelius, Chris T., M.Arch, University of Virginia

Isaacs, Raymond, Ph.D., University of California-Berkeley

Schermer, Brian, Ph.D., University of Michigan

Sen, Arijit, Ph.D., University of California-Berkeley

Shields, James W., M.Arch, University of Wisconsin-Milwaukee

Sobti, Manu, Ph.D., Georgia Institute of Technology

Snyder, Gil S., M.Arch, Columbia University

Stagg, Josef, D.Arch, University of Michigan

Talbott, Kyle, M.Arch, Texas A&M University

Uttinger, Michael, M.S., University of Wisconsin-Madison

Wallick, Karl, M.Arch, University of Pennsylvania

Zell, Mo, M.Arch, Yale University

Assistant Professors

Benyamin, Jasmine, Ph.D., Princeton University

Bouchard, Nikole, M.Arch, Princeton University

Moon, Whitney, Ph.D., University of California, Los Angeles

Penick, Monica, Ph.D., University of Texas at Austin

Reynolds, Kyle, M.Arch, Princeton University

Tejchman, Filip, MSAAD, Columbia University

Non-Faculty

Professors Emeritus

Hubka, Thomas, M.Arch, University of Oregon

Krause, Linda, Ph.D., Yale University

Master of Architecture

Admission to 2-Year Program

An applicant with an undergraduate major in architecture from UWM or a school with an accredited program in architecture similar to the B.S. in Architectural Studies at UWM must

Architecture

meet [Graduate School requirements](#) plus these Department of Architecture requirements to be considered for admission to the program:

- Undergraduate cumulative grade point average in architectural studies of at least 3.0 (4.0 scale).
- Completion of at least five undergraduate design studios.
- Three letters of recommendation from three previous faculty and/or members of the profession.
- Submission of test results from the General Test portion of [Graduate Record Examination](#).
- Portfolio of architectural studies work.
- For international applicants whose first language is not English, a minimum TOEFL score of 100 iBT or 600 PBT, or a score of 7.0 on the International English Language Testing System (IELTS) exam is required. Applicants with TOEFL scores from 79-99 iBT or 550-599 PBT, or an IELTS score of 6.5 will be considered for admission only with the stipulation that further coursework in English be taken.

Admission to 3 Year Program

An applicant with an undergraduate degree in a field other than architecture is normally admitted with three semesters of foundation courses (30 credits) required, subject to re-evaluation after the first semester.

Admission to the 3 year program requires, in addition to general Graduate School requirements, an undergraduate GPA of at least 3.0 (4.0 scale), submission of test results from the General Test portion of the [Graduate Record Examination](#) (and TOEFL or IELTS, for foreign students), three letters of recommendation, and a portfolio of written and/or visual work.

Admission to M.Arch/MUP Program

Candidates seeking admission to the M.Arch/MUP program must apply to and be admitted to both programs. The requirements for admission to the Urban Planning Master's degree program are detailed in the Urban Planning section of this Bulletin.

Major Professor as Advisor

The student must have a professor to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses - 2-Year Program

The minimum degree requirement is 60 graduate credits, 48 of which must be in architecture, with a distribution of at least 39 credits in the following four categories:

Technology (9 Credits)
Arch 510

Arch 516
Arch 520, 521, or 522
Theory (6 Credits)
Arch 531 or 532 or 533
One additional course
Practice (6 Credits)
Arch 581
One additional course
Design (18 Credits)
Arch 825*
Two additional studios*
*One of the additional studios must be at the 800 level. A minimum grade of "B" (3.00) in each studio is required.

A current list of specific courses approved for distribution credit is available from the Student Advising Office, AUP 225. Students who have completed any of the required distribution courses or their equivalents as undergraduates may substitute architectural electives.

Capstone Requirement (9 credits)

1. Arch 794 (Pre-Thesis or Master's Project Seminar) or a 500-level or higher architecture elective with a design research focus (3 credits).
2. Arch 890 (Master's Thesis), Arch 891 (Master's Project), or an 800-level design studio (6 credits).

The remaining credits required for the M.Arch degree are graduate-level electives in or outside the Department of Architecture.

Transcript-Designated Concentration in Ecological Design

The Department of Architecture provides a focused course of study in ecological and sustainable design. This concentration provides students with the tools to design buildings to be carbon neutral as well as resource-conserving and environmentally non-polluting. Students wishing to pursue this concentration must be enrolled in the Master of Architecture program and must complete a minimum of 21 credits from the following groups of courses:

Ecological Design Required Core Courses (12 credits)

Arch 723 Fundamentals of Ecological Architecture, 3 cr
Arch 794 Pre-Thesis or Master's Project Seminar (ecological design focus), 3 cr
Arch 890 or 891 Master's Thesis or Master's Project (ecological design focus), 6 cr
Ecological Design Elective Courses (9 credits, at least 3 credits taken outside architecture)
For list of qualifying courses, contact Student Advising Office, AUP 225 (414-229-4015), sarup-grad@uwm.edu

Transcript-Designated Concentration in Preservation Studies

A concentration in preservation studies provides a focused course of study for Master of Architecture students who wish to pursue careers in historic preservation in professional architectural practice or in governmental preservation agencies. Students must complete a minimum of 21 credits from the following groups of courses:

Preservation Required Core Courses (12 credits)

Arch 560 Introduction to Historic Preservation
Arch 760 History of Building Technology
Arch 835 Studies in Architectural History and Precedent: Historic Preservation
Preservation Master's Thesis or Master's Project (6 credits)
Arch 890 Master's Thesis
Arch 891 Master's Project
Preservation Elective Course (3 credits)
For list of qualifying courses, contact Student Advising Office, AUP 225 (414-229-4015), sarup-grad@uwm.edu

Transcript-Designated Concentration in Real Estate Development

A concentration in real estate development provides a focused course of study for Master of Architecture and/or Master of Urban Planning students who wish to pursue careers in real estate development in combination with professional architectural practice or work with a private or public developer. Students must complete a minimum of 21 credits from the following groups of courses.

Real Estate Required Core Courses (6 credits)

Arch 780 The Built Environment and Real Estate Development, 3 cr
Bus 481 Real Estate Finance, 3 cr or Bus 483 Property Development and Management, 3 cr
Real Estate Electives (9-12 credits)
For list of qualifying courses, contact Student Advising Office, AUP 225 (414-229-4015), sarup-grad@uwm.edu

Capstone Project (3-6 credits)

1. A project in Architecture (Arch 891) or a thesis in Urban Planning (URBPLAN 990) that focuses on real estate; or
2. A real estate development proposal developed for a private organization (business or non-profit) that is innovative and adds significant value to the built environment (Arch 792 or URBPLAN 999); or
3. A paper suitable for publication concerning real estate development, for which the student is either sole author or

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co-author with a faculty member (Arch 792 or URBPLAN 999).

Credits and Courses - 3 Year Program*

An applicant with an undergraduate degree in a field other than architecture is normally admitted with 30 credits of foundation courses required.

The entry requirements totaling 30 cr. are as follows:

Arch 300 Architectural History and Theory
Arch 301 Architectural Structures & Construction
Arch 302 Architecture and Human Behavior
Arch 303 Architecture and Environmental Response
Arch 782 Visualization 1
Arch 783 Visualization 2
Arch 810 Architectural Design I
Arch 820 Architectural Design II

* Consult Student Advising Office for sequencing of courses, (414) 229-4015

Some of these requirements may be waived by the M.Arch Committee upon an applicant's acceptance to the program or upon appeal, based on equivalent work. The requirements in the remaining two years include 60 graduate credits, 54 of which must be in architecture (including the capstone requirement), with at least 39 credits in the distribution areas of technology, theory, practice and design. For 3-year M.Arch students, all design studios taken must be at the 800-level.

M.Arch/MUP Program

Joint program candidates must complete all of the requirements of the M.Arch degree and the requirements stipulated by the Department of Urban Planning. The Urban Planning Master's program is detailed in the Urban Planning section of this Bulletin.

Thesis or Master's Project

The student must submit an acceptable thesis or master's project and orally defend it. The student in the M.Arch/MUP program must also take and pass the comprehensive exam in Urban Planning.

The student must complete all degree requirements within seven years of initial enrollment.

Master of Science in Architecture

Admission

As an applicant, you must meet Graduate School requirements plus these Department of Architecture requirements to be eligible for consideration for admission to the program:

1. Undergraduate cumulative grade point average of at least 3.0 (4.0 scale).

2. Three letters of recommendation from people familiar with your academic and/or professional work.
3. Submission of test results from the General Test portion of the [Graduate Record Examination](#).
4. Resume, Curriculum Vitae, or Biographical Statement.
5. Work Samples (examples of professional work, design work, research, teaching, and/or other work relevant to advanced research).
6. For international applicants whose first language is not English, a minimum TOEFL score of 100 iBT or 600 PBT, or a score of 7.0 on the International English Language Testing System (IELTS) exam is required. Applicants with TOEFL scores from 79-99 iBT or 550-599 PBT, or an IELTS score of 6.5 will be considered for admission only with the stipulation that further coursework in English be taken.

In addition, the Reasons Statement submitted to the Graduate School must also incorporate the following information:

1. Your proposed area of investigation.
2. A clear description of your intentions.
3. Why you believe the program is appropriate for your course of study.
4. How your proposed area of study fits with faculty interest areas.

Major Professor as Advisor

Upon admission, each student is assigned a faculty advisor to advise and supervise the student's studies

Credits and Courses

The minimum degree requirement is 30 graduate credits, of which 24 credits must be coursework in Architecture taken at the 500-level or above. Of the total 30 credits, each student is required to satisfy each of the four content areas below.

Content Areas

Research Methods and Techniques
At least 6 credits of approved courses regarding research methods and techniques.

Applied Practice

At least 6 credits related directly to the application of the student's area of specialization to practical applications in architecture and/or related disciplines.
Independent Work

3-6 credits of Arch 791 (Master's Level Directed Research) and/or Arch 792 (Master's Level Independent Studies and Research) related to the student's area of specialization.
Master's Thesis or Master's Project
6-9 credits of Arch 890, Master's Thesis or Arch 891, Master's Project.

Course requirements vary substantially depending upon the student's individualized program of study, which is developed in consultation and agreement with the student's faculty advisor.

Master's Thesis

The student must submit an acceptable master's thesis and orally defend it.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Architecture

Admission

The Ph.D. program seeks to maintain a rich and diverse mix of students and thus encourages applicants with backgrounds in architecture, allied design fields, and/or the social and behavioral sciences. Likewise, the program is open to applicants holding undergraduate as well as graduate degrees. It is most important that applicants have a strong commitment to the conduct of advanced architectural research, building upon the concepts and theories of environmental design research.

As an applicant, you must meet Graduate School requirements plus these Department of Architecture requirements to be eligible for consideration for admission to the program:

1. Undergraduate or graduate cumulative grade point average of at least 3.0 (4.0 scale).
2. Three letters of recommendation from persons in a position to assess your potential for advanced graduate research leading to a Ph.D.
3. Submission of test results from the General Test portion of the [Graduate Record Examination](#).
4. Resume, Curriculum Vitae, or Biographical Statement (1-2 pages total including your educational background, work/research experience, publications/projects completed and any recognitions/awards received).
5. A copy of the Reasons Statement submitted to the Graduate School with your online application. This should be a concise, 2-3 page statement that includes your long-term goals, a summary of relevant work completed to date, your research interests, and your likely area of specialization within the doctoral program. Specifically address how your proposed program of study shall fit with the interests of program faculty and indicate if you have contacted any faculty in this regard.
6. For international applicants whose first language is not English, a minimum TOEFL score of 100 iBT or 600 PBT, or a score of 7.0 on the International English

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Language Testing System (IELTS) exam is required. Applicants with TOEFL scores from 79-99 iBT or 550-599 PBT, or an IELTS score of 6.5 will be considered for admission only with the stipulation that further coursework in English be taken.

Reapplication

A student who has received a master's degree in Architecture or in Urban Planning from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D. degree.

Major Professor as Advisor

Upon admission, each student is assigned a faculty advisor in their area of concentration (EDR, BLC or SRT). During the first semester, each student is expected to meet with their faculty advisor to develop a program of study. In general, the program of study consists of the proposed major field of study within the area of concentration, minor field(s) of study, and a brief description of coursework to be completed. Each student selects Major and Minor Professors to advise and supervise coursework and independent readings in preparation for the doctoral preliminary examination and completion of minor requirements. Upon admission to candidacy, each student defines a dissertation topic and selects a Major Professor as Dissertation Chair. Selection of the area of specialization and dissertation topic and of the Major and Minor Professors and Dissertation Chair is subject to approval by the Ph.D. Program Committee.

Course of Study

The Ph.D. Program is a research degree structured around a series of related, typically sequential (but occasionally overlapping) requirements as follows:

1. Complete a minimum of one year of core courses in the area of concentration, and the minimum residence requirement of 27 graduate credits subsequent to attaining full doctoral status, and 54 credits beyond the baccalaureate degree.
2. Develop a program of study.
3. Undertake courses in the core, area of concentration, and major and minor fields of study. Course requirements vary substantially depending upon the student's program of study, developed in consultation with, and in agreement with, the student's major professor.
4. Conduct an intermediate research project.
5. Complete the doctoral preliminary examinations leading to advancement to candidacy with dissertator status.
6. Design, conduct and defend an original dissertation that makes an original contribution to the scholarship of the field.

Depending on background preparation and amount of time spent in full-time residency, students should be able to complete the degree in approximately four to six years. Individual timetables will vary depending upon background preparation and time spent in full-time residency.

For more information on these requirements, please consult the Department of Architecture Ph.D. Policies and Procedures Handbook, available in the Student Advising Office, AUP 225. Depending on background preparation and amount of time spent in full-time residency, students should be able to complete the degree in approximately four to six years. Individual timetables will vary depending upon background preparation and time spent in full-time residency.

For more information on these requirements, please consult the Department of Architecture Ph.D. Policies and Procedures Handbook.

Foreign Language Requirement

A foreign language requirement is optional, depending upon the recommendation of the student's Major Professor and the Ph.D. Program Committee.

Residence

The student must meet minimum [Graduate School residence requirements](#).

Doctoral Preliminary Examinations

The student must pass doctoral preliminary examinations ("prelims") to qualify for formal admission to candidacy for the degree. The Graduate School requires that you pass your prelims within five years of initial enrollment in your doctoral program.

The prelims have three written components and one oral review. The three written portions include questions on (a) theory, (b) methods, and (c) substantive area(s) of specialization and the minor field of study.

For more information on these examinations, consult the Department of Architecture Ph.D. Policies and Procedures Handbook, available in the Student Advising Office, AUP 225.

Candidacy

The student is officially admitted to candidacy for the Ph.D. degree after completing the residence requirement, core courses and intermediate research project, completing the courses in the area of specialization and minor field, and passing the doctoral preliminary examinations (and language examination, if required).

Dissertation

The candidate must design, conduct, and write a research dissertation which demonstrates ability to formulate a research topic and pursue independent and original research that makes a

contribution to the field. Selection of the dissertation topic, Dissertation Chair, and Dissertation Committee is subject to approval of the Ph.D. Program Committee.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation. For more information on the dissertation defense, consult the Department of Architecture Ph.D. Policies and Procedures Handbook.

Continuation

For further information about departmental policies in the Ph.D. program, please consult the Department of Architecture Ph.D. Policies and Procedures Handbook.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on Graduate School Ph.D. requirements, see the [Doctor of Philosophy Degree Requirements](#).

Courses

300 Architectural History and Theory. 3 cr. U/G.

Introduction to architectural history and its theoretical base. The course covers classical architecture to the present, focusing on the theories underlying architecture of a period. Prereq: acceptance to Level 2 or arch studies minor; or grad st.

301 Architecture Systems 1. 3 cr. U/G.

The behavior of structures, structural materials and planning, and the principles and performance of building envelope systems. Prereq: acceptance to level 2 or arch studies minor; or grad st.

302 Architecture and Human Behavior. 3 cr. U/G.

Introduction to behavioral, social and cultural factors and their implications for the design and planning of the built environment. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

303 Architecture Systems 2. 3 cr. U/G.

Investigation of environmental control and life safety requirements and their implications on architectural form and design. Prereq: acceptance to level 2 or arch studies minor; or grad st.

304 Contemporary Criticism and Urbanism. 3 cr. U/G.

Disciplinary methods and themes through rigorous readings of texts and objects concerning contemporary architectural criticism, and histories and theories of urban form and urban planning. Prereq: jr st.

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340 Urban Design. 3 cr. U/G.

Survey of urban design, including the study of precedents, recent philosophy, design vocabulary, behavioral responses, and implementation strategies. Prereq: jr st; acceptance to Level 2 or arch studies minor & Arch 300(P); or grad st.

380 Drawing in Architecture. 3 cr. U/G.

Visual communication skills are developed in relation to basic design theory and architectural design process. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

382 Introduction to Building Information Modeling (BIM). 3 cr. U/G.

Principles of Building Information Modeling and the interface and workflow of Autodesk's Revit. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

383 Landscape Architecture. 3 cr. U/G.

Introduction to the history of landscape architecture as well as the process of contemporary landscape architecture and its relationship to contemporary architecture. Prereq: jr st & acceptance to level 2 or arch studies minor; or grad st.

510 Survey of Structural Analysis and Design. 3 cr. U/G.

Statics, strength of materials and analysis of simple structural elements and systems. Design and economics of simple building structures. Prereq: sr st & Arch 301(P); or grad st.

516 Building Construction. 3 cr. U/G.

Review and analysis of architectural construction systems in relation to building projects of various scales. Construction techniques and contract documentation are covered. Prereq: sr st; Arch 301(P) & Arch 410(P); or grad st.

520 Environmental Systems: Illumination and Thermal Comfort. 3 cr. U/G.

The impact of visual and thermal comfort requirements on the design of building enclosures, lighting systems and HVAC systems. Prereq: sr st, Arch 301(P) & 303(P); or grad st.

521 Environmental Systems: Resources-Fluid Distribution Systems. 3 cr. U/G.

Water resources supplies and treatment, distribution and disposal systems. Atmospheric and thermal comfort. Air treatment, distribution systems, and related energy systems for human comfort. Prereq: sr st & Arch 303(P); or grad st.

522 Environmental Systems: Lighting and Acoustical Design. 3 cr. U/G.

The development and application of visual/auditory comfort criteria, lighting and acoustical design, and their architectural design

implications. Prereq: sr st & Arch 303(P); or grad st.

533 Topics in Architectural Theory: (Subtitled). 3 cr. U/G.

This variable content course will focus on the study of a particular architectural theory or the work of an individual architect and its theoretical base. Retakeable with change in topic to max of 6 cr. Prereq: sr st & Arch 300(P) or grad st.

534 Field Study: (Subtitled). 3 cr. U/G.

Theoretical developments and their historical contexts are explored in a particular setting. Focus and setting are announced in advance. Retakeable with change in topic to max of 6 cr. Prereq: jr st; Arch 300(P).

550 Seminar in Building Types and Settings. 3 cr. U/G.

Development and usage of various building types and settings based upon social, behavioral, political, and economic factors. Prereq: sr st, & Arch 300(P) or 302(P), or cons instr.

551 American Vernacular Architecture. 3 cr. U/G.

Introductory seminar on the historical development of all forms of vernacular and popular architecture. Buildings are analyzed in detail within their cultural contexts. Prereq: sr st & Arch 300(P); or grad st.

553 Vernacular Buildings and Groupings. 3 cr. U/G.

Study of the patterns and characteristics of human settlements and individual structures built according to local traditions. Prereq: sr st & Arch 302(P); or grad st.

560 Introduction to Historic Preservation. 3 cr. U/G.

Research, discussion and case study development to explore political, social/historical, economic and design/restoration issues of preservation and adaptive use of buildings. Prereq: sr st & Arch 300(P); or grad st.

561 Measured Drawing for Architects. 3 cr. U/G.

History and theory of measured drawings, field measuring and recording techniques, and production of drawings based on procedures of the Historic American Building Survey. Prereq: sr st & Arch 301(P); or grad st.

562 Preservation Technology Laboratory. 3 cr. U/G.

Laboratory focusing on the historic preservation of architectural detail. Students will examine historic technologies, write papers on them, and execute them in detail. Prereq: sr st & Arch 301(P); or grad st.

580 Graphic Techniques for Architects. 3 cr. U/G.

Architectural presentation techniques focusing on the application of various graphic media including color pencil, pastel, watercolor, marker, and air-brush. Prereq: sr st & acceptance to level 2; or grad st.

581 Law and Professional Practice for Architects. 3 cr. U/G.

An introduction to architectural practice; content includes office procedures, contract management, legal constraints. Prereq: sr st & acceptance to level 2 or arch studies minor; or grad st.

583 Emerging Digital Technology: (Subtitled). 3 cr. U/G.

Laboratory focusing on the theory and application of emerging digital tools to contemporary problems of architectural design and professional practice. Proficiency in MicroStation, Rhino, formZ, or SketchUp required. Retakeable with change in topic to a max of 6 cr. Prereq: jr st & acceptance to Level 2 or arch studies minor; or grad st.

584 Urban Landscape Architecture. 3 cr. U/G.

Study of historic and contemporary exterior urban space, urban site planning methodology; design and detailing of exterior urban space; pedestrian and vehicular movement; use of plant materials. Prereq: sr st & acceptance to level 2 or arch studies minor; or grad st.

585 Research Methods in Architecture. 3 cr. U/G.

Review of various data collection and analysis methods used in architectural research and design; exploration of the epistemological foundations of our knowledge about the built environment. Prereq: sr st & acceptance to Level 2; or grad st.

586 Programming for Architectural Design. 3 cr. U/G.

Analysis and development of architectural programs: goals, user requirements, socio-cultural determinants, design criteria, site selection and analysis, building type analysis, code analysis, and cost projections. Prereq: sr st & Arch 302(P); or grad st.

587 Post-Occupancy Evaluation of Built Environments. 3 cr. U/G.

Evaluation of built environments: technical, functional, and socio-behavioral factors; design of post-occupancy evaluation studies and instruments; and analysis of a built environment. Prereq: sr st & Arch 302(P); or grad st.

716 Art of Detailing. 3 cr. G.

Seminar/workshop dealing with creative aspects of architectural construction technology.

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Building details are analyzed with respect to technical appropriateness, durability, context and design consequences. Prereq: grad st; Arch 516(P) & 1 600 or above level studio; Arch 501(R) or 510(R).

723 Fundamentals of Ecological Architecture. 3 cr. G.

Investigation of the ecological issues affecting an architectural design process that aims to produce buildings, landscapes and cities with minimal demands on the environment. Prereq: grad st. Counts as repeat of ARCH 790 with same title.

749 Urban Design as Public Policy. 3 cr. G.

Orients students in urban planning to urban design problems as matters of public policy with focus on the analysis and implementation of urban design proposals rather than on the techniques used to generate such proposals. Not open to students who have cr in UrbPlan 857 which is identical to Arch 749. Prereq: grad st.

750 Proseminar in Environment Design Research. 3 cr. G.

Intensive review of important findings in environmental design from research and professional literature and analysis of impacts on the built environment. Prereq: grad st; Arch 585(C), or cons instr.

751 Theories of Environment Design Research. 3 cr. G.

Systematic review and critique of the major concepts, models, and theories of environmental design; their adequacy relative to current data; needed tests; applicability to environmental policy, planning, and design. Prereq: grad st; Arch 750(P); UrbPlan 740(P) or equiv; or cons instr.

760 History of Building Technology. 3 cr. G.

An examination of evolving technology in architecture from antiquity to the mid-twentieth century, concentrating on examples in the united states; includes field trips. Prereq: grad st; Arch 300.

780 The Built Environment and Real Estate Development. 3 cr. G.

A course providing an understanding of the relationships between economics and architectural design and skills in manipulation of variables in both areas on real projects. Prereq: grad st.

782 Visualization 1. 3 cr. G.

Development of precise standards of drawing and the history and techniques of descriptive and analytical drawing. Prereq: grad st

783 Visualization 2. 3 cr. G.

Exploration of the potential for representation to communicate generative, atmospheric, and

presentational qualities. Prereq: grad st; Arch 782(P)

785 Advanced Research Methods in Architecture. 3 cr. G.

Advanced treatment of existing and emerging qualitative and quantitative research and analysis methods, including research designs, scholarly, structural, field, survey, experimental and multivariate methods. Prereq: grad st; Arch 585; UrbPlan 740 or equiv or cons instr.

788 Green Building Seminar. 3 cr. G.

Investigation and research into the environmental and architectural opportunities and constraints of building and landscape materials. Prereq: grad st. Counts as repeat of ARCH 790 with same title.

790 Special Topics: (Subtitled). 1-3 cr. G.

Development and presentation of new material on an experimental, one-term basis. Specific cr & any additional prereqs announced in schedule of classes whenever course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

791 Master's Level Directed Research. 1-3 cr. G.

Student participation in research projects under faculty supervision. Retakable to 3 cr max. Prereq: grad st; cons instr.

792 Master's Level Independent Studies and Research. 1-3 cr. G.

Independent investigation of issues related to architecture. Retakable to 3 cr max. Prereq: grad st; cons instr.

794 Pre-Thesis or Master's Project Seminar. 3 cr. G.

Topic identification and background preparation to be completed by the end of the term preceding thesis or master's project. Prereq: grad st; eligibility for thesis or master's project next semester.

797 Study Abroad: (Subtitled). 3-12 cr. G.

Studio and/or field study designed to provide relevant course work for a study abroad program in architecture. Retakable to 12 cr max w/chg in topic. Prereq: grad st; acceptance to Study Abroad Program.

810 Architectural Design I. 6 cr. G.

This design studio introduces students to theories and methodologies of architectural design. Design projects explore various design procedures, graphic techniques, and building tectonics. Prereq: grad st.

815 Studies in Architectural Technology and Theory: (Subtitled). 6 cr. G.

This design studio emphasizes technology and analytical theories and methods. Retakeable

with change in topic to max of 12 cr. Prereq: grad st.

820 Architectural Design II. 6 cr. G.

This design studio further develops the theories and methodologies of architectural design. Design projects emphasize specific issues of theory, structure, context, program, and graphic communication. Prereq: grad st; Arch 810(P).

825 Comprehensive Design Studio: (Subtitled). 6 cr. G.

Advanced design studio emphasizing schematic design to detailed development of programmatic spaces, structural and environmental systems, life-safety provisions, wall sections, and building materials and assemblies. Retakeable w/ chg in topic to 12 cr max. Prereq: grad st & Arch 516(C).

833 Chicago Design Critic Studio. 6 cr. G.

Advanced design studio directed by an eminent Chicago architect. Specific content is announced in advance. Prereq: grad st.

834 Distinguished Visiting Design Critic Studio. 6 cr. G.

Advanced design studio directed by a nationally or internationally known architect. Specific content is announced in advance. Prereq: grad st.

835 Studies in Architectural History and Precedent: (Subtitled). 6 cr. G.

This design studio emphasizes precedent analysis, historical analysis and historical preservation theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

836 Studies in Form and Composition: (Subtitled). 6 cr. G.

This design studio emphasizes formal compositional theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

837 Competitions Studio. 6 cr. G.

Advanced design studio utilizing architectural competitions to focus on concept development, technical competence and graphic presentation. Prereq: grad st.

845 Studies in Urban and Community Design Theory: (Subtitled). 6 cr. G.

This design studio emphasizes urban and community design theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

850 (effective 09/05/2017) Advanced Design Studio: (Subtitled). 6 cr. G.

This studio emphasizes advanced concepts and methods of architectural design relevant to contemporary theory and practice. Retakeable

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with change in topic to max of 18 cr. Prereq: grad st.

855 Studies in Social and Critical Theory: (Subtitled). 6 cr. G.

This design studio emphasizes social and critical theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

875 Studies in Facility Planning and Design: (Subtitled). 6 cr. G.

This design studio emphasizes facility planning and design theories and methods. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

885 Studies in Building Typology: (Subtitled). 6 cr. G.

This studio emphasizes the relationship among building use, formal pattern, and institutional history. Retakeable with change in topic to max of 12 cr. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirements. Prereq: grad st

890 Masters Thesis. 1-9 cr. G.

Individualized study under supervision of a faculty committee selected by student. See graduate school guidelines for thesis preparation. May be repeated to max of 9 cr. Prereq: grad st; cons advisor; cons chair if taken before final semester.

891 Master's Project. 1-9 cr. G.

Individualized study under supervision of a faculty committee selected by student. Student is responsible for identifying subject and conducting study to committee's satisfaction. May be retaken to max of 9 cr. Prereq: grad st; cons advisor; cons chair if taken before final semester.

990 Doctoral Dissertation. 1-12 cr. G.

Research toward the completion of the PhD dissertation under the direction of the candidate's dissertation chair and committee. May be retaken. Prereq: grad st; admis to candidacy for the PhD; & cons PhD prog comm.

991 Doctoral Level Research. 1-3 cr. G.

Research work for doctoral students in Architecture. Retakable to 12 cr max. Prereq: grad st; cons instr

992 Doctoral Level Independent Work. 1-3 cr. G.

Independent study on topics selected in agreement with supervising professor. Retakable to 12 cr max. Prereq: grad st; cons instr

Art

Art

School/College: Milton and Lillian Peck School of the Arts

Degrees Conferred:

- M.A. in Art: Specialization in Studio Art
- M.A. in Art: Specialization in Design Entrepreneurship + Innovation (*Begins Fall 2018; apply beginning Fall 2017*)
- M.F.A. in Art
- M.S. in Art Education

Overview

The Department of Art and Design offers graduate programs of study in art and design, and art education. The Master of Arts in Art is a 30-credit program with two areas of specialization: Studio Art and Design Entrepreneurship + Innovation.

The Master of Fine Arts in Art is a 60-credit program concentrated in one or more areas of studio art (see <http://uwm.edu/arts/art-and-design/graduate/> for more information). It is designed for the student who desires further graduate training as a professional artist or training as an artist-teacher in art schools and universities.

Full-time students normally complete the MA degree within 4 semesters, and the MFA degree within 6 semesters.

The Master of Science (M.S.) in Art Education is a 30-credit program with advanced work in art education and the studio arts. The M.S. with a major in art education offers two separate program options. Both options require applicants to have completed a bachelor's degree in the visual arts or a related field, and to be admitted to the University of Wisconsin-Milwaukee Graduate School. Additional background requirements depend on the option the applicant intends to pursue, as follows:

- Pre K-12 Art Education Option is designed to enhance the expertise of practicing teachers. The program combines theory, practice, and research in an effort to develop leaders as teachers-artists-researchers in the field.
- Community-Based Art Education Option is designed for those who desire careers as educators in community art programs, including museums. The program looks at theories and practices that have impacted community-based art education.

The Department's facilities and services include fully equipped studios housed in the Kenilworth Square East building and the main campus Art Building.

The Peck School of the Arts' Institute of Visual Art (INOVA) provides a year-round schedule of exhibitions, with galleries that are housed in the Kenilworth Square East building, a research facility approximately one mile from campus. The Department of Art and Design offers a schedule of workshops and special lectures each year. In addition, graduate student studios are located in the Kenilworth Square East building.

Frederick R. Layton Fellowships are awarded each year to incoming and continuing graduate students, depending on funding. Information and application forms may be obtained at: <http://uwm.edu/arts/art-and-design/graduate/>.

A limited number of Teaching Assistantships and Project Assistantships are offered through the Department of Art and Design. Information and application forms may be obtained at: <http://uwm.edu/arts/art-and-design/graduate/>.

Students applying for admission to the three graduate programs in Art and Design, should note these application deadlines:

- For Fall admission to the MA and MFA graduate programs in Art, the Graduate School recommends completing the online application one year in advance of intended enrollment (check <http://uwm.edu/arts/art-and-design/graduate/> for more specific information) with portfolios and letters of recommendation uploaded to the [Panthera application](#) by February 1. If applying for university fellowships, the application is due by December 10. Applications are accepted for Fall admission only.
- For admission to the M.S. graduate program in Art Education, the Graduate School recommends completing the online application one year in advance of the semester in which one intends to enroll, and no later than three months prior to intended enrollment, with portfolio, writing sample and letters of recommendation due in the [Panthera application](#) three months prior to intended enrollment.

Graduate Faculty

Professors

Cho, Kyoung Ae, MFA, Cranbrook Academy of Art, Chair

Cosier, Kim, Ph.D., Indiana University

Davis-Benavides, Christopher, MFA, University of Wisconsin-Madison

Kaganovich, Yevgeniya, MFA, State University of New York-New Paltz

Vansen, Leslie, MFA, University of Colorado

Associate Professors

Beckmann, Kim, MFA, Cranbrook Academy of Art

Blair, Adream, MGD, North Carolina State University

Grame, Robert, MFA, Kansas State University

Meuninck-Ganger, Jessica, MFA, Minneapolis College of Art and Design

Moline, Lisa, MFA, University of Wisconsin-Madison

Mougel, Joseph, MFA, University of New Mexico

Stern, Nathaniel, Ph.D, Trinity College, Dublin, Ireland

Williams, Glenn, MFA, University of Northern Iowa

Woywod, Chrsitine, Ph.D., Northern Illinois University

Master of Arts in Art: Specialization in Studio Art

The Master of Arts in Art: Specialization in Studio Art is a 30-credit program with advanced study and focus in one or more areas of studio art. It is designed for the student who desires graduate training as a professional artist.

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in art, or related field, including at least 40 studio credits and at least 45 academic credits outside the major.
2. Submission of a digital portfolio with 20 images of original work.
3. Submission of a written personal statement of the proposed program of study.
4. Three (3) letters of recommendation.

See the department's website for more details, including required file formats and submission process for application materials.

Applicants may be admitted to the program with specific program-defined course deficiencies. The student is expected to satisfy deficiency requirements within three enrolled semesters. The Office of Graduate Studies in the Department of Art and Design monitors the deficiencies. Deficiency course credits may not be applied towards the degree.

Advising

Upon admission, the Director of Graduate Studies in the Department of Art & Design, in consultation with the Graduate Faculty, will assign the incoming graduate student to a First Year Advisory Team. The head Advisor will contact the student and the Advisory Team at the beginning of the student’s first semester to arrange a schedule for meetings to discuss course enrollment and the first year studio research agenda.

By the end of the student’s second semester in the program, the student must select a Major Professor, and in consultation with the Major Professor, assemble his or her Graduate Thesis Committee. The committee consists of three or more members (usually not larger than four). At least three members must be graduate faculty, and at least two must be from the Department of Art & Design. At least one member of the committee must be a faculty member in the student’s area of focus. If a student desires, the fourth member of the committee may be from outside the university. The student’s Major Professor will serve as the Chair of the student’s Graduate Thesis Committee.

A student who wishes to change his/her designated area of focus must first apply and be accepted into the new focus. The student would make this decision in consultation with his or her Thesis Committee and the Director of Graduate Studies. If the student is accepted into the new area of focus, he or she will assemble a new Thesis Committee and select a new Major Professor, if necessary.

If the student's major professor takes a leave of absence or leaves the University, the student should contact the Director of Graduate Studies in the Department of Art and Design for advice in selecting a new major professor, and notify the Director of subsequent changes to the student’s committee.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 24 of which must be taken in Art and Design, 3 of which must be taken in Art History, and 3 of which can be graduate-level coursework in a discipline related to the student’s research interests. The program of study will include 6 credits in graduate art seminars including Philosophy and Concepts (3 cr.), 18 credits in studio art, 3 credits in Art History, and 3 credits in graduate-level coursework in a discipline related to the student’s research interests.

All graduate students in the Department of Art and Design must be enrolled full-time for at least one semester, earning a minimum of 8 credits during that semester. Graduate students with a PA or TA appointment are considered full-time earning a minimum of 6 credits per semester.

Transfer of Credits

Upon admission, an applicant may be permitted to transfer a maximum of 12 graduate credits earned at another institution. However, the student must apply to the Graduate School for an evaluation of such credits to determine if they are acceptable for transfer to the M.A. program.

Graduate Review

Each year, the student must participate in at least one Graduate Review.

Thesis Exhibition

Upon recommendation of the Graduate Thesis Committee, the student presents a thesis exhibition or presentation of work centering on the student's area of focus and executed during graduate studies.

Comprehensive Examination

The student must pass a final oral and written examination.

Time Limit

The UWM Graduate School requires that students complete all degree requirements within five years of initial enrollment.

Master of Arts in Art: Specialization in Design Entrepreneurship + Innovation

Note: This specialization begins in Fall 2018; application available in Fall 2017.

The Master of Arts in Art: Specialization in Design Entrepreneurship + Innovation is a 30-credit program wherein students will merge design thinking, innovation, theory and contemporary design practice to develop design solutions that affect positive social, economic and technological change.

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major or minor in art or design, or related field, or a body of work that demonstrates professional or research interest in design thinking and/or making.
2. Submission of a digital portfolio with 20 images of original work or other examples of design making, design thinking or design research.
3. Submission of a brief description of each work sample included in the digital portfolio.
4. Submission of a written personal statement of the proposed program of study.
5. Three (3) letters of recommendation.

See the department’s website for more details, including required file formats and submission process for application materials.

Applicants may be admitted to the program with specific program-defined course deficiencies. The student is expected to satisfy deficiency requirements within three enrolled semesters. The Office of Graduate Studies in the Department of Art and Design monitors the deficiencies. Deficiency course credits may not be applied towards the degree.

Advising

Upon admission, the Director of Graduate Studies in the Department of Art and Design in consultation with the Graduate Faculty will assign the incoming graduate student to a First Year Advisory Team. The head Advisor will contact the student and the Advisory Team at the beginning of the student’s first semester to arrange a schedule for meetings to discuss course enrollment and the first year studio research agenda.

By the end of the student’s second semester in the program, the student must select a Major Professor, and in consultation with the Major Professor, assemble his or her Graduate Thesis Committee. The committee consists of three or more members (usually not larger than four). At least three members must be graduate faculty, and at least two must be from the Department of Art & Design. At least one member of the committee must be a faculty member in the student’s area of focus. If a student desires, the fourth member of the committee may be from outside the university. The student’s Major Professor will serve as the Chair of the student’s Graduate Thesis Committee.

A student who wishes to change his/her designated MA specialization must first apply and be accepted into the specialization. The student would make this decision in consultation with his or her Thesis Committee and the Director of Graduate Studies. If the student is accepted into the specialization, he or she will assemble a new Thesis Committee and select a new Major Professor, if necessary.

If the student's major professor takes a leave of absence or leaves the University, the student should contact the Director of Graduate Studies in the Department of Art and Design for advice in selecting a new major professor, and notify the Director of subsequent changes to the student’s committee.

Credits and Courses

Minimum degree requirement is 30 graduate credits. At least 18 credits must be taken in Art and Design and at least 6 credits must be taken in Complementary Studies outside of Art and Design. Consult the Department of Art and Design Office of Graduate Studies for a list of approved courses in Complementary Studies.

All graduate students in the Department of Art and Design must be enrolled full-time for at least one semester, earning a minimum of 8

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credits during that semester. Graduate students with a PA or TA appointment are considered full-time earning a minimum of 6 credits per semester.

Transfer of Credits

Upon admission, an applicant may be permitted to transfer a maximum of 12 graduate credits earned at another institution. However, the student must apply to the Graduate School for an evaluation of such credits to determine if they are acceptable for transfer to the MA program.

Graduate Review

Each year, the student must participate in at least one Graduate Review.

MA Thesis

Upon recommendation of the Graduate Thesis Committee, the student will complete a MA Thesis project and presentation of the work executed during the student's graduate studies. The MA Thesis may be a gallery exhibition, public performance, pitch session, or another form appropriate to the student's research, and must be approved by the student's Major Professor.

Comprehensive Examination

The student must pass a final oral and written examination.

Time Limit

The UWM Graduate School requires that students complete all degree requirements within five years of initial enrollment.

Master of Fine Arts in Art: Studio Art

The Master of Fine Arts in Art is a 60-credit program of concentrated study in one or more areas of studio art (see <http://uwm.edu/arts/art-and-design/graduate/> for more information). It is designed for the student who desires graduate training as a professional artist or training as an artist-teacher in art schools and universities.

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in art, or a related field, including at least 40 studio credits and at least 45 academic credits outside the major.
2. Submission of a digital portfolio with 20 images of original work.
3. Submission of a written personal statement of the proposed program of study.
4. Three (3) letters of recommendation.

See the department's website for more details, including required file formats and submission process for application materials.

At the completion of 30 graduate credits (minimum 18 credits studio art, 3 credits Art History, 3 credits of graduate-level coursework in a discipline related to the student's research interests, and 6 credits graduate art seminar), the MFA candidate is required to complete a mid-program review. The mid-program review consists of a written reflection on the first 30 credits of study in the program, a plan of action for the final 30 credits and MFA Thesis Exhibition, and a presentation (to the student's Thesis Committee) of a body of work completed during the first 30 credits. After the Thesis Committee approves this mid-program review, the student may proceed to the final 30 graduate credits, MFA Thesis and oral and written qualifying examinations.

If the applicant already holds the Master of Science or Master of Arts degree, the applicant must submit graduate transcripts in addition to the digital portfolio, personal statement, and three letters of recommendation. If the M.S. or M.A. degree is approved by the UWM Graduate School and the Director of Graduate Studies in the Department of Art and Design (in consultation with the Graduate Faculty), the MFA candidate will complete 30 credits toward the MFA degree.

Applicants may be admitted to the program with specific program-defined course deficiencies.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The Office of Graduate Studies in the Department of Art and Design monitor the deficiencies. Deficiency course credits may not be applied towards the degree.

Advising

Upon admission, the Director of Graduate Studies in the Department of Art and Design in consultation with the Graduate Faculty will assign the incoming graduate student to a First Year Advisory Team. The head Advisor will contact the student and the Advisory Team at the beginning of the student's first semester to arrange a schedule for meetings to discuss course enrollment and the first year studio research agenda.

By the end of the student's second semester in the program, the student must select a Major Professor, and in consultation with the Major Professor, assemble his or her Graduate Thesis Committee. The committee consists of three or more members (usually not larger than four). At least three members must be UWM graduate faculty, and at least two must be from the Department of Art & Design. At least one member of the committee must be a faculty

member in the student's area of focus. If a student desires, the fourth member of the committee may be from outside the university. The student's Major Professor will serve as the Chair of the student's Graduate Thesis Committee.

A student who wishes to change his/her designated area of focus must first apply and be accepted into the new focus. The student would make this decision in consultation with his or her Thesis Committee and the Director of Graduate Studies in the Department of Art and Design. If the student is accepted into the new area of focus, he or she will assemble a new Thesis Committee and select a new Major Professor, if necessary.

If the student's Major Professor takes a leave of absence or leaves the University, the student should contact the Director of Graduate Studies in the Department of Art and Design for advice in selecting a new Major Professor, and notify the Director of subsequent changes to the student's committee.

Credits and Courses

Minimum degree requirement is 60 graduate credits for MFA candidates who do **not** hold an MA or MS degree. Sixty-credit degree candidates plan a program of studies that includes 36-42 credits in studio art, 3 credits in Art History, 9 credits in graduate art seminar including Philosophy and Concepts (3 cr.), and 6-12 credits in graduate-level coursework in a discipline related to the student's research interests.

MFA Candidates Holding Previous MA or MS Degrees

Minimum degree requirements for MFA candidates holding a previous MA or MS degree is 30 graduate credits. 30-credit degree candidates plan a program of studies that includes 3 credits in a graduate art seminar, 18 to 24 credits in studio art, 3 credits in a graduate-level course in a discipline related to the student's research interests, and 0 – 6 credits in areas related to student's research interests.

All graduate students must be enrolled full-time for at least one semester, earning a minimum of 8 credits during that semester. Graduate students with a PA or TA appointment are considered full-time earning a minimum of 6 credits per semester.

Transfer of Credits

Upon admission, an applicant may be permitted to transfer a maximum of 12 graduate credits earned at another institution. However, the student must apply to the Graduate School for an evaluation of such credits to determine if they are acceptable for transfer to the MFA program.

Graduate Review

MFA candidates must participate in at least one Graduate Review each academic year.

Thesis Exhibition

Upon recommendation of the major professor the student presents a thesis exhibition of work executed since admission to the program. The exhibition is held during the semester in which the student completes the coursework for the degree.

Comprehensive Examination

The student must pass a final oral and written examination.

Time Limit

The UWM Graduate School requires that the student complete all degree requirements within a specific time limit. A student in the 60-credit MFA program must complete all degree requirements within seven years. A student in the 30-credit MFA program must complete all degree requirements within five years.

Master of Science in Art Education

Admission

An applicant must meet Graduate School requirements and have an undergraduate degree in art education, art history, studio arts, or related field to be considered for admission to the program.

The following materials are also required and must be sent to the Department of Art and Design, Office of Graduate Studies, Peck School of the Arts, University of Wisconsin, Milwaukee, P.O. Box 413, Milwaukee, Wisconsin 53201. (See department website for specific directions.)

1. An example of writing skills— appropriate examples include: a paper presented at a professional meeting, an art curriculum guide, a research paper, or a published article.
2. A digital portfolio of applicant's original work (minimum 10, maximum 20 images) and, if an experienced teacher, the work of one's students (minimum 10, maximum 20 images). Explanatory or descriptive annotations must accompany images.
3. Three (3) letters of recommendation.
4. **For the Pre K-12 Art Education Option only:** A photocopy of certification to teach art or proof of admission into the Teacher Certification Program in the School of Education

Application deadlines for admission to the program are February 1 for the following fall semester and October 7 for the following spring semester. If applicants are interested in

competing for assistantships and fellowships, a **December 10** deadline should be used.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. Upon admission to the program, the student is expected to satisfy deficiency requirements within three enrolled semesters. The Graduate School and the Office of Graduate Studies in Art and Design monitor the deficiencies. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

Immediately upon admission, the graduate student must contact the Coordinator of Graduate Programs in Art and Design for initial advising and aid in selection of a major professor from the faculty of the Art Education area.

Upon completion of 9 graduate credits, each student must make arrangements for a graduate faculty member in the Art Education Area to serve as the major professor and must notify the Department of Art and Design Office of Graduate Studies of that professor's willingness to serve in such a capacity.

Immediately thereafter, each student, in consultation with the major professor, must organize a thesis committee. The committee should consist of the major professor from art education, another faculty member from art education, and one additional faculty member, supporting the major area of concentration, for a minimum of three total. The additional faculty member may come from outside art education, outside the Department of Art and Design, or outside of the university. Members from outside the university community must have credentials that further a student's research agenda and must be chosen in consultation with the major professor.

If the student's major professor takes a leave of absence, receives a sabbatical, or leaves the university, the student should contact the Coordinator of Graduate Programs in Art Education for advice in selecting a new major professor.

Credits and Courses

The minimum requirement for the M.S. in Art Education degree is 30 graduate credits, 6 credits of which must be in foundations in art education, 9 credits in current topics and thematically related studio workshops, and 6 credits in thesis development. The student, in consultation with the major professor, is responsible for also planning 9 additional credits (minimum) in a chosen program of study in art education with a specific focus on Pre K-12 or community environments. Please refer to Master of Science in Art Education Handbook for further information.

Transfer of Credits

Upon admission, an applicant may be permitted to transfer a maximum of 12 graduate credits earned at another institution, or as a UWM non-degree graduate student, subject to transfer credit requirements and department approval.

Thesis

All M.S. in Art Education students must develop, present, and defend a thesis to complete their degree. Two thesis options are available: a written thesis that emphasizes scholarly research; or an applied study that includes the development and implementation of a significant teaching strategy or curricular model that is reported on in a written thesis. Thesis option should be selected by a student and approved by the major advisor before 15 graduate credits are earned.

Students must have at least two members of the Art Education area faculty on their thesis committee and one from a related field of study.

Comprehensive Examination

M.S. in Art Education students must pass a final oral examination in defense of the thesis.

Time Limit

The Department of Art and Design requires that the student complete all degree requirements within five years of initial enrollment.

Urban Education, Ph.D. - Art Education Specialization (School of Education)

[Doctor of Philosophy in Urban Education - Art Education Specialization](#)

302 Art and Design Workshop: (Subtitled). 3 cr. U/G.

Special topic course in Art and Design. May be retaken with topic change to 6 cr max. Prereq: jr st, & admis to Art and Design prog or to IAT; or grad st.

312 (326) Intermediate Digital Studio. 3 cr. U/G.

Students investigate the relationship between concept, material, process, aesthetic, and context in artmaking. Then, students are encouraged to integrate digital and traditional approaches to production. Prereq: jr st & admis to Art & Design prog or IAT prog; & Art 212(P) or Film 222(P); or grad st; or cons instr.

313 Programming for Artists I. 3 cr. U/G.

An introduction to principles and applications of computer programming languages within art practice. Art 313 & FineArt 313 are jointly offered; they count as repeats of one another. Prereq: Jr st, admis to IAT prog or to Visual Art prog, & Art 118(P); or grad st; or cons instr.

315 Participatory Art and Social Practice. 3 cr. U/G.

Students study installation and eco-art, participatory art and social practice, and

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incorporate contemporary concepts and their strategies into individual and collaborative work. Counts as repeat of Art 327 w/similar topic. Prereq: jr st, admis to Inter-Arts/IAT prog or Art & Design prog; or cons instr.

316 Interactive and Multimedia Art. 3 cr. U/G.

An introduction to interactive art objects and installations using computer vision, signal processing, and/or MIDI and USB technologies. Art 316 & FineArt 316(211) are jointly offered; they count as repeats of one another. Prereq: jr st, admis to Inter-Arts/IAT prog or Art & Design prog; or cons instr.

317 3D Imaging I. 3 cr. U/G.

An introduction to 3D imaging techniques and applications. Prereq: jr st; admis to Art and Design prog or Inter-Arts/IAT prog; grad st; or cons instr.

347 Reading Works of Art. 3 cr. U/G.

An advanced course in the visual 'reading' of works of art from the artists' point of view. Course includes slide lecture, with discussion. Student presentation required. Prereq: jr st or cons instr.

357 Studio Lighting & Digital Imaging. 3 cr. U/G.

Aesthetic and technical challenges of lighting in the studio and other locations, along with an introduction to digital imaging strategies for photographers. Prereq: Art 118(P) or Film 117 (P), & Art 253(P) or Art 221(P), & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 253; or grad st; or cons instr.

358 (457) Medium and Large Format Photography. 3 cr. U/G.

Aesthetic and technical challenges of analog photography with medium and large format cameras, addressing image pre-visualization, image scale, contrast control, photographic developers, scanning, paper surfaces, and fine art printing. Prereq: jr st & Art 253(P) or Film 117(P) & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 253(P); or grad st; or cons instr.

366 Between Painting and Sculpture. 3 cr. U/G.

A studio laboratory consisting of a wide spectrum of techniques and ideologies, concentrating on the exploration of joining painting and sculpture as a consummate form. Prereq: jr st; Art 261(P).

378 Industrial Processes and Fabrication. 3 cr. U/G.

Survey of fabrication methods with emphasis on manipulation of material through industrial processes. Four hours studio monitoring mandatory. Prereq: jr st & admis to Art &

Design prog or IAT prog; or grad st; or cons instr.

392 Lithography. 3 cr. U/G.

Studio work based on stone and plate lithography; lectures on history, multicolor printing, polyester plate and experimental techniques in lithography. Prereq: Art 291(P); or grad st & cons instr.

393 Intaglio. 3 cr. U/G.

Studio work in intaglio; drypoint engraving, etching, relief-intaglio; aquatint, experimental procedures, color printing, development of personal graphic concept. Prereq: Art 291(P); or grad st & cons instr.

396 Photo Screenprinting. 3 cr. U/G.

Screen-print process using the photo-stencil to reproduce hand-drawn and computer manipulated marks and images; printing skills, experimentation with materials and multiple reproduction. Prereq: Art 291(P), 253(P), 231(P), or 221(P); or grad st & cons instr.

397 Book Arts Workshop: (Subtitled). 3 cr. U/G.

Studio work exploring traditional and experimental book structures. Media/content focus variable to include array of relevant topics. May be retaken to 6 cr max. Prereq: jr st; or grad st; or cons instr.

402 Art and Design Workshop: (Subtitled). 1-3 cr. U/G.

Special topic course in Art and Design. May be retaken with topic change to 6 cr max. Prereq: jr st & admis to Art and Design prog; or grad st; or cons instr.

405 Product Realization. 3 cr. U/G.

This interdisciplinary course (engineering and art students) considers the diverse aspects of the product realization process. 2.5 hrs lecture. Art 405, MechEng 405, & Ind Eng 405 are jointly offered; they count as repeats of one another. Counts as repeat of Art 402/Ind Eng 590/MechEng 490 with same topic. Prereq: jr st & admis to Art & Design prog or IAT prog; or Ind Eng 350(P), 360(P), 370(P); or MechEng 321(P), 360(P), 366(P), 370(P); or grad st & cons instr.

406 Community Arts II. 3 cr. U/G.

Intermediate study of community arts as a tool for enriching community life, affirming cultural identity, and pursuing political and social justice goals. Prereq: Art 306(P); or grad st; or cons instr.

412 (411) Advanced Digital Studio. 3 cr. U/G.

An advanced, concept oriented studio course where students produce Digital Studio art. Prereq: jr st, admis to Art & Design prog or IAT prog, & Art 312(P); or grad st; or cons instr.

418 Advanced Electronics and Sculpture: (Subtitled). 3 cr. U/G.

Advanced art production using interactive systems such as sensors, microcontrollers, motors, lights for interactivity installations & performance. Retakable with change of topic to 9 cr max. Prereq: jr st, admis to Art prog or IAT prog, & Art 318; or grad st; or cons instr. See schedule of classes for any additional prereqs.

423 Experimental Typography. 3 cr. U/G.

Advanced understanding of typography, its use in innovative information systems, its historical context and function in various media including print, architectural applications, Web and multimedia. Prereq: jr st & B- or better in Art 323(328)(P); or grad st; or cons instr.

426 Motion Graphics. 3 cr. U/G.

Introduction to history and production of short-duration motion graphics (industry, Internet, titling, graphics, creative projects) using contemporary production tools (video editing, compositing, audio recording/sequencing). Prereq: jr st & Art 118(P); or grad st; or cons instr.

427 Advanced Design Workshop: (Subtitled). 1-3 cr. U/G.

A short term, concept oriented workshop in graphic design. May be retaken with topic change to 6 cr max. Prereq: jr st & cons instr.

431 Special Topics in Fibers: (Subtitled). 3 cr. U/G.

Advanced problem-solving working toward the development of cohesive body of work in non-loom construction. May be retaken w/chg in topic to 6 cr max. Prereq: jr st, & Admis to Art and Design prog, & Art 231(P); or cons instr; or grad st.

432 Woven Structure II. 3 cr. U/G.

Continuation of ART 332. Further development of individual concepts in weaving leading to a cohesive body of work. Prereq: jr st, & Art 332(232)(P); or cons instr; or grad st.

433 Digital Imaging for Fabric. 3 cr. U/G.

Digital processes and screen-printing on textiles with an emphasis on individual expression. Prereq: jr st, & Admis to Art and Design prog, & Art 231(P); or cons instr; or grad st.

434 Fibers III-Weaving. 3 cr. U/G.

Individual research and execution of projects in various processes of weaving. Professional execution of work emphasized. Prereq: jr st; Art 432(P).

435 Mixed Materials: Concept/Object. 3 cr. U/G.

Individual research and execution of projects in various processes of non-loom fiber construction. Professional execution of work emphasized. Prereq: jr st, & Admis to Art and Design prog, & Art 231(P); or cons instr; or grad st.

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436 Cloth Construction: Surface to Structure. 3 cr. U/G.

Individual research and execution of projects in various processes of fabric printing and construction. Prereq: jr st, & Admis to Art and Design prog, & Art 231(P); or cons instr; or grad st.

438 Fiber Workshop: (Subtitled). 3 cr. U/G.

A special topic course in fibers. May be retaken with topic change to 6 cr max. Prereq: See semester Schedule of Classes.

441 Advanced Drawing Strategies I. 3 cr. U/G.

Advanced investigation of drawing as an organizing tool for thought and personal image exploration. Students work with both assigned and independently-conceived problems. Prereq: jr st & Admis to Art and Design prog; or grad st.

447 Reading Works of Art. 3 cr. U/G.

Continuation of Art 347. Prereq: jr st or cons instr.

449 Painting And Drawing Workshop: (Subtitled). 1-3 cr. U/G.

A short term, special topic course in painting and drawing. Additional prereqs may appear in the Schedule of Classes. May be retaken with change in topic to 6 cr max. Prereq: jr st or writ cons instr.

451 Special Topics in Photography: (Subtitled). 3 cr. U/G.

Specific topic and additional prerequisites will appear in the Schedule of Classes each time the course is offered. Retakable with change in topic to 6 cr max. Prereq: jr st, Art 253(P), Art 350(P) & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 350(P) or Art 357(P) or Art 358(P); or grad st; or cons instr

452 Contemporary Issues in Photography. 3 cr. U/G.

Addresses critical issues, theory, and practices surrounding contemporary photography and how photographers have worked to challenge, expand, and reinvent the medium. Prereq: jr st, admis to Photo prog, cumulative 2.67 GPA in photo curriculum, Art 253(P), B- or better in Art 350(P); or Photo minors with Art 350(P) or Art 358(P) or Art 357(P); or grad st; or cons instr.

454 Narrative Photography. 3 cr. U/G.

Investigation of contemporary and historical narrative strategies that range from documentary to tableau and move from single images to sequencing. Prereq: jr st, Art 253(P), Art 350(P) & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 350(P), 358(P), or 357(P); or grad st; or cons instr.

456 Advanced Digital Photography. 3 cr. U/G.

Exploration of critical concepts through advanced digital color management, retouching, manipulation, compositing, image appropriation, and expanded media to include time-base media, emerging capture/output technologies and hybrid practices. Prereq: jr st, Art 253(P) & Art 350(P) or Art 357(P); or Art 212(P) & Art 312(P); or Art 221(P) & Art 321(P), & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 350(P) or Art 357(P); or grad st; or cons instr.

458 (352) Photographic Materials and Processes. 3 cr. U/G.

Exploration of experimental methods and aesthetics of the photograph as object from image capture to print, including darkroom manipulation, historical processes, hybrid practice, and alternative presentation strategies. Prereq: jr st, Art 253(P) & 350(P) or 358(P); or Art 291(P) & 391(P) or 392(P) or 393(P) or 394(P); or Art 212(P) & 312(P); & admis to Art & Design prog or Pre-Film/Film prog or Inter-Arts/IAT prog; or Photo minors with Art 350(P) or 358(P) or 357(P); or grad st;

459 Advanced Photography Workshop: (Subtitled). 1-3 cr. U/G.

Advanced special topic workshop course in photography. Retakable with change in topic to 6 cr max. Prereq: jr st, admis to Art & Design prog, Pre-Film/Film prog, or Inter-Arts/IAT prog; or gr st; or cons instr. Additional prerequisites may be announced in the Schedule of Classes each time course is offered.

468 Advanced Sculptural Practices: (Subtitled). 3 cr. U/G.

Advanced level course in specialized sculpture processes & skills. Retakeable with change of topic to 15 cr max. Prereq: jr st & Art 368(P); or grad st. See Schedule of Classes for additional prereq.

469 Sculpture Workshop: (Subtitled). 1-3 cr. U/G.

A short term special topic workshop in sculpture. Specific topic and additional prerequisites may appear in the Timetable each semester. May be retaken with topic change to a 6 cr max. Prereq: jr standing or writ cons instr.

474 Portfolio Development in Jewelry and Metalsmithing. 3 cr. U/G.

Introduction to professional and academic portfolio preparation including a cohesive body of work, resume, artist statement, visual documentation and portfolio presentation. Four hours studio monitoring mandatory. May be retaken to 12 cr max. Prereq: jr st & Admis to Art and Design prog; Art 371(P) or 372(P) or 378(P) or 470(P) or 472(P) or 473(P) or 478(P); or grad st & cons instr.

478 Digital Fabrication and Craft. 3 cr. U/G.

Survey of fabrication methods with an emphasis on computer numeric controlled fabrication & exploration into digital fabrication & craft. Four hours studio monitoring mandatory. Prereq: jr st & Admis to Art & Design prog or IAT prog; Art 271(C), 277(C), 278(C), or 378(C); or grad st; or cons instr.

479 Jewelry and Metalsmithing Workshop: (Subtitled). 1-3 cr. U/G.

Special topics workshop in jewelry and metalsmithing. May be retaken w/chg in topic to 6 cr. max. Prereq: jr st, & Admis to Art and Design prog, & Art 271(P); or grad st & cons instr.

481 Ceramics Special Topics and Portfolio I. 3 cr. U/G.

Advanced problem-solving working toward the development of a cohesive body of work in the ceramic medium. Exploration of special thematic topics. Prereq: jr st, & Admis to Art and Design prog, & Art 281(P); or cons instr; or grad st & cons instr.

482 Ceramics Special Topics and Portfolio II. 3 cr. U/G.

Continuation of ART 481. Advanced problem solving and development of a cohesive body of work in the ceramic medium. Exploration of special thematic topics. Prereq: jr st, & Art 481(P); or grad st & cons instr.

483 Ceramics Special Topics and Portfolio III. 3 cr. U/G.

Continuation of ART 482. Advanced problem solving and development of a cohesive body of work in the ceramic medium. Exploration of special thematic topics. Prereq: jr st & Art 482(P); or grad st.

489 Ceramics Workshop: (Subtitled). 1-3 cr. U/G.

A short-term special topic course in ceramics. May be retaken with change in topic to max of 6 cr. Prereq: jr st & writ cons instr.

493 Advanced Digital Printmaking. 3 cr. U/G.

An advanced studio course exploring digital media and traditional printmaking. Media/content focus to include array of relevant topics. Prereq: jr st & Art 393(293)(P); or grad st; or cons instr.

495 Advanced Printmaking: (Subtitled). 3 cr. U/G.

Develop conceptual base of work and expand range of print skills with emphasis on color printing and combination print processes. Retakable to 6 cr max. Prereq: jr st & Art 392(P) or 393(293)(P) or 394(P) or 396(P) or 398(P); or grad st; or cons instr.

496 Sequence and Structure. 3 cr. U/G.

Advanced studio course exploring the creation of sequential art and the development of visual

Art

narratives using experimental book structures as well as electronic media (web, multimedia). Prereq: jr st & Art 291(P) or 253(P); or 221(228)(P); or grad st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Studio and special problems designed to provide relevant course work for a study abroad program in the visual arts. May be retaken with change in topic to max of 12 cr. Prereq: jr st; acceptance in Study Abroad Prog.

499 Advanced Printmaking Workshop: (Subtitled). 3 cr. U/G. Special topic course in Print and Narrative Forms. May be retaken with topic change to 6 cr max. Prereq: jr st; or grad st; or cons instr. Add'l prereqs may appear in Schedule of Classes each time course is offered.

509 Art & Design Seminar: (Subtitled). 3 cr. U/G. Topics and critical issues in the modern and/or contemporary field of art. Student research and written/oral reports required. Retakeable with change in topic to 6 cr max. Prereq: jr st; & completion of Oral and Written Communication (OWC) Competency Part A GER, or cons instr.

524 Professional Practice in Design: (Subtitled). 3-6 cr. U/G. Preparation for the design profession through research, writing and portfolio development. Graduate level requires additional research. May be retaken with topic change to 6 cr max. Prereq: jr st, & Art 323(C); or grad st; or cons instr.

526 Research in Universal Design and Fabrication. (Subtitled). 3 cr. U/G. Exploration of topics focused on Human Factors in Universal Design. May be retaken for cr w/chg in topic to 6 cr max. Counts as repeat of Art 427 with similar topic. Prereq: jr st; Art 221(P), 378(P), or 478(P); or grad st.

529 Design and Visual Communication III. 3 cr. U/G. Capstone course emphasizes a complete and comprehensive synthesis of design and visual communication through comprehensive studio projects developed for a graduate portfolio. Prereq: jr st, & grade of B- or better in Art 421(329)(P) & 6 cr (final 3 may be taken conc) Design and Visual Communication Expanded Studies (grade of C or better); or grad st & cons instr.

539 Fibers-Independent Study. 1-6 cr. U/G. Individual program of supervised study for the advanced student in fibers. May be retaken w/chg in topic to 6 cr max. Prereq: jr st; Admis to Art and Design prog; or grad st, & cons instr.

541 Advanced Drawing Strategies II. 3 cr. U/G. Continuation of Art 441. Advanced investigation of drawing as an organizing tool

for thought and personal image exploration. Students work on assigned and independently-conceived problems. Prereq: jr st & Art 441(P); or grad st.

542 Advanced Figure Drawing Explorations. 3 cr. U/G. Continuation of Art 442. Advanced focus on the human figure. Emphasis on personal interpretations in studio-based and outside assignments. Prereq: jr st; admis to Art and Design prog & Art 442(P); or grad st.

543 Painting Studio. 3 cr. U/G. Advanced investigation of painting focused upon personal image exploration through independently conceived problems. May be retaken to 9 cr max. Prereq: jr st & Admis to Art and Design prog; Art 441(P), & 443(P); or grad st.

552 Studio Practice and Research in Photography. 3 cr. U/G. Research and development of a body of photographic work. Prereq: sr st, admis to Photo prog, cumulative 2.67 GPA in photo curriculum, B- or better in Art 452 (P), & two of the following: 451(P), 454(P), 456(P), 458(P); or grad st; or cons instr.

561 Conceptual Process, Sculptural Presence. 3 cr. U/G. Development of advanced concepts in contemporary sculpture. May be retaken to 6 cr max. Prereq: jr st; Admis to Art and Design prog, & Art 261(P), & 363(P); or 365(P); or 461(P); or 464(P); or grad st.

562 Environmental Sculpture and Installation. 3 cr. U/G. Development of sculptural work that incorporates the environment, integration of sculptural form, installation, and performance. May be retaken to 6 cr max. Prereq: jr st & Admis to Art and Design prog; Art 363(P) & 365(P), or 461(P), or 464(P), or 561(P); or grad st & cons instr.

578 Research in Digital Fabrication and Craft: (Subtitled). 3 cr. U/G. Interdisciplinary research into digital fabrication, rapid prototyping and design. Retakable w/ change in topic to 6 cr max. Prereq: jr st; Art 378(C) or 478(C); or cons instr.

584 Experimental Processes in Woodfiring II. 3 cr. U/G. Advanced research and further development of personal aesthetic in woodfiring. Leadership in supervising the firing process required. Prereq: jr st, & Art 384(P); or grad st & cons instr.

591 Portfolio in Print and Narrative Forms. 3 cr. U/G. Introduction to professional and academic portfolio preparation including a cohesive body of work, resume, artist statement, professional

writing samples, visual documentation and portfolio presentation. Prereq: jr st; gr st; or cons instr.

595 Colloquium: Print and Narrative Forms. 3 cr. U/G. Imaging and hybrid forms in contemporary photographic, book arts, narrative forms and print work. Retakable up to 6 cr. Prereq: jr st; or grad st; or cons instr.

603 Advanced Studio Practice. 1-3 cr. U/G. A special course open only to seniors and graduate students with written cons instr. May be retaken to max of 3 cr. Prereq: sr st; writ cons instr.

608 Art and Design Internship. 3-6 cr. U/G. Provides structured opportunities for art students to earn credit for skills and professional experience gained working in galleries, museums, studios, arts organizations or art businesses. May be retaken to 6 cr max. Prereq: jr st & admis to Art and Design prog; or grad st & cons instr.

609 Independent Reading and Research. 1-3 cr. U/G. May be retaken with change in topic to max of 9 cr. Prereq: sr st & writ cons instr.

627 Design Seminar: (Subtitled). 3 cr. U/G. Role and responsibility of professional designer investigated. Topics may include contemporary trends and issues, design education, ethics, social activism, career opportunities. Prereq: jr st; or grad st; or cons instr.

629 Graduate Graphic Design I. 3 cr. U/G. Individual research in graphic design. Prereq: Art 529(P) or cons instr.

645 Painting and Drawing Critique. 3 cr. U/G. An advanced critique format course to investigate painting and drawing mediums. Students will develop and discuss conceptual, technical, and collective dialogue strategies. Prereq: sr st or writ cons instr.

721 Design Thinking & Making. 3 cr. G. Focus on design process: identify/define problems, communication modes, nature of representation, dimensions of context, solution assessment. Develop storytelling skills. Rapid prototyping, qualitative/quantitative research, collaboration, co-design. Prereq: grad st.

727 MA Thesis Seminar in Design Entrepreneurship + Innovation. 3 cr. G. Seminar focused on theory and methods for graduate research in Design Entrepreneurship + Innovation. Prereq: grad st.

753 Graduate Photography I. 3 cr. G. Self-directed research in photography with involvement in group critiques. Prereq: grad st.

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821 Collaborative Project in Design Entrepreneurship + Innovation. 3 cr. G.
Focus on collaboration and human-centered design practices, processes and activities including design thinking, research, iterative process, prototyping, and storytelling. Prereq: grad st & Art 721(P); or cons instr.

827 MA Thesis Prep in Design Entrepreneurship + Innovation. 1-3 cr. G.
Supervision in support of MA Thesis Project separate from but in conjunction with students MA Thesis Committee. Retakable to 3 cr max. Prereq: Art 727(P) & cons instr.

851 Graduate Photography II. 3 cr. G.
Continuation of Art 753. Prereq: grad st; Art 753(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

900 Graduate Studio. 3 cr. G.
Ongoing critique of individual studio research in students' chosen medium(s). Emphasis on developing and maintaining interdisciplinary dialogue. Studio research, individual, and group critiques required. Retakable to 21 cr max. Prereq: grad st.

901 Seminar in Art-Philosophy and Concepts. 3 cr. G.
Presentations and discussions centering on contemporary concerns in art. Student research and oral reports. Prereq: grad st.

903 Seminar in Art-Reading and Research. 3 cr. G.
Experience in the systematic development and production of written and visual documentation or research. Prereq: grad st

904 Seminar In Art-Unique Topics: (Subtitled). 3 cr. G.
Examination of unique topics and issues of the modern and/or contemporary field of art. Student scholarly research and written/oral reports required. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

905 Seminar in Art - Critique Colloquium. 3 cr. G.
Studio critique/discussion to develop analytical perceptual skills in the understanding/comprehension of works of art. Student research, presentation and written/oral reports required. Prereq: grad st

906 Graduate Workshop: (Subtitled). 3 cr. G.
A special topic workshop for graduate students including reading, research, writing and studio practice. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

908 Advanced Research-General. 1-4 cr. G.
Independent studio work and research in areas not covered by specific courses. Retakable to 21 cr max. Prereq: grad st.

909 Independent Reading and Research. 1-4 cr. G.
Independent reading and research relative to scholarly issues in art. Retakable to 9 cr max. Prereq: grad st.

918 Advanced Research-InterMedia. 1-4 cr. G.
Independent work and research in combined media. Retakable to 21 cr max. Prereq: grad st.

929 Advanced Research-Design & Digital Media. 1-4 cr. G.
Individual work and research in design and digital media. Retakable to 21 cr max. Prereq: grad st.

930 Advanced Research-Fibers. 1-4 cr. G.
Independent work and research in fibers. Retakable to 21 cr max. Prereq: grad st.

943 Advanced Research-Painting. 1-4 cr. G.
Independent work and research in painting/drawing. Retakable to 21 cr max. Prereq: grad st.

952 Advanced Research-Photography. 1-4 cr. G.
Independent work and research in photography. Retakable to 21 cr max. Prereq: grad st.

961 Advanced Research - Sculpture. 1-4 cr. G.
Independent work and research in sculpture. Retakable to 21 cr max. Prereq: grad st.

973 Advanced Research-Jewelry and Metalsmithing. 1-4 cr. G.
Independent work and research in jewelry and metalsmithing. Retakable to 21 cr max. Prereq: grad st

989 Advanced Research-Ceramics. 1-4 cr. G.
Independent work and research in ceramics. Retakable to 21 cr max. Prereq: grad st.

994 Advanced Research-Printmaking. 1-4 cr. G.
Independent work and research in printmaking, bookmaking, and experimental narrative. Retakable to 21 cr max. Prereq: grad st.

Art Education

489 Art Education Workshop: (Subtitled). 1-3 cr. U/G.
A short-term, concept-oriented workshop in the visual and tactile arts with special focus on current issues of particular interest to the professional art educator. May be repeated with change in content to max of 6 cr. Prereq: jr st & cons instr.

801 Seminar in Urban Education and the Visual Arts. 3 cr. G.
Seminar on issues related to urban schools. Emphasis on the art in urban education and consequent demands made upon curriculum. Prereq: grad st; Art Ed 750 or cons instr.

810 Curricular Designs for Art Instruction. 3 cr. G.
Curricular rationales and models will be studied and tested. Emphasis on use of art history and criticism with studio-based curricula. Prereq: grad st; Art Ed 775 or cons instr.

830 Teaching Art With Works of Art. 3 cr. G.
Study of ways historic and contemporary masterworks can enhance art curricula. Use of art museums will be emphasized and visual resources examined. Prereq: grad st; cons instr.

850 Supervision and Administration of Art Programs. 3 cr. G.
Study of supervisory and administrative practices related to art programs. Staff development techniques, management procedures, evaluation processes, community relations, and grant writing emphasized. Prereq: grad st; Art Ed 750(P) or cons instr.

860 Teaching Art in Higher Education. 3 cr. G.
Study of curricular models, administrative structures and policies, and teaching methods used by arts administrators, educators, and master artists in higher education. Prereq: grad st; Art Ed 725(P) or cons instr.

900 Advanced Independent Problems in Art Education. 3 cr. G.
Applied research in art education with emphasis on student generated problems in studio practices, Art History, criticism, Anthropology, Sociology, and aesthetics, or Psychology. May be repeated to max of 6 cr. Prereq: grad st; cons grad advisor & instr.

910 Seminar in Art Education: (Subtitled). 3 cr. G.
Each seminar will focus on a special topic relevant to art education. Topic related lectures, readings, and discussions will conclude in a required research report. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

920 Research Methods in Art Education. 3 cr. G.
The study of research models and methods used in the field. Student will develop a research proposal and design a research strategy. Participation in a field study required. Prereq: grad st; cons instr. Completion of 24 grad cr in degree program.

990 Master's Thesis. 1-3 cr. G.
Thesis research and advisement for m.s. in art education students who have completed course

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requirements for the degree. May be repeated to max of 9 cr. Prereq: grad st; completion of 30 grad cr; cons grad advisor.

998 Doctoral Dissertation. 1-3 cr. G.

Doctoral dissertation research and advisement for candidates for Ph.D. in urban education with a specialty in art education. May be repeated to max of 12 cr. Prereq: doctoral candidacy; approval of doctoral advisor.

999 Independent Reading and Research. 1-4 cr. G.

Prereq: grad st; cons instr.

Art History

Art History

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Art History

Related Certificates

- [Certificate in Art Museum Studies](#)

Overview

The Department of Art History offers a graduate program leading to a Master of Arts degree. The graduate program prepares students for either a career in the arts or for PhD-level work at other universities. Course offerings cover the full range of western art, including film studies and electronic arts. Non-western courses in Pre-Columbian, Asian, Islamic, and African art are also offered.

Graduate Faculty

Professors

Counts, Derek, Ph.D., Brown University

Associate Professors

Johang, Jennifer, Ph.D., University of California-Berkeley

Leson, Richard, Ph.D., Johns Hopkins University

Tiffany, Tanya, Ph.D., Johns Hopkins University

Wang, Ying, Ph.D., University of Pittsburgh

Assistant Professors

Wells, Katharine, Ph.D., University of Southern California

Non-Faculty

Senior Lecturer

Brazeau, Linda, Ph.D., City University of New York

Visiting Assistant Professor

Schaefer, Sarah, Ph.D., Columbia University

Master of Arts in Art History

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. A minimum of 15 credits in Art History.
2. Submission of scores on the [Graduate Record Examination \(GRE\)](#).
3. Two letters of recommendation from persons familiar with applicant's academic or professional activities and potential.
4. A writing sample to the Department of Art History, for example, an undergraduate art historical term paper.
5. Strongly recommended, though not required: background in languages, history or classics. Applicants may be admitted

with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Graduate Advisor.

Credits and Courses

Thesis Track: MA in Art History with an Emphasis on Methods and Criticism

Minimum degree requirement is 30 graduate credits in Art History, of which a minimum of 18 credits must be 700- to 900-level courses. The 18 credits must include ArtHist 700 (Proseminar in Art History) but may not include ArtHist 703 and 704 (Introduction to Museum Studies I and II); 703 and 704 do, however, count toward the overall 30 credit requirement for the degree. Six of the 18 credits should be taken in thesis research (ArtHist 990).

Under special circumstances, 3 credits in 700- to 900-level work may be substituted for 3 of the 6 credits of thesis research. In addition, students may take a maximum of 6 credits of independent research (890, 891 and/or 999); however, these credits may not be taken in the first 6 credits of graduate work in the Department, and not until all deficiencies (if any) have been satisfied. Furthermore, they may not be counted toward the required 18 credits of 700- to 900-level courses. They will count, however, toward the overall number of credits needed to graduate. All students must take the Proseminar in Art History (ArtHist 700) in their first fall semester.

Of the total 30 credits, each student is required to take 3 credits in at least four of the following five areas: Ancient, Medieval, Renaissance-Baroque, Modern (1750 to the Present including Film), and Non-Western. At least 6 of these credits must be taken in courses numbered 700 or above. The following courses may not be used to satisfy the distribution requirement, although they will count toward the overall number of credits needed to graduate: 302, 303, 351, 353, 355, 459.

Upon petition to the director of graduate studies, a student may be permitted to take up to 6 credits in appropriate areas outside Art History (e.g., anthropology, literature, history, music history, philosophy, film).

Thesis

In addition to completing all the coursework required for the degree, the student must write a thesis on a subject selected in consultation with the advisor. This study must demonstrate the student's ability to organize material and her/his familiarity with relevant research methods and art-historical literature.

Curatorial Track: MA in Art History with an Emphasis on Museums and Curatorial Practice

Minimum degree requirement is 30 graduate credits in Art History, of which a minimum of 18 credits must be 700- to 900-level courses. The 18 credits must include ArtHist 700 (Proseminar in Art History) but may not include ArtHist 703 and 704 (Introduction to Museum Studies I and II); please see the following paragraph on 703 and 704. Six of the 18 credits should be taken in thesis exhibition research (ArtHist 991).

Students on this track must complete 6 credits of ArtHist 703 and 704 (as indicated above, 704 and 704 do not count toward the required 18 credits required above the 700 level, but they are required for the 30 credits toward the degree) and 3 credits of ArtHist 891 (Art Museum Internship).

Under special circumstances, 3 credits in 700- to 900-level work may be substituted for 3 of the 6 credits of thesis research. In addition, students may take a maximum of 6 credits of independent research (890, 891 and/or 999); however, these credits may not be taken in the first 6 credits of graduate work in the Department, and not until all deficiencies (if any) have been satisfied. Furthermore, they may not be counted toward the required 18 credits of 700- to 900-level courses. They will count, however, toward the overall number of credits needed to graduate. All students must take the Proseminar in Art History (ArtHist 700) in their first fall semester.

Of the total 30 credits, each student is required to take 3 credits in at least four of the following five areas: Ancient, Medieval, Renaissance-Baroque, Modern (1750 to the Present including Film), and Non-Western. At least 6 of these credits must be taken in courses numbered 700 or above. The following courses may not be used to satisfy the distribution requirement, although they will count toward the overall number of credits needed to graduate: 302, 303, 351, 353, 355, 459.

Upon petition to the graduate advisor, a student may be permitted to take up to 6 credits in appropriate areas outside Art History (e.g., anthropology, literature, history, music history, philosophy, film).

Exhibition

The student on this curatorial track must also organize an exhibition accompanied by a

Art History

scholarly catalog on a subject selected in consultation with the advisor. This exhibition must demonstrate the student's ability to organize material and her/his familiarity with relevant research methods and art historical literature. The exhibition is considered the equivalent of a formal thesis and the accompanying written work must be submitted to the Graduate School in appropriate format.

Language Requirement

Students must demonstrate a reading knowledge of one art historical language, e.g. French, German, Italian, Spanish or other language as appropriate. Students must take the departmental reading exam in the language of their choice at least once by the time they have completed 9 credits. If they do not pass the exam on the first attempt, they will be expected to enroll in an appropriate language course. Students may not enroll in thesis research (990) unless they have passed the language examination.

Thesis or Exhibition

The student must either write a thesis or organize an exhibition accompanied by a scholarly catalog on a subject selected in consultation with the advisor. This study or exhibition must demonstrate the student's ability to organize material and familiarity with research methods and art historical literature pertinent to the student's topic and area of interest. The exhibition is considered the equivalent of a formal thesis and the accompanying written work must be submitted to the Graduate School in appropriate format.

The student must pass an oral defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment. It is expected that a full-time student will normally complete all of the requirements for the degree within two years.

Courses

307 Film Directors: (Subtitled). 3 cr. U/G.

Comprehensive analysis of the technique, style, and themes of specific major film artists. Biographical, cultural, artistic influences on artists' work. Retakable w/chg in topic to 9 cr max. ArtHist 307 & FilmStd 307 are jointly offered; w/same topic they count as repeats of one another. Prereq: jr st; ArtHist 205(R) or 305(R).

308 Film Styles: (Subtitled). 3 cr. U/G.

A stylistic analysis of film of major filmmakers made within the structures of particular genres, such as gangsters, musicals, westerns, horror, science fiction and studios. Retakable w/chg in topic to 9 cr max. ArtHist 308 & FilmStd 308 are jointly offered; w/same topic they count as repeats of one another. Prereq: jr st.

312 Minoan and Mycenaean Art and Archaeology. 3 cr. U/G.

Architecture, sculpture, and painting in the Aegean during the Bronze Age, with emphasis on recent archaeological discoveries. Prereq: jr st.

313 Greek Art and Archaeology. 3 cr. U/G.

Major developments in Greek art from Archaic times through the Hellenistic period. Emphasis on architecture, sculpture, and painting of the Archaic and Classical periods. Prereq: jr st.

314 Art and Archaeology of the Ancient Near East. 3 cr. U/G.

Ur, Gilgamesh, Mesopotamia; the art and archaeology of the first cities in the ancient Near East from the Neolithic to Alexander the Great's conquest. Counts as repeat of ArtHist 499 w/same topic. Prereq: jr st; ArtHist 101(P).

315 Art and Archaeology of Ancient Egypt. 3 cr. U/G.

Architecture, arts, and crafts created for Egyptian kings, nobles, and commoners from the Predynastic period (5500 B.C.E.) to Cleopatra (31 B.C.E.). Prereq: jr st; ArtHist 101(R).

316 Roman Art and Archaeology. 3 cr. U/G.

Major developments in the evolution of Roman architecture, sculpture and painting from Republican through late Imperial times. Prereq: jr st.

324 Early Christian and Byzantine Art and Architecture. 3 cr. U/G.

Art and architecture of Constantinople and vicinity from the fourth to the fifteenth century. Prereq: jr st or cons instr.

325 Early Medieval Art in the West. 3 cr. U/G.

Architecture, sculpture, metalwork, and manuscript illumination from c.500-c.1050 C.E. in Ireland, Britain, France, Spain, Germany, Scandinavia, and Northern Italy. Prereq: jr st; ArtHist 101(R).

327 Art and Architecture of Islamic Spain. 3 cr. U/G.

Visual arts of the peoples that lived in Al-Andalus (the Arabic name for Muslim Spain) from the 8th to the 15th centuries. Prereq: jr st or cons instr.

329 Late Medieval Art and Architecture. 3 cr. U/G.

Church architecture, manuscript illumination, and architectural and figural sculpture from the Gothic era to the rise of the Renaissance. Prereq: jr st or cons instr.

333 High Renaissance Art in Italy. 3 cr. U/G.

The formation of the great style discussed in terms of the attainments of representative artists such as Leonardo da Vinci, Michelangelo, Raphael, and Titian. Prereq: jr st.

341 Art of the Dutch Golden Age. 3 cr. U/G.

The development of art in Flanders and Holland during the seventeenth century, examining the works of artists Rubens, Van Dyck, Rembrandt, Hals, and Vermeer. Prereq: jr st.

342 Art and Society in Renaissance Florence. 3 cr. U/G.

Masterpieces by artists including Donatello, Piero della Francesca, and Botticelli in concert with Florentine civic discourse on politics, religion, and gender. Prereq: jr st.

343 (445) Art and Culture of Spain and Latin America, 1500-1750. 3 cr. U/G.

Art and culture in Spain and its empire, including Mexico and Peru. Major artists such as El Greco, Velázquez, and Ribera. Prereq: jr st or cons instr.

349 (467) American Postmodernism 1960-2000. 3 cr. U/G.

Critical survey of Pop, Op, Kinetic, Systemic, Minimal, Colorfield, New-Realism, Antiform, Earthworks, Conceptual, and other avant-garde movements. Prereq: ArtHist 102(P)

351 English Art: 1550-1850. 3 cr. U/G.

Architecture, painting, and sculpture in England from Elizabeth I to the Great Exhibition of 1851; emphasis on Wren, Adam, Reynolds, Gainsborough, Constable, and Turner. Prereq: jr st.

353 American Art: Colonial Period - 1870. 3 cr. U/G.

Architecture, painting, sculpture, and decorative arts of colonial America through the civil war period with emphasis on their aesthetic and social contexts. Prereq: jr st.

354 American Art: 1870 - Present. 3 cr. U/G.

Painting, sculpture, and the decorative arts from 1870 to the present with emphasis on their aesthetic and social contexts. Prereq: jr st.

355 American Folk Art. 3 cr. U/G.

Survey of American folk art from colonization to the present. Emphasis on major styles and themes, regional developments, and relationship to the fine arts. Prereq: jr st.

357 Nineteenth-Century Painting in Europe. 3 cr. U/G.

History of European painting from 1800 to 1900. Prereq: jr st.

358 Modern Painting I: 1850-1900. 3 cr. U/G.

Realist, Impressionist, and Post-Impressionist movements in historical and intellectual contexts; emphasis on Courbet, Manet, Renoir, Degas, Pissarro, Seurat, Cezanne, Gauguin, Ensor, Munch, Van Gogh. Prereq: jr st.

Art History

359 Modern Architecture I: The European Foundations of Modern Architecture. 3 cr. U/G.

An aesthetic, stylistic, theoretical, technical and functional study of European architecture from the end of the Baroque style to the beginning of Modernism. Prereq: jr st; ArtHist 101(R) & 102(R).

360 Modern Architecture II: The Rise of Modern Architecture. 3 cr. U/G.

Emphasizing the work of the major modern architect, the course traces the evolution of architecture from the beginnings of Modernism to the present time. Prereq: jr st.

361 Modern Architecture III: Contemporary Architecture. 3 cr. U/G.

The intellectual, visual, and social evolution of architecture since the early 1960's. Prereq: jr st; ArtHist 360(P) or cons instr.

363 Modern Sculpture: 1880-1945. 3 cr. U/G.

Development of the Expressionist, Cubist, Futurist, Dada, Surrealist, and Constructivist movements and work of independent sculptors against the twentieth century historical and intellectual background. Prereq: jr st.

364 Modern Painting II: 1900 to the Present. 3 cr. U/G.

Development of the Fauve, Cubist, Expressionist, Dada, Surrealist, and Abstract movements against the historical and intellectual background of the twentieth century. Emphasis on leading individual twentieth century artists. Prereq: jr st.

365 History of Photography. 3 cr. U/G.

A survey of photography from its inception in 1826 to the present. Topics include stylistic and technological evolution, cultural impact, and aesthetic considerations of photography. Prereq: jr st; ArtHist 102(R) or 357(R).

366 German Painting, 1800-1933. 3 cr. U/G.

Major German painters from Runge to Beckmann. Romantic art theory, landscape, Expressionism, and 'Neve Sachlichkeit.' Prereq: jr st.

367 Latin American Modernisms. 3 cr. U/G.

Modernist developments in Latin American art, circa 1900 to circa 1960. National and regional histories and artistic trajectories; relationships between European and Latin American modernisms. Prereq: jr st.

368 History of Modern Design. 3 cr. U/G.

An investigation of the craft or decorative arts—specially furniture, ceramics, glass, metalwork, and textiles—from the Great Exhibition of 1851 to the present. Prereq: jr st.

369 Post-1970s Art. 3 cr. U/G.

Legacies of Minimalism and Conceptual Art on global contemporary art movements such as site-specific art, earth and land art, institutional

critique, body and performance art. Counts as repeat of ArtHist 470 w/same topic. Prereq: jr st.

369 (effective 09/05/2017) Introduction to Contemporary Art. 3 cr. U/G.

Legacies of Minimalism and Conceptual Art on global contemporary art movements such as site-specific art, earth and land art, institutional critique, body and performance art. Counts as repeat of ArtHist 470 w/same topic. Prereq: jr st.

370 Trends in Contemporary Architecture. 3 cr. U/G.

Current trends in architectural practice, focusing on organic and animate built forms, as well as modular and portable structures within performative, digital, and visual architecture. Prereq: jr st.

371 African Art. 3 cr. U/G.

Art of the indigenous peoples of different sections of Africa, with consideration of both aesthetic qualities and the social context of the art. Prereq: jr st.

372 Art of the Inca and their Ancestors. 3 cr. U/G.

Native arts of South America before European contact; emphasis on artistic developments in the Andean region. Prereq: jr st.

373 Art of Ancient Mexico and Central America. 3 cr. U/G.

Arts of ancient Mexico and Central America; emphasis on the Olmec, the Maya, and the Aztecs. Prereq: jr st.

375 Art of the Aztec Empire. 3 cr. U/G.

Comprehensive introduction to the art of the Aztec Empire, including architecture, monumental sculpture, small-scale sculpture, ceramics, painting, lapidary work, goldwork, and featherwork. Counts as repeat of ArtHist 499 with same subtitle. Prereq: jr st.

382 Chinese Art and Architecture. 3 cr. U/G.

Chinese bronzes, jades, painting, sculpture, and architecture from the Neolithic (5000 B.C.E.) to the modern period, including Buddhist, Daoist, Confucianist, and Communist art. Prereq: jr st.

383 Japanese Art and Architecture. 3 cr. U/G.

Japanese temples, shrines, paintings, prints, and crafts from the Neolithic to the modern period, including films, Zen art, and the tea ceremony. Prereq: jr st.

384 Art and Archaeology of the Chinese Bronze Age. 3 cr. U/G.

In-depth study of ritual bronzes and other crafts created for nobles and commoners of the Bronze Age, with emphasis on recent archaeological discoveries. Prereq: jr st.

386 Art, Ritual, and Ethnicity of China. 3 cr. U/G.

In depth introduction to the ethnic arts and religions of China; architecture, painting, film, and religious ceremonies of Daoism, Buddhism, and Dongba. Prereq: jr st or cons instr.

412 Cities and Sanctuaries of Ancient Greece. 3 cr. U/G.

Development of Greek urban and religious architecture from Archaic through Hellenistic times. The growth of such centers as Athens, Delphi, Olympia, Paestum, Priene, and Pergamon. Prereq: jr st.

413 Greek Sculpture. 3 cr. U/G.

Development of sculpture from the Geometric Period through the Hellenistic age. All forms of sculpture considered, not just freestanding works. Prereq: jr st.

425 Romanesque Art and Architecture. 3 cr. U/G.

Development of church architecture of the eleventh and twelfth centuries in France, England, and Germany. Prereq: jr st.

426 French Gothic Art and Architecture C.1130-C.1300. 3 cr. U/G.

Gothic art and architecture from its origins in the Ile-de-France through the High Gothic cathedrals to the European-wide diffusion of the Rayonnant style. Prereq: jr st; ArtHist 101(R) or 220(R).

431 Renaissance Architecture in Italy. 3 cr. U/G.

Florentine and other Italian architecture in the fifteenth and sixteenth centuries; such artists as Brunelleschi, Alberti, Bramante, Leonardo da Vinci, Michelangelo, and Palladio. Prereq: jr st.

447 Topics in Early Modern Art: (Subtitled). 3 cr. U/G.

Key themes, genres, and artists in European art from the fourteenth through the seventeenth centuries. Themes may include gender, politics, and religion. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

458 A Comparative History of Architecture and Urbanism: (Subtitled). 3 cr. U/G.

Physical history of contrasting cities, concentrating on architectural development of all types: institutional, commercial, industrial, residential, and recreational. Emphasizes historical context as well as formal development. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

459 American Architecture. 3 cr. U/G.

Architecture in the United States from its beginnings in the 17th century to its absorption into international Modernism at the time of World War II. Prereq: jr st; ArtHist 103(P) or 102(P) or cons instr.

Art History

462 Frank Lloyd Wright. 3 cr. U/G.

The work of America's and Wisconsin's best-known architect presented in its historical, cultural and philosophical contexts. Prereq: jr st; one of the following courses recom: ArtHist 102(R), 359(R), 360(R), 459(R).

463 Cubism and its Inheritance. 3 cr. U/G.

The development of Cubism by Picasso and Braque and its progeny in Paris, in futuristic Italy, and in constructivist Russia. Prereq: jr st.

464 European Art, 1890-1910. 3 cr. U/G.

European art in a pivotal period in the history of modern painting, architecture, and sculpture; post-impressionism, symbolism, art nouveau, fauvism, expressionism, and cubism. Prereq: jr st.

465 Dada and Surrealist Art. 3 cr. U/G.

Two major twentieth-century art movements; their sources, major proponents, and later influence; Duchamp, De Chirico, Ernst, Giacometti, Picasso, Miro, Magritte, Dali. Prereq: jr st.

469 American Artists Revealed: (Subtitled). 3 cr. U/G.

Focus on prominent 19th and 20th century American master artists working in various genres and formal approaches. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

470 Topics in American Art: (Subtitled). 3 cr. U/G.

In-depth examination of important themes, genres, or subgroups in the evolution of American art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

472 History and Theory of New Media Art. 3 cr. U/G.

The history and critical theory of new media artworks, focusing on artists who utilize interactive technologies. Prereq: jr st.

473 Art and Performance. 3 cr. U/G.

Intersections between art and performance, beginning in the 1960s, and including performance and body art, live art, dance, and participatory or relational post-studio art practice. Prereq: jr st.

474 Maya Art. 3 cr. U/G.

Ancient Maya art, with emphasis on the Classic Period florescence, its development, and major themes. Prereq: jr st.

480 Chinese Painting. 3 cr. U/G.

Formation and development of Roman architecture from its Greek and Italic elements through the decline of the civilization in the fourth century C.E. Prereq: jr st.

481 Topics in Chinese Art: (Subtitled). 1-3 cr. U/G.

In-depth examination of important themes, genres, or subgroups in the evolution of

Chinese art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

482 Topics in Non-Western Art: (Subtitled). 3 cr. U/G.

In-depth examination of major themes, genres, or regional sub-groups within the field of non-western art. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

700 Proseminar in Art History. 3 cr. G.

Historiography and methodology of art history. Prereq: grad st or cons instr

703 Introduction to Art Museum Studies I. 3 cr. G.

History and theory of the art museum; emphasis on the discourse of the modern museum, and selected issues in contemporary exhibition and display. Course fee may be assessed. Prereq: grad st.

704 Introduction to Art Museum Studies II. 3 cr. G.

Methodologies and technologies of art museum work, including collection management, exhibition organization, catalogue production, and educational programming. Course fee may be assessed. Prereq: grad st; ArtHist 703(P).

710 Colloquium in Ancient Art and Archaeology: (Subtitled). 3 cr. G.

Directed readings and discussions on topics in the arts of Greece, Rome, Egypt, or the Near East. Emphasis on scholarly source materials and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

720 Colloquium in Medieval Art/Architecture: (Subtitled). 3 cr. G.

Directed readings and discussions on topics in early Christian Byzantine and Western Medieval art and architecture. Emphasis on scholarly source material and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

730 Colloquium in Renaissance/Baroque Art/Architecture: (Subtitled). 3 cr. G.

Directed readings and discussions on topics in the arts of the Renaissance and/or Baroque periods. Emphasis on scholarly source material and methodology. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is

offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

740 Colloquium in Latin American Art: (Subtitled). 3 cr. G.

Directed readings, critical discussions, and short written reports on topics in Latin American art, 1492 to the present. Emphasis on scholarly sources and methodological approaches. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

750 Colloquium in American Art: (Subtitled). 3 cr. G.

Directed readings, critical discussions, and short written reports on topics in American art 1600-present. Emphasis on scholarly sources and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

760 Colloquium in Modern Art/Architecture: (Subtitled). 3 cr. G.

Directed readings, critical discussions, and short written reports on topics in modern art/architecture 1800-present. Emphasis on scholarly sources and methodological approaches. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

761 Colloquium in Film History, Theory, Criticism: (Subtitled). 3 cr. G.

Readings in contemporary historiography and theory methodologies. Application of criticism to films and periods. 12 essays, 1 paper. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 Colloquium in Non-Western Art: (Subtitled). 3 cr. G.

Problems in the traditional arts of pre-Columbian America, Africa, and Oceania. Develops methodological skills in art history through the exploration of art in non-western societies. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Independent Field Study. 1-3 cr. G.

Independent research in local archives, on local monuments, or on archaeological expeditions. Prereq: grad st; cons instr.

Art History

891 Art Museum Internship. 3 cr. G.

Supervised practical experience in local art museums arranged on individual basis.

Introduction to curatorial and/or administrative duties; 'hands on' treatment of works of art.

Retakable to 6 cr max. Prereq: grad st; at least 6 cr in ArtHist at grad level & cons internship coord.

901 Problems in Art History: (Subtitled). 3 cr. G.

Selected problems in art historical scholarship.

Students will research scholarly problems in depth and present the results in both oral and written form. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered.

Retakable w/chg in topic to 9 cr max. Prereq: grad st; one 700-level colloquium in ArtHist & cons instr.

990 Thesis Research. 3-6 cr. G.

Retakable to 6 cr max. Prereq: grad st & writ cons grad advisor or instr.

991 Thesis Exhibition. 3-6 cr. G.

Organization and installation of an art exhibition. Retakable to 6 cr max. Prereq: grad st; ArtHist 700(P); writ cons grad advisor or instr.

999 Reading and Research. 1-3 cr. G.

Advanced independent research. For information, consult department chair. Prereq: grad st; cons instr.

Athletic Training

Athletic Training

School/College: College of Health Sciences
Degrees Conferred:

- M.S. in Athletic Training

Overview

The Integrative Health Care and Performance (IHCP) unit within the Department of Kinesiology at UWM offers the Master of Science in Athletic Training, a professional program that prepares students to become certified athletic trainers, and will be accredited by the Commission on the Accreditation of Athletic Training Education (CAATE). Athletic trainers are health care professionals who provide physically active people services such as injury/illness prevention, emergency care, clinical diagnosis, therapeutic intervention and rehabilitation of injuries and medical conditions. Students in the program will be trained in interprofessional practice, the scholarship of clinical practice, and in specialized clinical reasoning. The IHCP unit engages students in active learning experiences that prepare them for the dynamic nature of patient/client-centered care within an interprofessional environment.

Core and Associated Faculty

Professor

Meyer, Barbara B., Ph.D., Michigan State University

Associate Professors

Earl Boehm, Jennifer, Ph.D., Pennsylvania State University

Ebersole, Kyle, Ph.D., University of Nebraska

Assistant Professors

Arvinen-Barrow, Monna, Ph.D., University of Northampton

Non-Faculty

Clinical Assistant Professors

Ericksen, Hayley, Ph.D., ATC, University of Toledo

Mazurek, Renee, P.T., DPT, University of Arizona

Ochsenwald, John, M.S., ATC, University of Illinois at Urbana/Champaign

Reckelberg, Renee, M.S., ATC, University of Illinois at Urbana/Champaign

Master of Science in Athletic Training

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Earned bachelor's degree (any field) with cumulative 3.0 GPA

2. Completion of the following foundation courses with a cumulative GPA of 3.0:
 - a. Human anatomy with lab
 - b. Human physiology with lab
 - c. Introduction to psychology
 - d. Statistics
 - e. Chemistry with lab
 - f. Physics with lab
 - g. Psychology of sport and exercise
 - h. Exercise physiology
 - i. Biomechanics
 - j. Introduction to nutrition
 - k. Motor learning
3. Completion of 20 hours of observation of athletic training practice.
4. Two letters of recommendation: One from an academic reference, one from an athletic trainer with whom the applicant completed observation hours.
5. Submission of GRE scores taken within last 5 years.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise, and approve the program of study. Students are assigned faculty advisors upon acceptance into the program.

Credits and Courses

This is a 71-credit, two-year program conducted on a 12-month calendar. Students will matriculate at the start of the Summer term, and take courses for the following Fall, Spring, Summer, Fall, and Spring. Graduation will occur at the end of the Spring term.

Note: Course descriptions for PRPP (Physical Rehabilitation and Performance Psychology) courses will be available sometime in Spring 2016. Students can enroll in PRPP courses beginning Summer 2017.

Course number	Course title	Credits
SUMMER 1		(9 credits, 12 if elective taken)
725	Gross Anatomical Kinesiology	3
710	Prevention and Care of Emergent Medical Conditions in Athletic Training	4
701	Introduction to Clinical Education and Professional Development	1
785	Clinical Education in Athletic Training I	1
	<i>Optional location of 3-credit elective course</i>	3
FALL 1		(16 credits)
747	Clinical Exam and Diagnosis of the Lower Extremity in Athletic Training	3
757	Foundations of Therapeutic Interventions in Athletic Training	3
521	Pathoetiology of Tissue Injury	3

KIN 550	Psychosocial Aspects of Human Movement	3
702	Ethics in Healthcare	1
703	Foundations of Inter-professional Practice	1
786	Clinical Education in Athletic Training II	2
SPRING 1		(16 credits)
748	Clinical Exam and Diagnosis of the Head and Spine in Athletic Training	3
758	Physical Agents	2
753	Medical Physiology II	3
KIN 551	Psychology of Injury/Illness/Disease: Implications and Strategies for Rehabilitation	3
705	Foundations of Clinical Research	3
787	Clinical Education in Athletic Training III	2
SUMMER 2		(11, 14 if elective taken)
749	Clinical Exam and Diagnosis of the Upper Extremity in Athletic Training	3
759	Therapeutic Intervention for the Upper Extremity	2
708	Clinical Gait Analysis	3
788	Clinical Education in Athletic Training IV	3
	<i>Optional location of 3-credit elective</i>	3
FALL 2		(7, 10 if elective taken)
704	Professionalism and Leadership in Healthcare	1
883	Capstone Clinical Education in Athletic Training (4-8 credits variable, totaling 12 over Fall and Spring)	6
	<i>Optional location of 3-credit elective</i>	3
SPRING 2		(9, 12 if elective taken)
744	Healthcare Systems and Administration	3
883	Capstone Clinical Education in Athletic Training (4-8 credits variable, totaling 12 over Fall and Spring)	6
	<i>Optional location of 3-credit elective</i>	3

* One, 3 credit elective course is required at some point in the degree. The term that it can be taken is flexible as indicated.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.
 701 Introduction to Clinical Education and Professional Development. 1 cr. G
 Introduction to clinical education including professionalism, compliance, assessment, and interprofessional education Prereq: Good standing in M.S.A.T. or D.P.T. prog or gr. st. and cons. Instr.

Athletic Training

702 Ethics in Healthcare. 1 cr. G
Ethical theory and morality with application to healthcare professions Prereq: Good standing in M.S.A.T. or D.P.T. prog or gr. st. and cons. Instr.

703 Foundations of Interprofessional Practice. 1 cr. G
Introductory knowledge of interprofessional teamwork of health care professionals within the health care system Prereq: Gr. st. in good standing

704 Professionalism and Leadership in Healthcare. 1 cr. G
Advanced application of professionalism and leadership skills and behaviors with a focus on transition to independent practice Prereq: Good standing in M.S.A.T. or D.P.T. prog or gr. st. and cons. Instr.

705 (705) Foundations of Clinical Research. 3 cr. G
Research methodology and design with an emphasis on clinical research and applications for determining best practice. Prereq: good standing in DPT or MSAT prog.; or grad st and cons. instr.

708 (KIN 708) Clinical Gait Analysis. 3 cr. G
Instrumented and observational gait analysis techniques and discussion of the theoretical background of normal and abnormal gait with application to clinical examples Prereq: grad st; good standing in DPT or MSAT program; or cons instr.

710 Prevention & Care of Emergent Medical Conditions in Athletic Training. 4 cr. G
Introduction to athletic training knowledge and skills to prevent and manage medical emergencies. Prereq: Good standing in MSAT prog or grad st & cons instr.

725 Gross Anatomical Kinesiology. 3 cr. G
Anatomical analysis of human body function, including cadaver dissection Prereq: Good standing in MSOT, MSAT or MS Kinesiology prog or gr. st. & cons. instructor

744 (KIN 744) Healthcare Systems and Administration. 3 cr. G
Practice of management skills in athletic training and physical therapy consistent with practice in the U.S. health care system and current practice environments. Prereq: grad st; good standing in DPT or MSAT Program or cons instr

747 Clinical Exam and Diagnosis of the Lower Extremity in Athletic Training. 3 cr. G
Knowledge and skills to examine, treat, prevent, and rehabilitate activity-related injuries and pathologies of the lower extremity. Prereq: Good standing in MSAT prog or grad st & cons instr.

748 Clinical Exam and Diagnosis of the Head and Spine in Athletic Training. 3 cr. G
Knowledge and skills to examine, treat, prevent, and rehabilitate activity-related injuries and pathologies of the head, spine and pelvis. Good standing in MSAT prog or grad st & cons instr.

749 Clinical Exam and Diagnosis of Upper Extremity in Athletic Training. 3 cr. G
Knowledge and skills to examine, treat, prevent, and rehabilitate activity-related injury and pathology of the upper extremity Prereq: Good standing in MSAT prog or gr. st. & cons. instructor

753 (753) Medical Physiology II. 3 cr. G
Pathologies and pharmacologic agents related to rehabilitation in physical therapy practice and/or athletic training setting. Prereq: Good standing in DPT or MSAT prog or grad st & cons instr.

757 Foundations of Therapeutic Interventions in Athletic Training. 3 cr. G
Knowledge, skill and science of injury prevention, rehabilitation, and performance in sport and physical activity; focused on the lower extremity. Prereq: Good standing in MSAT prog or grad st & cons instr.

758 (Kin 542) Physical Agents. 2 cr. G
The physiological basis, scientific rationale for, and clinical application of thermal, electrophysiology/ electrotherapy and electromagnetic physical agents. Prereq: good standing in DPT or MSAT prog or cons instr

759 Therapeutic Interventions for the Upper Extremity. 3 cr. G
Knowledge, skill and science of injury prevention, rehabilitation, and performance in sport and physical activity; focused on the upper extremity along with advanced rehabilitation techniques Prereq: Good standing in MSAT prog or gr. st. & cons. Instr.

785 Clinical Education in Athletic Training: I. 1 cr. G
Introductory field practicum experience with an emphasis on application of clinical skills and behaviors related to prevention and care of emergent medical conditions. Prereq: Good standing in MSAT prog

786 Clinical Education in Athletic Training: II. 2 cr. G
Intermediate field practicum experience with an emphasis on application of clinical skills and behaviors related to examination and treatment of injury and pathology of the lower extremity. Prereq: Good standing in MSAT prog.

787 Clinical Education in Athletic Training: III. 2 cr. G
Intermediate field practicum experience with an emphasis on application of clinical skills and behaviors related to examination and treatment

of injury and pathology of the head, spine, and pelvis. Prereq: Good standing in MSA T prog.

788 Clinical Education in Athletic Training: IV. 3 cr. G
Advanced field practicum experience with an emphasis on application of clinical skills and behaviors related to examination and treatment of musculoskeletal injuries to the upper extremity. Prereq: Good standing in MSAT prog

883 Capstone Clinical Education in Athletic Training. 4 to 8 cr. G
Capstone field practicum experience with an emphasis on application of clinical skills and behaviors related to athletic training practice. Prereq: Good standing in MSAT prog

• *Kinesiology course descriptions can be viewed [here](#).*

Biological Sciences

Biological Sciences

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Biological Sciences
- Ph.D. in Biological Sciences

Overview

The Department of Biological Sciences offers graduate programs in biology with areas of concentration in botany; microbiology; cellular and molecular biology; genetics; physiology and morphology of plants and animals; terrestrial and aquatic ecology; behavioral biology; conservation biology; and evolution.

Both a thesis and non-thesis track are offered within the M.S. degree. The thesis track is a research-based degree and is intended for students pursuing careers in formal research or planning to continue study towards the Ph.D. degree. The non-thesis track is a coursework-intensive M.S. degree designed for students desiring a graduate education to enhance employment opportunities or prior to obtaining a professional degree. Students may switch from the non-thesis track to the thesis track if all requirements are met (e.g., GRE) and with written approval of the student's advisor and the Graduate Program Director.

Graduate Faculty

Shaw Distinguished Professor

Strickler, J. Rudi, Ph.D., Swiss Federal Institute of Technology

Distinguished Professors

Dunn, Peter, Ph.D., University of Alberta

Professors

Berges, John, Ph.D., University of British Columbia

Forst, Steven, Ph.D., New York University

Heathcote, David R., Ph.D., University of California-Berkeley

Hutz, Reinhold J., Ph.D., Michigan State University

McBride, Mark, Ph.D., University of Wisconsin-Madison

Saffarini, Daad, Ph.D., University of Wisconsin-Milwaukee

Whittingham, Linda, Ph.D., Queen's University

Yang, Ching-Hong, Ph.D., University of California-Riverside

Associate Professors

Alberto, Filipe, Ph.D. University of Algarve, Portugal

Dey, Madhusudan, Ph.D., Jawaharlal Nehru University

Ehlinger, Timothy J., Ph.D., Michigan State University

Hoebel, Gerlinde, Ph.D. University of Ulm, Germany

Karron, Jeffrey D., Ph.D., University of Colorado

Kuchin, Sergei, Ph.D., IoGaSoIM, Moscow, Russia

Latch, Emily, Ph.D., Purdue University

Oliver, Julie, Ph.D., University of Wisconsin-Madison

Prasad, Gyaneshwar, Ph.D., Maraja Sayajirao University of Baroda, India

Rodriguez, Rafael, Ph.D., University of Kansas

Steeber, Douglas, Ph.D., University of Wisconsin-Madison

Udvardia, Ava, Ph.D., Duke University

Wimpee, Charles F., Ph.D., University of California-Los Angeles

Witten, Jane L., Ph.D., University of Chicago

Young, Erica, Ph.D., Monash University, Australia

Zhao, Dazhong (Dave), Ph.D., The Chinese Academy of Sciences, Beijing, China

Assistant Professors

Bardy, Sonia, Ph.D., Queen's University Kingston, Ontario

Gutzman, Jennifer, Ph.D. University of Wisconsin-Madison

Quinn, Christopher, Ph.D., Yale University

Senior Scientists

Reinartz, James A., Ph.D., Duke University

Meyer, Gretchen, Ph.D., Cornell University

Associate Scientists

Owen, Heather, Ph.D., Miami University

Master of Science in Biological Sciences

Thesis Track

Students are required to maintain full-time status and develop a formal thesis to earn the degree. Admission is during the fall semester only. When applying for admission, applicants should describe in their personal statement as completely as possible their specific research interests within biological sciences. Applicants are strongly encouraged to establish contact, before or during the application process, with Biological Sciences faculty members whose research interests are closest to their own, regarding the likelihood of one serving as the student's major professor. To assist the applicant in this process, a Biological Sciences Graduate Program brochure is available, which describes the research activities of the faculty. The brochure can be obtained by contacting the departmental office.

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Undergraduate coursework equivalent to the Biological Sciences major at UWM,

including coursework in the following areas of plant or animal science: cellular and molecular biology or genetics; organismal biology; ecology. Additional coursework in chemistry through organic or biochemistry; mathematical preparation including at least one course in calculus, statistics, or biometry; and a year of physics are strongly encouraged.

2. Submission of scores on the General Test of the [Graduate Record Examination](#).
3. At least two letters of recommendation from persons familiar with the applicant's scholarship and research potential.
4. International students must meet the minimum department requirements for English proficiency: completion of a baccalaureate or higher degree within the last two years from an institution where English is the sole language of instruction with a minimum of 2 years attendance; a minimum TOEFL score of 79 overall with a minimum score of 23 on the Speaking portion; a minimum IELTS score of 6.5 overall with a minimum score of 7.0 on the Speaking portion; or a minimum CAE score of C1 overall with a minimum of 185 on the Speaking portion.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Graduate Committee assigns a faculty advisor as a necessary prerequisite to admission.

Credits and Courses

Minimum degree requirement is 30 graduate credits, at least 24 of which must be in biological sciences and up to 6 of which may be in related courses. Of the 24 credits, at least 12 must be course or seminar credits. The student must take at least two seminars during the course of the student's program up to a maximum of 4 credits counting toward the degree; and enroll in Biology Colloquium (BioSci 900) each semester with a maximum of 4 colloquium credits counting toward the degree. The student must enroll in a minimum of 12 credits in research (BioSci 990). The student plans a program of studies in consultation with the major professor. If desired, a special area of concentration (botany, microbiology, physiology) may be declared. A cumulative GPA of a 3.0 or higher on a 4.0 scale is required to receive the MS degree.

M.S. Graduate Advisory Committee

The M.S. Graduate Advisory Committee is selected by the major professor in consultation with the student, by the end of the first year of enrollment. The M.S. Advisory Committee consists of the major professor and two other graduate faculty members. The Committee must meet at least once a year to monitor and

Biological Sciences

formally report on the student's academic and research progress.

Oral Examination

The student must pass an M.S. oral examination. The examination should be taken by the end of the first year of enrollment and must be taken no later than the end of the second year of enrollment. The student's M.S. Advisory Committee administers the oral examination.

Thesis

Students must prepare and defend a formal thesis reporting the results of their research. During the final year of study, students must present a seminar on their research, with prior public announcement. Submission of the final thesis to the Graduate School is required to complete the M.S. degree.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Non-Thesis Track

Students may enroll part-time and complete the degree at a slower pace or enroll full time to earn the degree faster. Students may be admitted during the fall or spring semesters. The accelerated degree is especially well suited for those students seeking to improve their academic record prior to applying to professional schools such as medical school, veterinary school, pharmacy school, dental school, etc. The course requirements for the program are highly adaptable to meet the student's goals such as completion of admission requirements, exploring a secondary area of interest, or gaining hands-on laboratory research experience. When applying for admission, applicants should describe their career goals in their personal statement as completely as possible to ensure assignment of the appropriate advisor.

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the non-thesis track:

1. Undergraduate coursework equivalent to the Biological Sciences major at UWM, including coursework in the following areas of plant or animal science: cellular and molecular biology or genetics; organismal biology; ecology. Additional coursework in chemistry through organic or biochemistry; mathematical preparation including at least one course in calculus, statistics, or biometry; and a year of physics are strongly encouraged.
2. Submission of scores from one of the following exams: the General Test of

the [Graduate Record Examination](#) (GRE), Medical College Admission Test (MCAT), Dental Admission Test (DAT), Pharmacy College Admission Test (PCAT) or Praxis test.

3. At least two letters of recommendation from persons familiar with the applicant's scholarship.
4. International students must meet the minimum department requirements for English proficiency: completion of a baccalaureate or higher degree within the last 2 years from an institution where English is the sole language of instruction with a minimum of 2 years attendance; a minimum TOEFL score of 79 overall with a minimum score of 23 on the Speaking portion; a minimum IELTS score of 6.5 overall with a minimum score of 7.0 on the Speaking portion; or a minimum CAE score of C1 overall with a minimum of 185 on the Speaking portion.

M.S. Graduate Advisor

Upon admission to the program, the student will be assigned an advisor whose research background is similar to the student's stated area of interest and career goals. Students may request a specific advisor from the faculty list; however, requesting an advisor does not guarantee availability. During the first semester of study the student and advisor must complete and submit a Plan of Study to the Graduate Program Director. The Plan of Study will detail the coursework to be taken for completion of the degree and can be modified at any time during the program.

Credits and Courses

Minimum degree requirement is 30 graduate credits, at least 20 of which must be in courses offered by the department of biological sciences. Of the 20 credits, all students must take at least one laboratory course, two seminars that require a presentation (up to a maximum of 4 credits counting toward the degree; BioSci 925, 929, 931, 933, 934, 935, or 936) and the 2 credit BioSci 800 Graduate Capstone in Biological Sciences course. Up to 4 credits of Advanced Independent Studies (BioSci 899) and up to 2 credits in Biology Colloquium (BioSci 900) can count toward the degree. Any remaining course work may be completed in other departments within UWM with the approval of the student's advisor and the Graduate Program Director. A cumulative GPA of a 3.0 or higher on a 4.0 scale is required to receive the M.S. degree.

Capstone requirements

All students in the non-thesis M.S. track must enroll once in BioSci 800 Graduate Capstone in Biological Sciences. For successful completion of the capstone, students must demonstrate the ability to read and understand current scientific literature in the biological sciences, and apply

acquired knowledge in biological sciences to a topic presentation.

In addition to BioSci 800, all students must submit a minimum of two examples of scientific writing that have been completed and graded during their graduate studies. At least one of these must be from a laboratory course or experience. These documents must be submitted to the Graduate Program Director and will be used as a portfolio to demonstrate the students' analytic and scientific writing abilities.

Time Limit

The student must complete all degree requirements within three years of initial enrollment.

Doctor of Philosophy in Biological Sciences

Admission

An applicant must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

- Applicant must present at least 30 credits in one or more areas of biological sciences and must show substantial evidence of scholarly potential. A master's degree is not prerequisite for admission to the Ph.D. program.
- Other academic preparation: a year of general physics including at least one semester of laboratory; one year of general college chemistry with laboratory, plus at least one semester of organic chemistry with laboratory or biochemistry with laboratory; two courses in college mathematics chosen from among courses in calculus, biometry or statistics.
- Submission of scores on the General Test of the [Graduate Record Examination](#).
- Acceptance by a faculty member in the program who will act as major professor (sponsor): see Major Professor as Advisor.
- Three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

Applicants may be admitted with specific course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements with a grade of C or better within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. The student is expected to maintain a grade of B in all other coursework.

Biological Sciences

Reapplication

A student in the M.S. program, or who receives the master's degree at UWM, must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The graduate committee assigns the incoming biological sciences student to an advisor whose experience and research most closely approximates the student's own career interests. Before the student's preliminary examination either this initially assigned advisor or another qualified staff member is designated as the student's major professor.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. Of the 54 credits, at least 28 must be earned in formal courses and graduate seminars. (Four colloquium credits are required after the bachelor's degree and count toward the degree.) The student must take at least three seminars during the student's course of study up to a maximum of 8 credits counting toward the degree. The remaining 26 credits may be earned in independent reading and/or study, or research. At least 30 of the 54 credits must be in biological sciences; 12 credits may be earned in allied sciences, including those in the secondary area of concentration or minor field(s).

Secondary Area of Concentration

The student must select a secondary area of concentration either within biological sciences or in an allied science, and must present at least 9 credits of coursework in that area to the departmental Graduate Committee. A university minor (option A or B) may qualify as a secondary area of concentration upon approval by the departmental Graduate Committee.

Language or Data Analysis Proficiency

The student must demonstrate proficiency either in a foreign language or data analysis. The student can demonstrate language proficiency in one language other than English (German, French, Russian or Spanish preferred), either through examinations or through 12 credits of specified coursework, either before or after admission to the program. The student can demonstrate proficiency in data analysis by presenting 12 credits in one or more of the following: mathematics (200-level or above), statistics, computer science.

Residence

The student must meet [Graduate School residence requirements](#).

Ph.D. Advisory Committee

The Ph.D. Advisory Committee shall be selected by the major professor in consultation with the student by the end of the first year of enrollment. The Ph.D. Advisory Committee shall consist of the major professor and four other graduate faculty members. One of the faculty should reflect competency in the secondary area of concentration. When the advisory committee is formed, the student must prepare a departmental "certification document" for the approval of the committee. The committee must meet at least once a year to monitor and formally report on the student's academic and research progress.

Dissertation Proposal and Doctoral Preliminary Examination

Prior to the doctoral preliminary examination, the student submits a preliminary written dissertation proposal to the student's Ph.D. Advisory Committee and delivers an oral presentation of relevant research in progress. The doctoral preliminary examination is in two parts. Part I is a written exam; Part II is an oral exam. Parts I and II of the doctoral preliminary examination must be taken with a warrant from the Graduate School; and must be taken before the end of the second or third year of full-time enrollment (before completion of 24 or 36 credits for students with a M.S. or B.S. degree, respectively). Deviation from this plan must be approved by the Graduate Committee.

Dissertator Status

Specific requirements which must be completed before the Graduate School places a doctoral student in dissertator status are described in the [Doctor of Philosophy Degree requirements](#) section.

Dissertation

In consultation with the major professor the candidate must select a suitable research project and submit a written research plan. The final dissertation proposal constitutes the student's written research plan which is subject to approval of the Ph.D. Advisory Committee. This plan is to be submitted to the Department. The research plan will be reviewed for progress annually. During the final year of study the candidate must present a seminar, with prior public announcement, on this research and must prepare a dissertation reporting the results of this research. The original research findings embodied in this dissertation should be acceptable for publication in a refereed journal.

Dissertation Defense

As the final step toward the degree the candidate must defend the dissertation before the Ph.D. Advisory Committee.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program. For

additional information on Graduate School Ph.D. requirements, see the [Doctor of Philosophy Degree requirements](#) section.

Courses

401 Immunology. 3 cr. U/G.

Fundamentals of the immune response, including cellular, physiological and molecular aspects. 3 hrs lec. Cell & Molec Bio; Microbio. Prereq: jr st; grade of C or better in Bio Sci 315(P) or 325(P); Chem 341(P) or 343(P); or cons instr.

402 Immunological Techniques. 3 cr. U/G.

Modern methods and protocols in immunology. 6 hrs lab. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 401(P).

405 General Virology. 3 cr. U/G.

Basic course in nature of viruses: bacterial, plant, and animal. The use of viruses in model systems for molecular biology and agents of disease. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 325(P); Bio Sci 315(P) or 383(P); Chem 501(R).

406 Marine Biology. 3 cr. U/G.

Marine biology with a strong ecological focus; physical and chemical constraints that marine environments impose on organisms; specialized adaptations of marine organisms in response. 3 hrs lec, 1 hr dis. Prereq: jr st; grades of C or better in Bio Sci 152(P) & 310(C) or consent of instructor.

407 Plant Systematics and Evolution. 3 cr. U/G.

Survey of important plant families; plant systematic theory, current techniques in data collection and analysis. 2 hrs lec/dis; 4 hrs lab. Prereq: jr st; Bio Sci 152(P); Bio Sci 310(C) or 325(C); or grad st; or cons instr.

430 Animal Behavior-Ethology. 3 cr. U/G.

Animal behavior from the biologist's point of view, relating species-characteristic behavior to environment, internal function, ontogeny, and evolution. 3 hrs lec/dis. Prereq: jr st; Bio Sci 310(P) or 316(C).

440 Ecology and Evolution of Amphibians and Reptiles. 3 cr. U/G.

Evolutionary history of amphibians and reptiles; their patterns of biological diversity, morphology, life history, ecology, and behavior. For upper-level undergrad and grad students. 3 hrs lec. Prereq: jr st; Bio Sci 310 (P).

451 (effective 09/05/2017) Field Methods in Conservation. 3 cr. U/G.

Introduction to methods, techniques and tools for natural area management, including plant/animal surveys, vegetation/habitat description, and incorporating hands-on experience. 2 hr lec, 3 hrs lab. Jointly offered with & counts as repeat of CES 451. Prereq: jr st; Bio Sci 310(P) or equiv or cons instr.

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455 Neurobiology. 3 cr. U/G.

Nervous systems from cellular, molecular, and developmental perspectives; from basic biophysical properties of neurons to cellular and molecular basis of nervous system development and function. Not open to students w/cr in Bio Sci/Psych 354. Cell & Molec Bio. Prereq: jr st, Bio Sci 315(P); or grad st.

458 Community Ecology. 3 cr. U/G.

Theories and models in community ecology. Analysis of biological communities emphasizing the origin, maintenance and consequences of species diversity within local communities. Prereq: jr st; Bio Sci 152(P) & 310(P) or cons instr; or grad st.

465 Biostatistics. 3 cr. U/G.

Simple distribution; statistical inference; simple regression theory; experimental design; analysis of variance and covariance as they relate to biology. Prereq: jr st; Bio Sci 150(P); Math 105(P).

475 Tropical Biology: (Subtitled). 3 cr. U/G.

Ecology and biogeography of various types of tropical forests, including required field trip to area being studied. Required field trip at participants' expense. Retakable w/chg in topic to 9 cr max. Prereq: jr st; BioSci 310(P); cons instr.

480 Ecological Genetics. 3 cr. U/G.

Origin and maintenance of genetic variation within and among populations. Fundamental theory and application to ecology and conservation. 3 hrs lec/dis. Prereq: jr st, Bio Sci 310(P) & 325(P); or equiv.

490 Molecular Genetics. 3 cr. U/G.

Molecular mechanisms of higher organisms and model systems. Topics include gene structure, genetic and genomic analysis, gene expression and regulation. 2 hrs lec, 1 hr dis. Cell & Molec Bio. Prereq: jr st; Bio Sci 325(P); Bio Sci 315(C) & 316(C).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM-sponsored program before course work level, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

498 Developmental Genetics. 3 cr. U/G.

How genetic model organisms contribute to our knowledge of biology and how this knowledge impacts human health. Cell & Molec Bio. Prereq: jr st; grade of C or better in Bio Sci 325(P).

500 Plant Physiology. 3 cr. U/G.

Major biological activities of plants; including growth, development, and metabolism. 3 hrs lec/dis. Cell & Molec Bio. Prereq: jr st; Bio Sci 325(P); Bio Sci 310(P) or 315(P) or cons instr.

501 Plant and Aquatic Ecophysiology Laboratory. 3 cr. U/G.

Hands-on examination of ecophysiological activities in plants and aquatic ecosystems using diverse field and lab experimental methods. 1 hr lec, 1 hr dis. 2 hrs lab. Prereq: jr st; Bio Sci 325(P) or 310(P).

502 Introduction to Programming and Modeling in Ecology and Evolution. 3 cr. U/G.

Using R statistical language to teach script programming to address data manipulation, statistical modeling, and simple simulations in an ecological and evolutionary context. Counts as repeat of Bio Sci 599 w/similar topic. Prereq: jr st; intro stats (e.g., Bio Sci 465).

505 Conservation Biology. 3 cr. U/G.

Genetic and ecological approaches to the conservation of biological diversity. Topics include biology of rare plants and animals, design of nature reserves, and restoration ecology. 3 hrs lec. Prereq: jr st; Bio Sci 152(P) & 325(260)(P).

507 (607) Environmental Microbiology. 3 cr. U/G.

Bacteria from the environment; emphasis on aquatic systems; biogeochemical cycles, bioremediation, and environmental control of gene expression. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P).

511 Ichthyology. 3 cr. U/G.

The diverse biology of fishes focusing on behavioral, biomechanical, genetic, and physiological adaptations to diverse ecological systems. Bio Sci 511 & FrshWtr 511 are jointly offered; they count as repeats of one another. Prereq: jr st; grade of C or better in Bio Sci 310(P); or cons instr.

512 Limnology I. 3 cr. U/G.

The ecology of freshwater ecosystems as influenced by physical and chemical processes. Prereq: jr st; Bio Sci 150(P) & 152(P), course in chem; or cons instr.

523 Evolution and Ecology of Birds. 3 cr. U/G.

Study of the origin and maintenance of diversity in birds. Topics include systematics, biogeography, life-history behavior, and conservation. 3 hrs lec. Prereq: jr st; Bio Sci 152(P) & 310(P).

529 Molecular Biology of Microorganisms. 3 cr. U/G.

Molecular analysis of microbial genetic systems of bacteria, phage, fungi, and yeast. 2 hrs lec, 1 hr dis. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P).

532 Behavioral Ecology. 3 cr. U/G.

Behavioral adaptations of organisms in relation to their environment, including social organization, territoriality, cooperation and

conflict, parental care, breeding strategies, foraging. Prereq: jr st; Bio Sci 310(P).

535 Bacterial Pathogenesis. 3 cr. U/G.

Structural and physiological characteristics of important bacteria causing human and animal diseases. Interactions between pathogen and host, including host defense mechanisms. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P).

536 Applied Microbiology and Biotechnology. 3 cr. U/G.

Real-world application of natural and genetically-engineered microorganisms to bioremediation, waste treatment, agriculture and production of food, beverages, chemicals, fuels, enzymes, vaccines and pharmaceuticals. 3 hrs lec. Cell and Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P) or cons instr.

537 Industrial Microbiology and Biochemistry Laboratory. 2 cr. U/G.

Experiments using industrial fermentation approaches for isolation of biologically-relevant molecules, e.g., antibiotics; analysis of their function and activity using microbiological and biochemical techniques. Bio Sci 537 & Chem 537 are jointly offered; they count as repeats of one another. Cell & Molec Bio; Microbio. Prereq: Bio Sci 383(P); Chem 501(P).

539 Laboratory Techniques in Molecular Biology. 4 cr. U/G.

Molecular biological techniques, including cell cultures, RNA and DNA isolation, cloning and sequencing of genes; use of expression vectors; protein electrophoresis. 2 hrs lec/dis, 6 hrs lab. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 315(P), 316(P), & 325(P).

540 Microbial Diversity and Physiology. 3 cr. U/G.

Physiology, ecology, and diversity of microorganisms. 3 hrs lec. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P).

542 Biological Electron Microscopy. 3 cr. U/G.

Theory, design, and operating principles of scanning and transmission electron microscopes; preparation of biological specimens. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 315(P) & 316(P), or cons instr.

543 Scanning Electron Microscopy Laboratory. 2 cr. U/G.

Lab/dis with an emphasis on 'hands-on' exercises including biological specimen prep, microscope operation and photography. Cell & Molec Bio. Prereq: jr st; Bio Sci 542(C) & cons instr.

544 Transmission Electron Microscopy Laboratory. 3 cr. U/G.

Lab/dis with an emphasis on 'hands-on' exercises including fixation and sectioning of

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biological specimens, microscope operation and photography. Cell & Molec Bio. Prereq: jr st; 3 cr in Bio Sci 542(C); cons instr.

545 Physiology of Reproduction. 3 cr. U/G.
Mammalian reproductive physiology with emphasis on humans; neuroendocrine control of reproductive cycles, pregnancy, and lactation; clinical implications; biological aspects of human population control. Cell & Molec Bio. Prereq: jr st; Chem 103(P) or 341(P) or 343(P); Bio Sci 315(P); or cons instr.

556 Developmental Neurobiology. 3 or 4 cr. U/G.
The mechanisms involved in the genesis and maintenance of nervous system organization. 3 hrs lec, 1 hr dis. Cell & Molec Bio. Grad students enroll in lec & dis for 4 cr. Undergrads may enroll in lec only for 3 cr or lec & dis for 4 cr. Prereq: jr st; Bio Sci 354(P) or 356(P) or cons instr.

562 Topics in Field Biology: (Subtitled). 1-2 cr. U/G.
Intensive mini-course on applied and basic field biology topics, e.g. vegetation sampling; natural area management; wetland delineation; identification, ecology of a taxon. On-line component; 2 or more days (depending on topic) in-person instruction. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Bio Sci 310(P) or equivalent; add'l prereqs may be required depending on topic.

564 Endocrinology. 3 cr. U/G.
Physiological, biochemical, and phylogenetic aspects of hormonal communication; emphasis on vertebrates. 3 hrs lec. Cell & Molec Bio. Prereq: jr st; Chem 103(P) or 341(P) or 343(P); Bio Sci 315(P); or cons instr.

565 Eukaryotic Gene Regulation. 3 cr. U/G.
Molecular mechanism by which genes are regulated in higher eukaryotes, including humans. Role of gene regulation during normal development and disease in eukaryotes. Cell & Molec Bio. Prereq: jr st, Bio Sci 315(P) or 325(P); or grad st.

566 Cell Biology of Human Disease. 3 cr. U/G.
Cellular and molecular mechanisms of human developmental diseases; cell signaling in the treatment and prevention of diseases and genetic syndromes. Cell & Molec Bio. Prereq: jr st, BioSci 315(P); or grad st.

572 Functional Genomics. 3 cr. U/G.
Organization, function, and analysis of genes, proteins, and genomes using internet databases and bioinformatic tools; current knowledge of genomes in various organisms; transcriptomics and proteomics. 2 hrs lec, 1 hr dis. Prereq: jr st; Bio Sci 325(260)(P).

573 Cellular Evolution. 3 cr. U/G.
Theories concerning the origin of life on Earth and the evolution of cellular structure and function, culminating in the emergence of the multicellular kingdoms. 2 hrs lec, 1 hr dis. Cell & Molec Bio; Microbio. Prereq: sr st; Bio Sci 315(P) or 325(P); Bio Sci 316(P); Chem 341/342(P) or 343/344/345(P), or cons instr; Bio Sci 383(R) or 490(R) or Chem 501(R) or 601(R).

575 Evolutionary Biology. 3 cr. U/G.
Evolutionary processes in natural populations. Topics include mating patterns, speciation, gene flow, natural selection, and genetic approaches to conservation. 3 hrs lec. Grad students must reg conc in Bio Sci 776. Prereq: jr st; Bio Sci 152(P) & 325(260)(P).

580 Experimental Microbiology. 4 cr. U/G.
Modern experimental approaches to study of microbial physiology and genetics. 2 hrs lec/6 hrs lab. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 383(P).

596 Neuropharmacology. 3 cr. U/G.
Cellular and molecular mechanisms of drug action on the nervous system. Topic include drug affects on neurotransmitters, receptors, cell signaling, and neurological disease/disorders. Cell & Molec Bio; Microbio. Prereq: jr st; BioSci/Psych 354(P) or 355(P) or Psych 654(P) or cons instr.

597 RNA Structure, Function, and Metabolism. 3 cr. U/G.
Structural and functional complexity of RNA. RNA as genetic material, enzymes and regulators; micro RNAs as potential therapeutics. Cell & Molec Bio; Microbio. Prereq: jr st; Bio Sci 325(P) or cons instr.

599 Special Topics in Biological Sciences: (Subtitled). 1-3 cr. U/G.
In-depth examination of important subjects in one or more areas of the biological sciences. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

611 Seminar on Recent Advances in Limnology and Oceanography: (Subtitled). 2 cr. U/G.
Lectures and discussion of current issues in limnology and oceanography; focus on a specific issue or research topic. Retakable w/chg in topic to 6 cr max. Prereq: jr st; Bio Sci 512(P) or cons instr.

725 Recent Advances in Molecular Microbiology and Immunology: (Subtitled). 3 cr. G.
Current developments and research in molecular microbiology and/or immunology. 3 hrs lec. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons instr.

750 Scientific Writing. 2 cr. G.
Writing techniques for the sciences, including proposal writing, submission of papers to journals. Writing and editing research proposals, scientific papers, and review papers. Critique of published papers. Prereq: grad st.

899 Advanced Independent Studies. 1-3 cr. G.
Special studies at the graduate level involving independent reading, library research, and/or field for laboratory study other than thesis research. Retakable w/chg in topic to 8 cr max. Prereq: grad st; cons instr.

900 Biology Colloquium. 1 cr. G.
Talks by invited speakers and faculty members on topics of biological interest. Prereq: grad st.

925 Seminar: Molecular and Cell Biology: (Subtitled). 1-2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st

927 Seminar: Population and Community Ecology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

928 Seminar: Aquatic Biology: (Subtitled). 1 or 2 cr. G.
Carries 1 cr when offered once weekly; carries 2 cr when offered twice weekly. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

929 Seminar: Behavioral Biology: (Subtitled). 1 or 2 cr. G.
Current topics in behavioral biology examined in a seminar format. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

931 Seminar in Systematic Biology and Evolution: (Subtitled). 1 or 2 cr. G.
Current topics in systemic biology and evolution explored in a seminar format. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

933 Seminar in Neuroscience. 1 cr. G.
Student presentations in cellular, molecular, and behavioral neuroscience. Retakable to 3 cr max. Bio Sci 933 & Psych 933 are jointly offered; students may enroll under only one of the curricular areas in any single semester. Prereq: grad st in Psych, Bio Sci, or Ed Psych or cons instr

934 Research Advances in Cell and Molecular Biology. 1-10 cr. G.
Presentation and discussion of original research and current topics in cell and molecular biology. Retakable to 10 cr max. Prereq: grad st

935 Research Advances in Evolution, Ecology, and Behavior. 1-10 cr. G.

Presentation and discussion of original research and current topics in evolution, ecology, and behavior. Retakable to 10 cr max. Prereq: grad st

936 Research Advances in Microbiology. 1-10 cr. G.

Presentation and discussion of original research and current topics in microbiology. Retakable to 10 cr max. Prereq: grad st

990 Research. 1-8 cr. G.

Mentored research in partial fulfillment of thesis requirements. Prereq: grad st.

Biomedical and Health Informatics

School/College: College of Engineering & Applied Science, Medical College of Wisconsin
Degrees Conferred:

- Ph.D. in Biomedical and Health Informatics

Overview

The Ph.D. in Biomedical and Health Informatics is an interdisciplinary doctoral program offered by UWM through collaboration between several academic units at UWM and the Medical College of Wisconsin. The Program is housed in the UWM Department of Electrical Engineering and Computer Science. It is guided by a Steering Committee consisting of faculty from the academic units participating in the Program.

Biomedical and health informatics is a field that is concerned with the cognitive, information processing, and communication aspects of medicine and healthcare including the information sciences and technology to support these tasks. The field covers the application of information technology in clinical medicine, medical record keeping, medical instrumentation, and healthcare management.

The main goal of the Ph.D. program is to prepare graduates to perform advanced research in the discipline and to assume leadership roles in medical and healthcare industries. The degree is philosophically conceptualized as involving several disciplines in a collaborative learning process with the goal of fostering inter-professional interactions and inquiry. This degree will build upon existing graduate programs and research in the participating units. Qualified students with strong academic records in any of these programs will be considered for admission.

Other participating units:

- College of Health Sciences
- College of Nursing
- Lubar School of Business
- School of Information Studies
- Zilber School of Public Health
- The Medical College of Wisconsin

Graduate Faculty

The program faculty for this interdisciplinary program come from the Medical College of Wisconsin and several academic units at UWM.

Medical College of Wisconsin

Associate Professors

Shimoyama, Mary, Ph.D. University of Wisconsin-Milwaukee
 Welzig, Charles, MD, Humboldt University, Berlin, Germany

Assistant Professors

Asan, Onur, Ph.D University of Wisconsin-Madison

University of Wisconsin-Milwaukee

Professors

Hosseini, Hossein (College of Engineering & Applied Science), Ph.D., University of Iowa
 McRoy, Susan (College of Engineering & Applied Science), Ph.D., University of Toronto
 Munson, Ethan (College of Engineering & Applied Science), Ph.D., University of California-Berkeley
 Misra, Devendra (College of Engineering & Applied Science), Ph.D., Michigan State University
 Sinha, Atish (Lubar School of Business), Ph.D. University of Pittsburgh
 Soofi, Ehsan S. (Lubar School of Business), Ph.D., University of California-Riverside
 Tonellato, Peter (Zilber School of Public Health), Ph.D.
 Wolfram, Dietmar (School of Information Studies), Ph.D. University of Western Ontario
 Zahedi, Fatemeh (Lubar School of Business), DBA, Indiana University
 Zhang, Jin (School of Information Studies), Ph.D University of Pittsburgh
 Zhang, Jun (College of Engineering & Applied Science), Ph.D., Rensselaer Polytechnic Institute
 Zhao, Huimin (Lubar School of Business), Ph.D., University of Arizona

Associate Professors

D'Souza, Roshan (College of Engineering & Applied Science) Ph.D. University of California Berkeley
 Goyal, Mukul (College of Engineering & Applied Science), Ph.D., Ohio State University
 Huang, Chiang-Ching (Zilber School of Public Health), PhD, University of Michigan-Ann Arbor
 Law, Chiu-Tai (College of Engineering & Applied Science), Ph.D., Purdue University
 Mali, Amol (College of Engineering & Applied Science), Ph.D., Arizona State University
 Nazareth, Derek (Lubar School of Business), Ph.D., Case Western Reserve University
 Patrick, Timothy (College of Health Sciences), Ph.D., University of Missouri-Columbia
 Talsma, AkkeNeel (College of Nursing), Ph.D., University of Michigan-Ann Arbor
 Wu, Min (College of Health Sciences), Ph.D., University of North Carolina at Chapel Hill

Xu, Guangwu (College of Engineering & Applied Science), Ph.D., State University of New York-Buffalo

Wang, Weizhong (College of Engineering & Applied Science), Ph.D., University of Maryland

Yu, Zeyun (College of Engineering & Applied Science), Ph.D., University of Texas-Austin

Zhao, Tian (College of Engineering and Applied Science), Ph.D., Purdue University

Assistant Professors

Auer, Paul (Zilber School of Public Health). Ph.D. Purdue University

Carnegie, Nicole (Zilber School of Public Health), Ph.D University of Washington

Hu, Yi (College of Engineering & Applied Science), Ph.D., University of Texas at Dallas

Kate, Rohit (College of Health Sciences) Ph.D, University of Texas at Austin

Nambisan, Priya (College of Health Sciences), PhD Rensselaer Polytechnic Institute

Rahman, Mohammad Habib (College of Engineering & Applied Science), PhD Université of Québec, Canada

Rayz, Vitaliy (College of Engineering & Applied Science) Ph.D., University of California at Berkeley

Yan, Alice Fang (Zilber School of Public Health), Ph.D. University of Maryland

Zheng, Cheng (Zilber School of Public Health), Ph.D. University of Washington

Doctor of Philosophy in Biomedical and Health Informatics

Admission

An applicant must meet the UWM Graduate School requirements as well as the following to be considered for admission to the program:

Master's degree in biomedical and health informatics or a related area such as Computer Science, Electrical Engineering, Health Sciences, Business Administration, Nursing; or an MD degree. Exceptionally strong candidates with Bachelor's degree in a related area will also be considered for admission.

1. At least two letters of recommendation that attest to academic and/or professional qualifications.
2. Scores from the [GRE](#) (general) or [GMAT](#) or MCAT (test taken within the last five years.)

For applicants who intend to satisfy the [English proficiency](#) requirement by submission of test scores, a score of at least 250 on the computer-based (or 600 on the paper-based) Test of English as a Foreign Language (TOEFL) is required. A score of 6.5 on the international English Language Testing Systems (IELTS) examination will be required in lieu of the TOEFL.

Biomedical and Health Informatics

The application for admission should be filed directly with the Graduate School, along with the statement of professional interest. Letters of recommendation, standardized test scores should be sent to:

Co Director
Biomedical and Health Informatics Program
College of Engineering and Applied Science
University of Wisconsin-Milwaukee
Milwaukee, WI 53201

Requests for financial support must also be submitted to the above person.

Major Professor as Advisor

The Graduate School requires that the student have a major professor to advise, supervise and approve the program of study before registering for courses. The Biomedical and Health Informatics Steering Committee will assign the incoming student to a temporary Program Advisor at the time of admission. Prior to the completion of 12 credit (9 credits for a part-time student), the student must select a major professor who will be the student's dissertation advisor. The student, in consultation with the major professor, develops a program of study which is submitted to the Biomedical and Health Informatics Steering Committee for approval. For subsequent changes, the student must file a revised program of study for approval.

Doctoral Program Committee

The Doctoral Program Committee is proposed by the Major Professor in consultation with the student by the end of the student's first year of enrollment. The Program Committee, subject to the approval of the Biomedical and Health Informatics Steering Committee, shall consist of the Major Professor and at least four graduate faculty members, including at least one with health care and/or medical background, and one with informatics background.

Areas of Concentration

The Ph.D. program requires a student to follow one of the following six areas of concentration. (At the time of application, each applicant should indicate a preferred area of concentration in their statement of Reasons for Graduate Study.)

Translational Bioinformatics Track

The track in Translational Bioinformatics centers on driving the flow of knowledge from "bench to bedside", bridging the gap between basic and clinical informatics research. This discipline has applications to drug development, genetics research, and the use of animal models to develop new understandings or treatments, which has implications both to basic science and to commercialization.

Knowledge Based Systems Track

The Knowledge Based Systems track is designed to train students in the development of techniques to support decision-making in medical practice (including both clinical and administrative decision-making) and customized instruction on health and medical topics for patients and health care providers. Technical areas include decision analysis, expected utility theory and cost-effectiveness analysis, computer-based decision support systems, user modeling and user interface design, intelligent tutoring systems, knowledge representation, structured reporting, and data mining and knowledge discovery.

Health Services Management & Policy Track

Health services management and policy research is broad in scope and touches on all of the standard functional business areas (e.g., management, strategy and marketing, finance/economics, management information systems, human resources management) in addition to government health policy/reimbursement/regulation, insurance and other payer mechanisms, dealing with health professionals, and illness/health in individuals and in populations. The track is designed to equip students to deal with both management information and with population health and illness information and research to understand the implications of such information and research, and to transform inferences from that information and research into practical recommendations on the national, state, and local level. By its nature, it is applied to health services settings including hospitals, skilled-nursing facilities, medical group practices, public health agencies, mental health services, managed care organizations, and integrated health networks.

Health Information Systems Track

The track in Health Information Systems is designed to explore the role of administrative and clinical information systems in health care organizations. Attention will be directed at the design, implementation, and maintenance of the broad array of computer applications used in the health care industry. An interdisciplinary approach will be taken drawing on expertise from the health professions, management information systems, and library and information science. Curricular content will range from systems analysis and design, system efficacy and management, to e-commerce.

Medical Imaging and Instrumentation Track

The track in Medical Imaging and Instrumentation is designed to train students in understanding and developing medical imaging systems and medical electronic instrumentation.

The aspects emphasized in this track are medical imaging systems, image processing, computer vision, pattern recognition, medical instrumentation development and optimization, computer modeling, applications of electric and magnetic fields, and wireless communication.

Public Health Informatics Track

The Public Health Informatics track is designed to train students in the development of techniques, methods and tools to conduct public health research and to provide public health programs and tools for practical use. Graduates of this track will also be able to provide customized instruction on public health and related biomedical topics for public health workers, the public and others such as those in public health policy who will benefit from public health informatics. Technical areas include databases, tools and techniques for acquiring, processing, warehousing, and analyzing public health data. Other areas of expertise include utility theory and cost-effectiveness analysis, computer-based decision support systems, user modeling and user interface design, intelligent tutoring systems, structured reporting, and data mining.

Credits and Courses

Students enrolled in this program must follow all UWM Graduate School requirements and regulations. The minimum requirement for the Ph.D. in Biomedical and Health Informatics will be 58-63 credits beyond the bachelor's degree. Up to 24 credits from a related master's degree may be applied toward the Ph.D.

The curriculum will consist of a common set of core courses for all tracks, required and elective courses for each individual track, and the dissertation. The purpose of the core is to ensure that all graduates of the program share a basic common knowledge in biomedical and health informatics. The purpose of the tracks is to enable the students to develop significant strengths in specific sub-areas within biomedical and health informatics. The courses identified in the curriculum are offered by UWM or MCW and, in some case, by both institutions. Following are descriptions of these components and their corresponding credit requirements.

Core Courses

The core courses provide a comprehensive structure for the foundations needed for all students in biomedical and health informatics irrespective of their special interests. This includes a series of seminars that deal with different aspects of biomedical and health informatics. All students must take the following core courses or must have taken equivalent courses in previous study.

Biomedical and Health Informatics

Core Courses (13 to 15 credits)

MCW 13200(A,B) Medical Informatics, 6 quarter cr
OR UWM HCA 700 Introduction to Health Care Informatics, 2 cr
UWM BMS 701 Human Pathophysiology, 3 cr
OR HCA XXX Physiology and Disease Informatics, 3 cr
MCW/UWM CompSci 870 Medical Informatics Seminar, (Four 1-credit seminars), 4 cr
UWM CompSci 557 Introduction to Database Systems, 3 cr
OR Bus Adm 749 Data and Information Management, 3 cr
UWM HCA 722 Legal, Ethical and Social Issues in Health Care Informatics, 3 cr
OR MCW 12202 Medical Ethics (1cr)
OR MCW 10222 Ethics and Integrity in Science (1cr)

Knowledge Based Systems Track

33 credits of coursework and 12 credits of dissertation are required.

Required Track Courses (12 credits)
COMPSCI 535 Algorithm Design and Analysis, 3cr
COMPSCI 710 Artificial Intelligence, 3cr
OR HCA 742 Computational Intelligence in Health Informatics, 3cr
BUS ADM 741 Web Mining and Analytics, 3cr
OR COMPSCI 425 Introduction to Data Mining, 3cr
COMPSCI 743 Intelligent User Interfaces, 3cr
OR COMPSCI 747 Human-Computer Interaction, 3cr
Required Mathematics & Quantitative Methods (6 credits)
Statistics (3 credits from the following list)
BUS ADM 795 Seminar-in-Management: Multivariate Techniques in Management Research, 3cr
BUS ADM 995 Doctoral Seminar in Decision Sciences, 3cr
ED PSY 624 Educational Statistical Methods I, 3cr
Ind Eng/OccThpy/Nurs 786: Applied Biostatistics in Ergonomics, 3cr
MTHSTAT 761 Mathematical Statistics, 3cr
Probability (3 credits from the following list)
ECON 413 Statistics for Economists, 3 cr
MATH 771 Theory of Probability, 3cr
Elective Track Courses (15 credits)
With approval of advisor and steering committee
Computing and Applications (12-15 credits)
Quantitative Analysis (Up to 6 credits)
Dissertation (12 Credits)
(Use course from program of major advisor)
BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
Credits vary.

Health Services Management & Policy Track

36 credits of coursework and 12 credits of dissertation are required.

Required Track Courses (21 credits)
BUS ADM 755 Health Care Administration and Delivery Systems, 3cr
BUS ADM 757 Managed Care and Integrated Health Networks, 3cr
BUS ADM 744 Information Technology Strategy and Management, 3cr
BUS MGMT 720 Strategic Management in Health Care Organizations, 3cr
BUS MGMT 727 Health Care Accounting, Law and Ethics, 3cr
BUS ADM 990 Doctoral Seminar in Strategic Management, 3cr
BUS ADM 996 Doctoral Seminar in Organizations, 3cr
Required Mathematics & Quantitative Methods (6 credits)
BUS ADM 918: Doctoral Seminar in Behavioral Research Methods in Management, 3cr
BUS ADM 714 Multivariate Techniques in Management Research, 3 cr
OR ECON 513 Econometrics, 3cr
OR ED PSY 624 Educational Statistical Methods I, 3cr
OR ECON 710 Applied Econometrics, 3cr
Elective Track Courses (9 credits)
(with approval of advisor and steering committee)
Dissertation (12 Credits)
(Use course from program of major advisor)
BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
Credits vary.

Health Information Systems Track

36 credits of coursework and 12 credits of dissertation are required.

Required Track Courses: (21 credits)
BUS ADM 744 Information Technology Strategy and Management, 3cr
BUS ADM 747 Service-Oriented Analysis and Design, 3cr
BUS ADM 817 Infrastructure for Information Systems, 3cr
OR COMPSCI 759 Data Security, 3cr
COMPSCI 720 Computational Models of Decision Making, 3cr
HCA 721 Health Information Technology Procurement, 3 cr
HCA 723 Health Care Systems Applications – Administrative and Clinical, 3cr
OR HCA 760 Biomedical and Health Care Terminology and Ontology, 3cr
Research Methods (3 credits from the following list)
IND ENG 716 Engineering Statistical Analysis, 3cr

BUS ADM 714 Multivariate Techniques in Management Research, 3cr
BUS ADM 918 Doctoral Seminar in Behavioral Research Methods, 3cr
BUS ADM 991 MIS Doctoral Seminar II (Subtitled), 3cr
NURS 882 Qualitative Approaches to Nursing Research, 3cr
NURS 883 Quantitative Approaches to Nursing Research, 3cr
Elective Track Courses (12 credits)
(with approval of advisor and steering committee)
Dissertation (12 Credits)
(Use course from program of major advisor)
BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
Credits vary.

Medical Imaging & Instrumentation Track

36 credits of coursework and 12 credits of dissertation are required

Required Track Courses (15 credits)
ELECENG 436 Introduction to Medical Instrumentation, 3cr
ELECENG 437 Introduction to Biomedical Imaging, 3cr
ELECENG 439 Introduction to Biomedical Optics, 3cr
ELECENG/COMPSCI 712 Image Processing, 3 cr
OR ELECENG 716 Tomography: Imaging and Image Reconstruction, 3cr
ELECENG 737 Medical Imaging Imaging Signals and Systems, 3 cr
OR ELECENG 765 Introduction to Fourier Optics and Optical Signal Processing, 3cr
Elective Track Courses (21 credits)
(with approval of advisor and steering committee)
Dissertation (12 Credits)
(Use course from program of major advisor)
BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
Credits vary.

Public Health Informatics Track

34 credits of track courses and 12 credits of dissertation are required

Required Track Courses (12 credits)
PH 701 Public Health Principles and Practice, 3 cr
PH 704 Principles and Methods of Epidemiology, 3 cr
PH 709 Public Health Informatics, 3cr
COMPSCI 535 Algorithm Design and Analysis, 3cr
Required Statistics & Quantitative Methods (10 credits)
PH 702 Introduction to Biostatistics I, 3cr
PH XXX Seminar in Biostatistics and Bioinformatics, 1 cr

PH 713 Analyzing Observational and Experimental Data, 3cr
 PH XXX Data Management, Visualization, and Advanced Statistical Computing, 3cr
 Elective Track Courses (12 credits)
(with approval of advisor and steering committee), distributed as follows:
 Computing and Applications, 6 cr
 Quantitative Analysis, 6 cr
 Dissertation (12 Credits)
(Use course from program of major advisor)
 BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
 Credits vary.

Translational Bioinformatics Track

33-36 credits of track courses and 12 credits of dissertation are required

Required Track Courses (15-18 credits)
 Bio Sci 490 Molecular Genetics, 3 cr
OR Bio Sci 597 RNA structure, Function and Metabolism, 3cr
OR MCW 20240 Translational Genetics, 2 cr
 PH XXX Introduction to Bioinformatics, 3cr
OR MCW 17201 – Bioinformatics I: Introduction to Bioinformatics, 3 cr
OR MARQ BIIN 6000 Introduction to Bioinformatics. 3 cr
OR MARQ BIOL 5201 – Genomics and Bioinformatics, 3 cr
 PH XXX Translational Bioinformatics, 3 cr
OR MCW 20100 Introduction to Clinical and Translational Research, 1 cr and MCW 20261 Clinical Trial Design, 1 cr
 COMPSCI 425 Introduction to Data Mining, 3cr
OR EE/COMPSCI 711 Pattern Recognition, 3cr
OR BUS ADM 741 Web Mining and Analytics, 3cr
OR MARQ ENMA 6060 Innovation and Technology, 3cr
 HCA760 Biomedical and Health Care Terminology and Ontology, 3cr
OR BUS ADM 814 Enterprise Knowledge and Semantic Management, 3cr
OR COMPSCI 810 Knowledge Representation, 3cr
OR InfoSt 714 Metadata, 3cr
 HCA 723 Health Care Systems Applications – Administrative and Clinical, 3cr
OR MCW 14230 Product Development of Medical Devices, 2 cr
 Quantitative Methods (9 credits from the following list)
 NURS 883 Quantitative Methods in Health Research, 3cr
 MATH 771 Theory of Probability, 3cr
 PH 702 Introduction to Biostatistics, 3cr
 NURS 727 Epidemiology, 3cr
OR MCW 11200 Introduction to Epidemiology, 3 cr
OR PH 704 Principles and Methods of Epidemiology, 3cr
 PH 711 Intermediate Biostatistics, 3cr

Biomedical and Health Informatics

OR MCW 04201 Biostatistics II, 3cr
 PH XXX: Statistical Genetics and Genetic Epidemiology, 3cr
 PH XXX Applied Quantitative Methods for Studying Population Health and Health Disparities, 3 cr
 Elective Track Courses (9 credits)
(with approval of advisor and steering committee)
 Dissertation (12 Credits)
(Use course from program of major advisor)
 BUS ADM 997, COMPSCI 998, ELECENG 998, HCA 890, InfoSt 998, NURS 997, PH 990.
 Credits vary.

Residence

The student must meet Graduate School residence requirements.

Qualifying Examination

A qualifying examination must be taken to determine whether the student is qualified to perform advanced doctoral level work in biomedical and health informatics. This examination is administered by the steering committee and must be taken prior to the completion of 21 credits of coursework in the program. **Doctoral Preliminary Examination**
 The student is also required to take a preliminary examination after all the coursework is completed and prior to the advancement of candidacy to determine the student's preparation for independent research. Prior to the examination, the student must present a proposal for a doctoral dissertation. The preliminary examination may cover both graduate course material and the dissertation proposal. The preliminary examination must be successfully completed within five years of initial enrollment.

Dissertation

The candidate must complete a dissertation presenting independent original research that adds to the existing body of knowledge in biomedical and health informatics. It should be of such caliber that warrants publication in respected journals.

Dissertation Defense

The final oral examination will be an oral defense of the dissertation but may also cover the general field of the primary area of study. The examination may not be taken until all other degree requirements are satisfied. A majority of the examination committee members must approve the dissertation in order for the student to pass. The final oral examination must be taken within five years after passing the preliminary examination. Candidates who exceed this time limit may be required to retake the preliminary examination and be admitted to candidacy a second time.

Time Limit

All components of the Ph.D. program must be completed within 10 years of matriculation.

Biomedical Sciences

School/College: College of Health Sciences
Degree Conferred:

- M.S. in Biomedical Sciences

Overview

The Biomedical Sciences Department offers a program of graduate education providing an advanced level of study for students interested in biology as it relates to human health, medicine, and disease. Major emphasis in the program is placed on developing an understanding of the mechanisms involved in human diseases and providing broad-based training in both basic and applied biomedical sciences. In-depth training is offered in selected areas of emphasis, such as immunology, the pathogenesis of infectious diseases, toxicology, pharmacology, neurodegeneration, and cancer biology. The M.S. degree has two tracks.

1. **Thesis Track** requirements include a thesis based on hypothesis-driven research conducted by the student to enhance problem-solving abilities and the student's capacity to function more effectively in the biomedical field.
2. The **Non-Thesis Track** is designed for students who want to gain knowledge in the biomedical sciences by taking courses focused on human health and disease without a research component. This track may be suitable for a variety of students, including those who currently work in a laboratory setting and wish to obtain a higher degree and those requiring a degree beyond the bachelor-s level to teach.

Graduate Faculty

Professors

Azenabor, Anthony, Ph.D., University of Benin
 Eells, Janis, Ph.D., University of Iowa

Associate Professors

Lyons, Jeri-Anne, Ph.D., Medical College of Wisconsin
 Nardelli, Dean, Ph.D., University of Wisconsin-Madison

Assistant Professors

Doll Jennifer, Ph.D., Washington University, Saint Louis
 Hassan, Wail, Ph.D., University of Southern Mississippi

Master of Science in Biomedical Sciences

Admission

An applicant must meet [Graduate School requirements](#) plus the following requirements to be considered for admission:

1. The program primarily enrolls individuals with backgrounds in biomedical sciences or related fields who have completed a bachelor s degree at an accredited institution. For students entering without a degree in a related area, the faculty determines deficiencies to be overcome prior to admission. Applications will not be reviewed until all required materials are obtained by the program. All completed applications received prior to February 1 will receive consideration for enrollment beginning the following Summer term for the Non-Thesis Track or Fall semester for the Thesis Track. Completed applications received after February 1 may be considered if space is available in the program. Students may enroll on a full-time or a part-time basis.
2. Applicants may be admitted to regular status if their grade point average is the equivalent of 2.75 or above (scale of 4.0). Averages below 2.75 may be considered for admission on a probationary basis, in which case particular attention is given to the last 60 hours completed in the undergraduate program, with special emphasis on performance in biomedical science-related courses. Probationary status is removed after successful completion of the first eight graduate credits with a grade point average of 3.0 or above.
3. [Graduate Record Examination](#) scores on the General Test are required.
4. Three letters of reference, preferably from academic and/or research sources or supervisors, must be provided.
5. The applicant must provide a statement of not more than 1,000 words providing career objectives and reasons for seeking a degree in the UWM Biomedical Sciences Graduate Program.
6. Students must identify, at the time of applying, whether they seek enrollment in the Thesis Track or Non-Thesis Track. Students wishing to change tracks after admission must receive approval of the program.

Major Professor as Advisor

For both tracks, the student must have a major professor to advise and supervise the student's studies.

Credits and Courses

The minimum degree requirement is 32 graduate credits.

Thesis Track

Nine credits of core curricular requirements are required, and a minimum of 8 credits in research (BMS 799) must be taken. Of the remaining 15 credits required for the degree, a minimum of 9 credits must be taken as sub-specialty courses offered by the program. No

more than 3 credits of U/G courses at the 400 level and 3 credits of U/G courses at the 500 level, not including BMS 590: Topics in Biomedical Sciences, may be applied toward completion of the Thesis Track.

Non-Thesis Track

Two credits in advanced independent study (BMS 999) must be taken in the final term. Of the remaining 30 credits required for the degree, a minimum of 21 credits must be taken at the 500-level and higher, for graduate credit, within the program. The remaining credits are taken as elective courses at the graduate level. These elective courses also may be within the BMS program, or they may be taken outside of the program, in consultation with the major professor.

Thesis (Thesis Track)/Capstone (Non-Thesis Track)

Students enrolled in the Thesis Track must write an acceptable thesis based on original research and pass a final oral examination in defense of the thesis under the supervision of a major professor. Students in the Non-Thesis Track must pass a comprehensive examination based on their coursework or complete a project based on a literature review. These are administered and evaluated by the program s faculty and staff.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

420 Clinical Hematology. 3 cr. U/G.

Lectures in the production, regulation, function, and cytomorphology of normal hematopoietic elements. Introduction to hemostasis theory. Prereq: jr st or cons instr.

427 Clinical Immunology. 3 cr. U/G.

Fundamentals of Clinical Immunology, including cellular, humoral and molecular aspects. Correlation of laboratory test results with clinical disease states. Prereq: jr st.

431 Clinical Chemistry. 3 cr. U/G.

Correlation of clinical chemistry with the pathophysiology of human disease. Prereq: jr st; Chem 501(P) or cons instr; or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: acceptance to Study Abroad Prog.

534 Medical Microbiology. 3 cr. U/G.

Advanced comprehensive study of microorganisms that influence human health and disease. Emphasis on

Biomedical Sciences

identification/diagnosis and microbial attributes and mechanisms that facilitate infectious disease. Prereq: jr st & Bio Sci 383(303)(P); or grad st; or cons instr.

535 Medical Microbiology Laboratory. 2 cr. U/G.

Formal systematic laboratory study of microorganisms important in human health and disease. Emphasis on current methods of detection, identification and treatment. 4 hr lab. Prereq: jr st & Bio Sci 383(303)(P), or cons instr; BMS 534(C).

537 Medical Parasitology and Mycology. 2 cr. U/G.

Lectures and laboratory dealings with the medically significant parasitic and mycotic agents of human disease. Prereq: sr st in BioMed Sci prog; or grad st; or cons instr.

539 Public Health Microbiology. 2 cr. U/G.

The role of microbiological analysis in public health and the current techniques for detecting, identifying, and enumerating pathogenic microorganisms. Prereq: jr st & Bio Sci 383(303)(P), or grad st; or cons instr.

540 Public Health Microbiology Lab. 2 cr. U/G.

Current laboratory techniques for detecting, identifying, and enumerating pathogenic microorganisms. Prereq: jr st, or cons instr

545 Human Histology. 3 cr. U/G.

A detailed study of the structure and function of human tissues. Prereq: jr st.

552 Advanced Nutrition. 2 cr. U/G.

Nutrient utilization and human metabolism, nutritional influences in anthropology, epidemiology and international development issues. Prereq: jr st; BMS 232(P) or Bio Sci 501(P).

555 Toxicology and Therapeutic Drug Monitoring. 1 cr. U/G.

Survey of the pharmacology and analytical methods for identification and quantitation of therapeutic and toxic substances. Prereq: jr st, & Chem 341(P) or 345(P); or cons instr.

560 Molecular and Genetic Diagnostics. 2 cr. U/G.

Introduction to principles and applications of DNA technology in the clinical laboratory. Prereq: jr st, Bio Sci 325 (P); or grad st.

561 Molecular Diagnostics Laboratory. 1 cr. U/G.

Clinical laboratory experiences in molecular diagnostic techniques and instrumentation. Prereq: jr st & BMS 560(C); or grad st & BMS 705(P); or cons instr.

590 Topics in Clinical Laboratory Sciences: (Subtitled). 1-5 cr. U/G.

Topics of current interest in the field of clinical laboratory sciences. The major theme for each semester offering will be posted. May be repeated with change in topic to max of 9 cr for grad students. Prereq: jr st; cons instr for grad cr.

600 Contrast Diagnostic Imaging. 3 cr. U/G.

Use of contrast media in medical imaging diagnostic procedures. Prereq: jr st in Biomed Sci program; ARRT, ARDMS, or CCI Imaging Certification or completion of an Intro to Diagnostic Imaging course.

601 Molecular Imaging for Diagnostic Imaging. 3 cr. U/G.

Study of imaging principles utilized with molecular imaging. To include review of scientific publications for the use of molecular imaging to review various disease processes. Prereq: jr st in Biomed Sci program; ARRT, ARDMS, or CCI Imaging Certification or completion of an Intro to Diagnostic Imaging course.

610 (HS 610) Pharmacology. 3 cr. U/G.

Lectures on pharmacokinetics, mechanisms of action, and physiological effects of toxic and therapeutic substances. Prereq: jr st, Chem 501(P), or cons instr.

615 Cellular and Molecular Toxicology. 3 cr. U/G.

Cellular and molecular mechanisms of toxicant interactions with critical target organelles and molecules and subsequent downstream cellular responses. Prereq: jr st, Chem 501(P) or cons instr; or grad st.

701 (HS 701) Human Pathophysiology I. 3 cr. G.

An advanced course in basic pathological mechanisms underlying production of human disease and effects on selected organ systems. Prereq: grad st or cons instr.

702 (HS 702) Human Pathophysiology II. 3 cr. G.

A continuation of 701 dealing with pathogenesis of the major diseases of human organ systems. Prereq: grad st; BMS 701(P) or cons instr.

705 Molecular Pathology. 3 cr. G.

Principles, methods, and applications of nucleic acid-based technologies in pathology and laboratory medicine. Counts as repeat of BMS 590 with similar topic. Prereq: grad st or cons instr.

710 Seminar in Biomedical Sciences. 1 cr. G.

Presentation of topics of current interest to the biomedical scientist. May be repeated to max of 9 cr. Prereq: grad st or cons instr.

717 Laboratory Technology-Theory and Practice. 1 cr. G.

Fundamental laboratory bench techniques common to the biological sciences to prepare students for independent research. Prereq: grad st.

718 Experimental Design, Research, and Epidemiologic Methods. 1 cr. G.

Fundamentals of laboratory, clinical and epidemiologic experimental design for beginning graduate students in the Health Sciences. Prereq: grad st; Biostat or undergrad stats course or cons instr

750 Infection and Immunity. 3 cr. G.

Immunobiology of the response to infectious disease agents of humans, with resulting clinical outcomes; mechanisms of immune evasion in establishing infection and causing disease. Prereq: grad st; Lec courses in immunology and microbiology or cons instr

751 Immunopathology. 3 cr. G.

Examination of mechanisms by which abnormal, unwanted, or absent immune responses result in disease, including discussion of clinical presentation, diagnostic testing, and therapeutic intervention. Prereq: grad st; BMS 750(P) or cons instr

756 Current Concepts in Cancer. 3 cr. G.

An overview of various forms of human cancer. Emphasis on cell markers and cytomorphology, etiology and kinetics. Prereq: grad st or cons instr.

765 Molecular Pathophysiology. 3 cr. G.

Advanced theoretical skills and an appreciation of the current scientific literature in basic and clinical physiologic chemistry. Prereq: grad st or cons instr; basic college chemistry class suggested

766 Advanced Cardiovascular Hemodynamics. 3 cr. G.

Study of fundamental principles of fluid mechanics as applicable to physiologic and biological systems. Topics include Poiseuille flow, circulatory flow resistance. Prereq: Admission to Biomed Sci MS program; ARRT, ARDMS, or CCI Imaging Certification or completion of introductory course in diagnostic imaging

767 Comparative Analysis of Diagnostic Imaging. 3 cr. G.

Study of imaging principles evoked in utilizing multiple imaging modalities (DMS, CT, MRI and radiographic imaging) of both the normal and pathology findings. Prereq: Admission to Biomed Sci MS program; ARRT, ARDMS, or CCI Imaging Certification or completion of introductory course in diagnostic imaging

Biomedical Sciences

768 Diagnostic Imaging of Acquired Heart Disease. 3 cr. G.

In-depth study of how acquired heart disease is imaged in the adult patient. Prereq: Admission to Biomed Sci MS program; ARRT, ARDMS, or CCI Imaging Certification or completion of introductory course in diagnostic imaging

769 Diagnostic Imaging for Management of Cardiovascular Disease. 3 cr. G.

In-depth study of imaging used to monitor surgical and medical management of patients with cardiovascular disease. Prereq: Admission to Biomed Sci MS program; ARRT, ARDMS, or CCI Imaging Certification or completion of introductory course in diagnostic imaging

775 Mechanisms of Infectious Disease. 2 cr. G.

Molecular and cellular means by which microorganisms facilitate infection, withstand or evade immune response, induce damage to host, and ensure transmission to human populations. BMS 775 & PH 775 are jointly offered; they count as repeats of one another. Prereq: grad st; 1c & 1a course in medical microbiology

780 Emerging Infectious Diseases. 3 cr. G.

Detailed studies of those infectious diseases with both an emerging nature and a high impact on public health. Prereq: grad st; background in microbiology, BMS 534 or BMS 539 or BioSci 383 (R)

782 Advanced Immunology. 3 cr. G.

Cellular basis of the immune response with emphasis on immunoregulation and clinical disease manifestations resulting from altered cellular immune function. Prereq: grad st; course in immunology; or cons instr.

799 Research in Biomedical Sciences. 1-8 cr. G.

Prereq: grad st; cons instr.

901 Seminar on Philosophical Approaches to Science. 3 cr. G.

The nature and function of sciences, the logic of the scientific method as it relates to health, and implications of research and practices in health care. BMS 901 & LiblSt 901 are jointly offered; they count as repeats of one another. Prereq: grad st.

909 Guided Teaching Experience in Health Sciences. 3 cr. G.

This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of HCA 909. Prereq: grad st; Occ Thpy 900(P); cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G.

Faculty, students, and guests present research topics in the Health Sciences. Retakable to 4 cr max. Prereq: grad st

990 Research and Dissertation. 1-6 cr. G.

Preparation of a dissertation under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr.

999 Advanced Independent Study. 1-3 cr. G.

Individualized experience enables student to study current topics of interest to the biomedical scientist. Level of credit assigned based on time required for completion. Prereq: grad st; cons instr.

Business Administration

Business Administration

School/College: Lubar School of Business
Degrees Conferred:

- Master of Business Administration (MBA)
- M.S. in Management
- Ph.D. in Management Science

Other Lubar School Degrees:

- M.S. in Information Technology Management

See Also:

- [Executive MBA](#)
- [Master of Human Resources and Labor Relations](#)
- [Master of Science in Nonprofit Management and Leadership](#)
- [Master of Public Administration](#)

Related Certificates

- [Graduate Certificate in Business Analytics](#)
- [Graduate Certificate in Enterprise Resource Planning](#)
- [Graduate Certificate in Investment Management](#)
- [Graduate Certificate In Nonprofit Management](#)
- [Graduate Certificate in State and Local Taxation](#)

Overview

The Lubar School of Business offers MBA, M.S., M.S.MBA, Executive MBA, and Ph.D. graduate degree programs. Joint programs including the MBA/DNP, Master of Human Resources and Labor Relations, M.S. in Nonprofit Management and Leadership, and Master of Public Administration are offered, as are Graduate Certificates in State and Local Taxation, Nonprofit Management, and Investment Management.

The MBA program is an innovative program designed for success in an increasingly complex business environment. The program is a powerful blend of management theory, functional skills, and practical application. It features a flexible structure and a strong selection of specialized elective tracks and concentrations designed to meet career and professional development needs.

The M.S. in Management program is a unique graduate program designed to develop corporate specialists, offering in-depth knowledge and skills in the following areas of concentration: accounting, finance analysis, information technology management,

marketing, professional accounting, and taxation. The program creates an intellectually stimulating learning environment in which students acquire a strong knowledge relevant to their chosen area of concentration and a skill set (critical thinking, analysis, communication) needed for career success.

Lubar School graduate business degree programs are designed to accommodate students with backgrounds in engineering, health care, and the liberal arts and sciences as well as undergraduate majors in business. MBA and M.S. classes are offered during evening hours to meet the needs of part-time and full-time students and many courses in the M.S. Professional Accounting program are offered during the day (Full-time students can also take full advantage of the evening scheduling).

The Executive MBA Program is a two-year accelerated program uniquely designed for mid-career managers, executives, professionals, and entrepreneurs. Classes meet one day per week, on alternating Fridays and Saturdays, for maximum flexibility for students and employers.

The Ph.D. program is a rigorous and high-quality, research-oriented program that offers students an opportunity to specialize in one of six management fields: accounting, finance, information technology management, marketing, organizations & strategic management, and supply chain/operations management. Individuals completing the program are expected to pursue academic careers in research-oriented schools of management or research careers in public and private enterprises.

The Lubar School of Business and the College of Letters and Science offer a joint degree, the Master of Human Resources and Labor Relations (MHRLR). This master's program offers students an interdisciplinary blend of courses and faculty in the areas of human resources and labor relations. The curriculum prepares students for careers as practitioners and emphasizes a firm grounding in both the liberal arts and business.

The Lubar School of Business and the College of Letters and Science also jointly offer the Master of Public Administration degree, with a curriculum that links coursework from Political Science, Business, Urban Planning, and Economics. This program is designed to prepare students for leadership and management careers in local, state, and national government.

The Graduate Certificate in State and Local Taxation is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within tax

departments of corporations, CPA firms, law firms, and government agencies.

The Graduate Certificate in Nonprofit Management offers students the knowledge and skills needed to pursue or advance careers within nonprofit-sector organizations.

The Graduate Certificate in Investment Management is designed to offer business graduate students the opportunity to enhance their education with focused study in investment management.

Graduate Faculty

Distinguished Professors

Soofi, Ehsanolah, Ph.D., University of California-Riverside

Professors

Dobrev, Stanislav, Ph.D., Stanford University, Manegold Professor
Fischer, Paul M., Ph.D., University of Wisconsin-Madison, CPA, Jerry Leer Professor
Ghose, Sanjoy, Ph.D., Carnegie-Mellon University
Jain, Hemant, Ph.D., Lehigh University
Mone, Mark, Ph.D., Washington State University, Chancellor
Nambisan, Satish, Ph.D., Syracuse University
Papatla, Purushottam, Ph.D., Northwestern University, Interim Associate Dean
Peracchio, Laura, Ph.D., Northwestern University
Prasad, V. Kanti, Ph.D., Michigan State University, Bostrom Professor, Interim Dean
Ragins, Belle, Ph.D., University of Tennessee
Ross, Anthony, Ph.D., Indiana University, Rockwell Automation Endowed Chair
Shaffer, Margaret, Ph.D., University of Texas-Arlington, Notebaert Distinguished Chair
Sinha, Atish, Ph.D., University of Pittsburgh
Smunt, Timothy Ph.D., Indiana University
Wang, Qinghai, Ph.D., The Ohio State University, Lubar Professor of Finance
Zahedi, Fatemeh (Mariam), DBA, Indiana University, Trisept Solutions Professor in MIS
Zhao, Huimin, Ph.D., University of Arizona

Associate Professors

Abbott, Lawrence J., Ph.D., University of Oregon
Alwan, Layth C., Ph.D., University of Chicago
Bhatnagar, Amit, Ph.D., State University of New York at Buffalo
Daugherty, Brian, Ph.D., University of Texas-San Antonio, CPA
Fang, Xiang, Ph.D., Case Western Reserve University
Freeman, Sarah J., Ph.D., University of Michigan
Goranova, Maria, Ph.D., Syracuse University
Haas, Timothy, Ph.D., Colorado State University
Kim, Yong-Cheol, Ph.D., The Ohio State University

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Kimmel, Paul, Ph.D., University of Wisconsin-Madison, CPA
Kren, Leslie, Ph.D., University of Houston, CPA
Levitas, Edward, Ph.D., Texas A&M University
Marcus, Richard, Ph.D., University of Chicago
Nazareth, Derek L., Ph.D., Case Western University
Neely, Dan, Ph.D., University of Houston
Ren, Hong, Ph.D., Pennsylvania State University
Schadewald, Michael S., Ph.D., University of Minnesota, CPA
Sibilkov, Valeriy, Ph.D., Purdue University
Singh, Romila, Ph.D., Drexel University
Srite, Mark, Ph.D., Florida State University
Yang, Xiaojing, Ph.D., Indiana University
Yue, Xiaohang, Ph.D., University of Texas at Dallas

Assistant Professors

Boland, Colleen, Ph.D., Michigan State University
Brown, Veena, Ph.D., Florida Atlantic University
Halford, Joseph, Ph.D., University of Utah
He, Tingting (Tina), Ph.D., Washington University in St. Louis
Kim, Donghyun, Ph.D., University of Texas at Austin
Kuzu, Kaan, Ph.D., Pennsylvania State University
Mandell, Aaron, Ph.D., University of Oregon
Ostinelli, Massimiliano (Max), Ph.D., McGill University
Swenson, Laura, Ph.D., University of Wisconsin-Madison

Master of Business Administration

Admission

An applicant must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

1. Submission of score on the [Graduate Management Admission Test \(GMAT\)](#) or [Graduate Record Examination \(GRE\)](#).
2. Review by the MBA Program Committee to assess academic achievement and the ability to do intensive graduate-level work.

MBA foundation coursework provides the basis for the theory and practice of business. The MBA Program requires Bus Adm 701, Business Mathematics (2 cr), and Bus Adm 703, Financial Accounting (3 cr). Bus Adm 701 is waived for individuals who have completed an appropriate academic course in their background, or have earned an appropriate Quantitative sub-score on the [GMAT](#) or [GRE](#), or have passed the proficiency exam. Bus Adm 703 is waived for individuals who have completed an appropriate course in their background, or have passed the proficiency

exam. Bus Adm 701 and Bus Adm 703 do not count toward the degree. Students are also assumed to have basic proficiency in information technology (IT), including the use of word processing, spreadsheets, presentation software, and web browsers. Online resources are available for Bus Adm 701, 703, and IT.

Major Professor as Advisor

The student in the MBA program is not assigned an advisor or major professor. Questions about the student's program of study, courses or regulations should be directed to Lubar School Graduate Program Services Office, Lubar N251, (414) 229-5403.

Credits and Courses

The degree requirements for the Master of Business Administration degree are 33-39 credits. Students with a BBA degree and a major in accounting, finance, marketing, information technology management, or supply chain and operations management will be waived from the 3-credit Core course that corresponds to their major field of study. Students with an undergraduate double major in business may be waived from two Core courses.

Core Courses – 18-24 credits

BusMgmt 704 Accounting Analysis and Control
BusMgmt 705 Corporate Finance
BusMgmt 706 Management in Contemporary Business
BusMgmt 707 Information Technology Management in International Businesses
BusMgmt 708 Marketing Strategy: Concepts and Practice
BusMgmt 709 Predictive Analytics for Managers
BusMgmt 711 Global Supply Chain Strategies & Competitive Operations
BusMgmt 712 Strategic Management*
*Integrating course

Electives—15 credits

Students in the MBA program have two options for completion of elective credits. The first route is to complete any approved Bus Adm or BusMgmt elective course. The second option is to choose a Career-Focused Concentration, completion of which will be documented on the transcript.

See <http://uwm.edu/business/academics/graduate/mba-programs/flexible-mba/> for additional details.

Master of Business Administration/Master of Arts in Language, Literature, and Translation (Translation Professional Track)

The College of Letters and Science and Lubar School of Business collaboratively offer a

program designed to provide students with theoretical and practical exposure to evolving language services industry theory and practices, and to provide high level management and administrative skills needed to work in business, industry, governmental, and nonprofit organizations.

Admission

Students are admitted to both graduate programs separately, and admission requirements are consistent with those specified by the UWM Graduate School, the Master of Arts in Language, Literature, and Translation (MALLT), Translation Professional Track in the College of Letters and Science, and the MBA program of the Lubar School of Business.

Credit and Courses

Students accepted into this MALLT/MBA program complete the following courses:

Translation and Interpreting Studies

Trnsln 820 Translation Theory
Trnsln 710 Comparative Systems for Translation
Trnsln 70x Introduction to Translation Workshop (language-specific)
Trnsln 71x Advanced Translation Workshop (language-specific)
Trnsln 709 Seminar in Literary and Cultural Translation (language-specific)
Trnsln 726 Computer-Assisted Translation
Trnsln 730 Internship in Translation or BusMgmt 729 MBA Internship
Electives (9 shared cr) Selected in consultation with faculty advisors from among all approved Trnsln or MBA elective courses.
Comprehensive Exam. 0 cr.

Total Trnsln credits: 21 + 9 shared

Master of Business Administration

BusMgmt 735 Advanced Spreadsheet Tools
BusMgmt 736 Understanding and Using Corporate Financial Reports
BusMgmt 737 Business Strategy and Economics
BusMgmt 738 Critical and Analytical Thinking in Business
BusMgmt 704 Accounting Analysis and Control
BusMgmt 705 Corporate Finance
BusMgmt 706 Management in Contemporary Business
BusMgmt 707 Information Technology Management in Contemporary Businesses
BusMgmt 708 Marketing Strategy: Concepts and Practice
BusMgmt 709 Predictive Analytics for Managers
BusMgmt 711 Supply Chain Strategies & Competitive Operations
BusMgmt 712 Strategic Management *capstone

Business Administration

Electives (9 shared cr) Selected in consultation with faculty advisors from among all approved Trnsltn or MBA elective courses.

Total MBA credits: 31 + 9 shared

Total Credits for Coordinated Program: 61

The 61 credits for the coordinated program typically would be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program to receive a degree.

Time Limit

Students in the coordinated MALLT/MBA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Master of Science in Management

Admission

An applicant must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

- A bachelor's degree from an accredited college or university.
- Submission of score on the [Graduate Management Admission Test \(GMAT\)](#).
- Review by the Master of Science Program Committee to assess academic achievement and ability to do intensive graduate-level work.

Applicants admitted to the M.S. program may be required to complete management foundation courses. Individual areas of concentration require different foundation courses. (See Lubar School of Business MBA/M.S. brochure and the [Lubar School of Business Website](#) for details.) Foundation courses will be waived if students have completed equivalent coursework. Credits earned in these courses do not count toward the degree.

Students select the area of concentration most suited to their educational goals. The areas of concentration in the program are: accounting (first professional degree-open only for students with non-accounting majors at baccalaureate level); professional accounting (program open to students who have completed an undergraduate degree in accounting); finance analysis; management (open only to non-business majors at baccalaureate level); information technology management; marketing; and taxation.

Major Professor as Advisor

Students in the M.S. program must choose a major professor during the first ten weeks of their first semester of graduate enrollment to

advise and supervise their studies. A listing of faculty by area of interest is sent to each M.S. student to aid in their selection of a major professor. This list is also available in the Graduate Programs Services office, Lubar N251.

If a student is waived out of a required course, an approved elective course must be substituted in its place and approved by Graduate Program Services (Lubar N251).

The major professor, in consultation with the student, reviews the student's academic background and career goals and designs an appropriate program of study consistent with degree requirements. In developing a program of study for a student who has no undergraduate background in business administration, care is taken to ensure a basic exposure to different aspects of the management field as well as an in-depth preparation in the chosen field of specialization.

Credits and Courses

The minimum degree requirement for the Master of Science in Management degree concentrations varies from 30-33 graduate credits. In the 30-credit concentrations, at least 18 credits must be taken in the Lubar School of Business.

Electives provide distinction to each individual program. Through proper selection and packaging, each student can design a program to meet individual educational objectives while maintaining a high degree of academic strength. These courses may be selected from the many available in the Lubar School of Business, or from among those offered in graduate programs of other UWM departments.

Students in the M.S. program have the option of doing a management research project. This option gives students the opportunity to apply methodological techniques and area studies. The urban location and strong ties with the business sector provide opportunities for student projects.

The distribution of coursework required in different areas of concentration is as follows:

Accounting - 30 credits

Bus Adm 406 Income Tax Accounting II
Bus Adm 408 Accounting Information Systems
Bus Adm 722 Advanced Financial Accounting Theory
Bus Adm 724 Business Combinations and Governmental Accounting
Bus Adm 725 Strategic Cost Management I
Bus Adm 726 Strategic Cost Management II
Bus Adm 728 Auditing Theory and Applications*
Bus Adm 753 Advanced Business Law
Bus Adm 821 Business Taxation

Bus Adm 840 Current Issues in Financial Reporting

* Integrating course

Professional Accounting - 30 credits

Required Courses (15 credits)

Bus Adm 724 Business Combinations and Governmental Accounting
Bus Adm 753 Advanced Business Law
Bus Adm 821 Business Taxation
Bus Adm 840 Current Issues in Financial Reporting
Bus Adm 844 Auditing: Professional Standards and Practicess

Complete one of the following two tracks:

Assurance Services Track (15 credits)

Required (9 credits):
Bus Adm 720 Information Systems Auditing
Bus Adm 723 Forensic Accounting
Bus Adm 841 Financial Statement Analysis*

Electives (6 credits) Choose two courses from the list below:

Bus Adm 726 Strategic Cost Management II
Bus Adm 771 Investments
Bus Adm 772 Portfolio Management
Bus Adm 773 Options and Futures
Bus Adm 774 Global Financial Management
Bus Adm 775 Financial Strategy
Bus Adm 778 Financial Institutions and Markets
Bus Adm 779 Fixed Income Securities
Bus Adm 848 Professional Accounting Practice
BusMgmt 726 Study Abroad: Business Topics (subtitle: Ernst & Young Graduate Accounting Study Abroad)

*integrating course

Taxation Track (15 credits)

Required Courses (12 credits):

Bus Adm 820 Tax Research, Practice, and Procedure*
Bus Adm 823 Corporate Income Taxation
Bus Adm 826 Tax Planning for Individuals
Bus Adm 828 Taxation of Partnerships, S Corporations, and LLCs
Electives (3 credits):

Choose one course from the list below:

Bus Adm 848 Professional Accounting Practice
BusMgmt 726 Study Abroad: Ernst & Young Graduate Accounting Study Abroad

*integrating course

Finance Analysis - 33 Credits

Core Courses - 21 credits

Bus Adm 721 Financial Accounting Theory
Bus Adm 751 Analysis of U.S. Business Environment
Bus Adm 771 Investments
Bus Adm 775 Financial Strategy*

Business Administration

Bus Adm 778 Financial Institutions and Markets
BusMgmt 705 Corporate Finance
BusMgmt 709 Predictive Analytics for Managers or Bus Adm 754 Statistical Analysis

* Integrating course

Elective Courses - 12 credits from the following

Bus Adm 713 Business Forecasting Methods
Bus Adm 772 Portfolio Management
Bus Adm 773 Options and Futures
Bus Adm 774 Global Financial Management
Bus Adm 777 Advanced Corporate Finance
Bus Adm 779 Fixed Income Securities
Bus Adm 795 Seminar in Management - Finance Topic
Bus Adm 851 Global Investments
Bus Adm 852 Venture Finance
Bus Adm 853 Financial Modeling

Information Technology Management - 30 Credits **

Required Courses (15 credits)

Bus Adm 744 Information Technology Strategy & Management
Bus Adm 747 Service-Oriented Analysis and Design
Bus Adm 748 Managing Information Technology Projects (capstone course)
Bus Adm 749 Data and Information Management
Bus Adm 810 Development of Web-Based Solutions

Elective Courses (15 credits)

Choose five courses from the following:

Bus Adm 741 Web Mining and Analytics
Bus Adm 743 Information Privacy, Security & Continuity
Bus Adm 746 Topics in Information Technology Management: (Subtitled)
Bus Adm 811 Process and Work-Flow Management
Bus Adm 812 Emerging Information Technologies for Business
Bus Adm 814 Enterprise Knowledge & Semantic Management
Bus Adm 816 Business Intelligence Technologies & Solutions
Bus Adm 817 Infrastructure for Information Systems
Bus Adm 818 Information Systems Practicum
Bus Adm 819 Information Technology Management Internship
Bus Mgmt 732 Enterprise Resource Planning
Bus Mgmt 733 Enterprise Simulation Game

**Previously titled Management Information Systems

Management - 31 Credits

BusMgmt 801 Managing People
BusMgmt 802 Accounting for Managers

BusMgmt 803 The Role of IT in Enterprise Management
BusMgmt 804 Business Analytics
BusMgmt 805 Business Economics
BusMgmt 806 Business Finance
BusMgmt 807 Supply Chain Operations
BusMgmt 808 Business Marketing
BusMgmt 809 Business Practicum
BusMgmt 810 Managing Multicultural Organizations
BusMgmt 811 Business Strategy*

*integrating course

Marketing - 30 Credits

Core Courses - 18 Credits

Bus Adm 762 Marketing Research
Bus Adm 764 Buyer Behavior and Marketing Communications
Bus Adm 765 Strategic Product and Brand Management*
Bus Adm 806 International Marketing
BusMgmt 708 Marketing Strategy: Concepts and Practice
BusMgmt 709 Predictive Analytics for Managers

* Integrating course

Elective Courses - 12 credits from the following:

Bus Adm 761 Seminar in Marketing (current topics)
Bus Adm 763 Marketing Analytics
Bus Adm 766 Marketing for Non-Profit Organizations
Bus Adm 769 Database Marketing
Bus Adm 894 Internet Marketing
Bus Adm 899 Management Research Project/Thesis
BusMgmt 713 Entrepreneurship: Venture Creation and Management

Taxation - 30 Credits

Core Courses - 21-24 credits

Bus Adm 406 Income Tax Accounting II
Bus Adm 820 Tax Research, Practice and Procedure
Bus Adm 823 Corporate Income Taxation
Bus Adm 826 Tax Planning for Individuals
Bus Adm 827 Taxes and Business Strategy*
Bus Adm 828 Taxation of Partnerships, S Corporations, and LLCs
Bus Adm 831 Multistate Income Taxation
Bus Adm 834 International Taxation

*Integrating course

Elective Courses - 6-9 credits from the following:

Bus Adm 829 Executive Compensation and Benefits
Bus Adm 832 Property Taxation
Bus Adm 837 Sales and Use Taxation
Bus Adm 838 Managing State and Local Audits
Bus Adm 839 Topics in Taxation

Other approved graduate business courses (maximum of 9 credits)

The Management Research Project/Thesis

The Management Research Project/Thesis is a variable 2-6 credit management research project.

Comprehensive Examination

Students must pass a final oral examination if they choose a 4-6-credit management research project or thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment. In areas of concentration in which the total number of degree credits required exceeds 30, the student must complete all degree requirements within seven years of initial enrollment.

MBA/M.S. in ITM Coordinated Degree Program

MBA foundation coursework provides the basis for the theory and practice of business. The MBA Program requires Bus Adm 701, Business Mathematics (2 cr), and Bus Adm 703, Financial Accounting (3 cr). Bus Adm 701 is waived for individuals who have completed an appropriate academic course in their background, or have earned an appropriate Quantitative sub-score on the GMAT or GRE, or have passed the proficiency exam. Bus Adm 703 is waived for individuals who have completed an appropriate course in their background, or have passed the proficiency exam. Bus Adm 701 and Bus Adm 703 do not count toward the degree. Students are also assumed to have basic proficiency in information technology (IT), including the use of word processing, spreadsheets, presentation software, and web browsers. Online resources are available for Bus Adm 701, 703, and IT.

ITM Foundation Courses

Students admitted to the MS in ITM program are expected to have knowledge or experience in programming.

Credits and Courses—48-51 degree credits

Required MBA program courses (18-21 credits)

Students with a BBA degree and a major in accounting, finance, marketing, or supply chain and operations management will be waived from the 3-credit Core course that corresponds to their major field of study.

Core Courses

BusMgmt 704 Accounting Analysis and Control
BusMgmt 705 Corporate Finance

Business Administration

BusMgmt 706 Management in Contemporary Business
BusMgmt 708 Marketing Strategy: Concepts and Practice
BusMgmt 709 Predictive Analytics for Managers
BusMgmt 711 Global Supply Chain Strategies & Competitive Operations
BusMgmt 712 Strategic Management*
*Integrating course

Required M.S. in Information Technology Management (ITM) Courses (15 credits)

Bus Adm 744 Information Technology Strategy & Management
Bus Adm 747 Service-Oriented Analysis and Design
Bus Adm 748 Managing Information Technology Projects (capstone course)
Bus Adm 749 Data and Information Management
Bus Adm 810 Development of Web-Based Solutions
Elective Courses (15 credits)

Please refer to <http://uwm.edu/business/academics/graduate/ms/ms-mba/> for a comprehensive listing of elective courses.

Doctor of Philosophy in Management Science

Admission

Ph.D. Management Science applications must be received by January 1 for admission to the following Fall semester. The application package must be complete and all materials received by February 1. All applications are reviewed in mid-February for the upcoming academic year starting in September.

Applicants must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission to the program:

- A bachelor's degree from an accredited college or university. Almost all applicants admitted, however, are master's degree holders.
- Substantial evidence of scholarly potential and commitment.
- Submission of score on either the [Graduate Management Admission Test \(GMAT\)](#) or the [Graduate Record Examination \(GRE\)](#).
- Two letters of recommendation in support of the candidate's competence to do doctoral work.
- A written statement from the applicant stating reasons for pursuing Ph.D. level study and an indication of the major field to be studied.

Applicants are expected to have adequate preparation at the undergraduate or graduate level equivalent to one semester each of coursework in calculus, statistics, and linear algebra. Applicants who do not have the above background must complete equivalent courses. Specific courses from the Lubar School of Business or from departments outside the School will be suggested to satisfy preparation in these areas. These courses do not count toward credit requirements for the degree. As some areas of study admit students for alternating academic years, please review the following [Lubar School of Business Website](#).

Reapplication

A student who has received a master's degree in Business Administration from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before beginning studies toward the Ph.D. degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Within the first semester, the student arranges for assignment to an advisor within the student's specialization.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, of which a minimum of 34 credits must be earned in residence at UWM beyond the master's level.

The student plans an individual program of studies in consultation with the major professor. The program has no formal language requirement but the student is responsible for familiarity with published literature in the area of the student's research. All students will also be required to complete an "Orientation to Teaching and Research" course.

Stage 1

The first stage of the student's program includes general preparation in a common core of knowledge. Students will be required to validate exposure to functional business areas: accounting, finance, information systems, marketing, and management. Method of validation is to be decided by the advisor and faculty from the major field area.

Stage 2

The second stage of the program consists of a required research methods component to be satisfied by a minimum of 12 credits from a recommended list of research methods courses.

Stage 3

The third stage of the program consists of coursework and research in the major and minor fields of study as specified in the student's program of studies. Coursework must include a minimum of 12 credits in the student's

major field and a minimum of 9 credits in the student's minor field of study.

As a first step in developing a research focus, Ph.D. students are required to submit a paper by the end of their third semester to be presented at a research seminar, conference, or an on-campus seminar that includes at least two faculty members from their department.

If a student fails to complete the research paper requirement, he/she will be subject to dismissal from the doctoral program for lack of progress toward degree.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examinations

The student must pass written doctoral preliminary examinations in the major field of study. Minor field requirements include completing approved coursework with a specified grade point average or passing a written examination as specified by the appropriate department. A student is admitted as a candidate for the Ph.D. degree after successful completion of the doctoral preliminary examinations.

Dissertation

The candidate must write a dissertation that demonstrates ability to formulate a research topic and pursue independent and original investigation.

Dissertation Defense

A formal oral defense of the dissertation by the student and certification of the dissertation by the dissertation committee are necessary steps to complete the degree requirements.

Time Limit

All degree requirements must be completed within 10 years from the date of initial enrollment in the doctoral program.

Additional information on Graduate School Ph.D. requirements is in the Doctoral Student and Advisor Manual.

Master of Business Administration/Doctor of Nursing Practice (MBA/DNP)

The Lubar School of Business and the University of Wisconsin-Milwaukee College of Nursing collaboratively offer a program designed to provide a combined nursing and business curriculum to strengthen the graduate's performance as a leader and manager in nursing and health care administration.

Admission

Students are admitted to both the University of Wisconsin-Milwaukee graduate programs in nursing and business administration. The

Business Administration

admission requirements are consistent with those specified by the UWM Graduate School, College of Nursing and Lubar School of Business. Applicants may choose to complete either the [GMAT](#) or [GRE](#) and must have a B.S. in nursing degree and at least two years practice in a health care setting. Three letters of reference are required including one from a former faculty and one from a health care employer.

MBA foundation coursework provides the basis for the theory and practice of business. The MBA Program requires Bus Adm 701, Business Mathematics (2 cr). This course is waived for individuals who earn an appropriate Quantitative sub-score on the [GMAT](#) or [GRE](#) or pass a proficiency exam. Bus Adm 701 does not count toward the degree.

Credits and Courses

Students accepted into the MBA/DNP program complete the following courses (*each is 3 credits, unless otherwise indicated*):

Nursing (43 Credits)

Core Courses

NURS 725 Evidence Based Practice in Healthcare I
NURS 727 Epidemiology
NURS 729 Organizational Systems
NURS 735 Theory for Advanced Practice
NURS 750 Outcomes and Quality Management
NURS 770 Nursing Administration
NURS 773 Information Systems to Support Clinical Decision-Making
NURS 803 Health Policy
NURS 810 Leadership for Advanced Practice in Healthcare
NURS 825 Evidence Based Practice in Healthcare II
NURS 995 Doctor of Nursing Practice Residency, 4 cr
Nursing System Practicum Courses, 9 cr

Business (25 Credits)

Basic Core - 7 credits

BusMgmt 735 Advanced Spreadsheet Tools, 1 cr
BusMgmt 736 Understanding and Using Corporate Financial Reports, 2 cr
BusMgmt 737 Business Strategy and Economics, 2 cr
BusMgmt 738 Critical and Analytical Thinking in Business, 2 cr

Advanced Core - 18 credits

BusMgmt 704 Accounting Analysis and Control
BusMgmt 705 Corporate Finance
BusMgmt 707 Information Technology Management in Contemporary Businesses
BusMgmt 708 Marketing Strategy: Concepts and Practice

BusMgmt 709 Predictive Analytics for Managers
BusMgmt 711 Supply Chain Strategies & Competitive Operations

Dually Applied Courses (18 Credits)

Required (12 credits)

NURS 720 Biostatistics and Applications for Nursing Practice
Bus Adm 733 Organizational Development
BusMgmt 706 Managing in a Dynamic Environment
BusMgmt 720 Strategic Management in Health Care Organizations*

* integrating course for the coordinated degree program.

Constrained Choice (6 credits)

BusMgmt 755 Health Care Administration and Delivery Systems
BusMgmt 757 Managed Care and Integrated Health Networks
Bus Adm 759 Seminar in Health Care Management (Subtitle: Health Economics)
Bus Adm 759 Seminar in Health Care Management (Subtitle: Healthcare Finance)

Total Program

For the coordinated degree program, students will complete 86 degree credit hours. A student not completing the requirements for the coordinated degree program would need to complete all requirements of an individual program—MBA or DNP—in order to receive a degree. Students must fulfill the MBA Program Boot Camp and Executive Development activities to meet all graduation requirements.

DNP Clinical Project

The candidate will complete a final comprehensive clinical project as part of the residency experience which demonstrates the ability to implement the principles of evidence-based practice and translation under the direction of the major professor.

The candidate must, as the final step toward the degree, pass an oral examination in defense of the clinical project. A candidate who does not pass this examination may apply for reexamination within one year from the initial examination date. This reexamination may occur only one time. A candidate who does not pass this examination within program time limits may be required to undergo another comprehensive preliminary examination and be readmitted to the program and/or candidacy.

Time Limit

Students in the coordinated MBA/DNP degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Business Administration

Courses

406 Income Tax Accounting II. 3 cr. U/G.

Application of framework developed in Income Tax Accounting I (Bus Adm 405) to more thoroughly analyze the taxation of business entities. Prereq: jr st & admis to Bus Adm major; Bus Adm 405(P).

408 Accounting Information Systems. 3 cr. U/G.

Introduction to accounting information systems and related technology, principles of accounting systems design, internal controls and coverage of commercial accounting software packages. Prereq: jr st & admis to Bus Adm major; a grade of 'C' or better in Bus Adm 301(P); or grad st & Bus Adm 721(P).

441 Diversity in Organizations. 3 cr. U/G.

Conceptual and experiential understanding of cultural values and practices among diverse groups in organizations. Addresses institutional and personal discrimination, stereotyping and prejudice. Counts as repeat of Bus Adm 443 with similar title. Prereq: jr st, admis to Bus Adm major, & Bus Adm 330(C); or grad st.

442 Industrial Psychology. 3 cr. U/G.

Application of psychological principles to industrial problems. Prereq: jr st & admis to Bus Adm major; Bus Adm 330(P) or 331(P); & Psych 101(P).

443 Special Topics in Human Resources Management: (Subtitled). 3 cr. U/G.

Selected topics in human resources management. Specific topics will appear in the Schedule of Classes whenever the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st & admis to Bus Adm major; Bus Adm 330(P) or 331(P); or grad st.

445 Training & Development in Organizations. 3 cr. U/G.

Development and evaluation of training and career development programs in organizations. Skills-based approach to understanding needs assessments, learning principles, training development and evaluation. Counts as repeat of Bus Adm 443 with similar title. Not open to students w/cr in Commun 327(ER). Prereq: jr st, admis to Bus Adm major, & Bus Adm 444(P); or grad st.

481 Real Estate Finance. 3 cr. U/G.

Mechanism of real estate finance, sources of funds, loan contracts, principles of mortgage risk analysis, and the role of government agencies; real estate investment analysis. Prereq: jr st & admis to Bus Adm major; Bus Adm 380(P).

Business Administration

482 Valuation of Real Estate. 3 cr. U/G.
Economic theories of value applied to real estate; valuation as a guide to business decisions; real estate market which affects value; valuation methods, analysis of evidence of value; appraising residential and income properties. Prereq: jr st & admis to Bus Adm major; Bus Adm 380(P).

483 Property Development and Management. 3 cr. U/G.
Analysis of real estate development; consideration of site selections, market analysis, financing, design, and construction in connection with subdividing residential community development and shopping centers. Prereq: jr st & admis to Bus Adm major; Bus Adm 481(P) or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
May be retaken with change in topic. Prereq: jr st; acceptance for Study Abroad Prog.

544 New Product Development. 3 cr. U/G.
Concepts related to product development including product concept development and testing, and product design. Prepares students to work in cross-functional product development teams. Counts as repeat of Bus Adm 795 with same topic. Jointly offered with & counts as a repeat of MechEng 544. Prereq: jr st & admis to Tech Entrep Cert program or Bus Adm major or CEAS major; or grad st. & admis to business or engineering program or admis to Tech Entrep Cert program.

546 Global Innovation Management. 3 cr. U/G.
Concepts related to collaborative innovation in global networks including diverse collaboration models, innovation processes, and capabilities. Prepares students to manage global collaborative innovation projects. Counts as a repeat of Bus Adm 795 with same topic. Jointly offered with & counts as repeat of MechEng 546. Prereq: jr st & admis to Tech Entrep Cert program or Bus Adm major or CEAS major; or grad st & admis to business or engineering program or admis to Tech Entrep Cert program.

552 Investment Management Practice I. 3 cr. U/G.
Introduction to the real-time and historic data sets available in the David O. Nicholas Applied Finance Lab. Utilize Bloomberg, FactSet, and other analysis packages. Prereq: jr st, admis to Investment Mgmt Cert program, Bus Adm 301(C) & 451(C); or grad st, admis to Investment Mgmt Cert program, Bus Adm 301(C) or 721(C); 771(C).

553 Investment Management Practice II. 3 cr. U/G.
Students manage an investment portfolio utilizing the David O. Nicholas Applied Finance Lab. Topics include securities selection, portfolio hedging, behavioral finance,

and financial market events. Prereq: jr st, admis to Investment Mgmt Cert program & Bus Adm 552(P); or grad st, admis to Investment Mgmt Cert program & Bus Adm 552(P).

554 Investment Management Practice III. 3 cr. U/G.
Students independently conduct special study to assist individual future professional development and gain maturity and confidence in real world investment management. Prereq: jr st, admis to Investment Mgmt Cert program & Bus Adm 553(P); or grad st, admis to Investment Mgmt Cert program & Bus Adm 553(P).

701 Business Mathematics. 2 cr. G.
Mathematical concepts essential to business. Exponents, polynomial functions, exponential and logarithmic functions, solution of linear systems, basic differential and integral calculus; emphasizes application to business problems. Counts as repeat of BusMgmt 701. Prereq: grad st.

703 Financial Accounting. 3 cr. G.
Covers financial accounting model underlying financial statements, accounting standard setting, role of accounting in capital formation, interpretation and analysis of financial statements. Counts as repeat of BusMgmt 702. Prereq: grad st.

713 Business Forecasting Methods. 3 cr. G.
Overview and use of modern forecasting methods in support of managerial strategic planning, financial, and operational analysis of a dynamic global business environment. Prereq: grad st; BusMgmt 709(P) or Bus Adm 754(P).

714 Multivariate Techniques in Management Research. 3 cr. G.
Multivariate analysis of variance, principal component analysis, factor analysis, conjoint analysis, bootstrap resampling, cluster analysis, canonical correlation, data mining (classification trees and neural networks); computer implementation. Prereq: grad st; BusMgmt 709(P) or Bus Adm 754(P).

720 Information Systems Auditing. 3 cr. G.
Testing and reliance of automated application, program change and data access controls for use in the financial statement audit and system integrity. Counts as repeat of Bus Adm 795 with similar topic. Prereq: grad st; Bus Adm 409(P) or 728(P).

721 Financial Accounting Theory. 3 cr. G.
The principles of external reporting are integrated with approaches to problem solving. Emphasis is placed upon recent developments of the accounting profession. Not open to students who have cr in Bus Adm 301(ER). Prereq: grad st; grade of B or better in Bus Adm 703(P) or 201(P) within three years of admission to the graduate program.

722 Advanced Financial Accounting Theory. 3 cr. G.
Specialized topics in external financial reporting are studied. A critical appraisal is made of current and emerging accounting theory. Prereq: grad st; grade of B or better in Bus Adm 721(P) or 301(P).

723 Forensic Accounting. 3 cr. G.
Coverage of forensic accounting and auditing topics such as examination of documents, information sources, writing reports, identifying high-risk signs, and fraud prevention and detection. Counts as repeat of Bus Adm 795 with similar topic. Prereq: grad st; Bus Adm 409(P) or 728(P).

724 Business Combinations and Governmental Accounting. 3 cr. G.
Accounting for mergers and acquisitions including consolidation procedures and foreign subsidiary investments. Also includes accounting principles for government and nonprofit entities. Prereq: grad st; grade of B or better in Bus Adm 721(P) or 301(P).

725 Strategic Cost Management I. 3 cr. G.
Cost data accumulation and its utilization by management. Emphasis on job order and process costing, standard costing, cost-volume-profit analysis, budgets, capital expenditures. Cannot be taken by students receiving cr for Bus Adm 404. Prereq: grad st; grade of B or better in Bus Adm 703(P) or 201(P).

726 Strategic Cost Management II. 3 cr. G.
Uses quantitative and behavioral models to aid management planning and control. Emphasizes analysis techniques to aid in the solution of accounting oriented management problems. Not open to students who have cr in Bus Adm 426(ER). Prereq: grad st; Bus Adm 725(P) or 404(P).

728 Auditing Theory and Applications. 3 cr. G.
A study of auditing standards, methodology, and professional and reporting responsibilities. Emphasis is on underlying concepts and theory. Prereq: grad st; Bus Adm 408(P) and grade of B or better in Bus Adm 721(P) or 301(P).

732 Transforming Organizations. 3 cr. G.
Combines individual and organizational-level analysis to provide insights into changing organizations. Topics include innovation, leadership, corporate cultures, and changing management from a broad view. Prereq: grad st; BusMgmt 714(P).

733 Organizational Development. 3 cr. G.
Problems of implementing change. Roles of external and internal consultants. Determining needs and measuring relevant variables. Prereq: grad st; BusMgmt 706(P) or cons instr.

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734 Managing Technological Innovation. 3 cr. G.

Organizational and strategic issues involved in managing technologies and innovation processes. Emphasizes professional employees, creativity, project teams, leadership, interdepartmental relations, technological evolution, and R&D strategies. Prereq: grad st.

735 Staffing Organizations. 3 cr. G.

Broad overview of staffing practices and related research; topics include staffing strategy, legal compliance, job analysis, external recruitment and selection, staffing systems management, and retention. Not open for cr to those w/ cr in Bus Adm 795 w/ topic: Staffing. Prereq: grad st

736 Seminar in Managing Change: (Subtitled). 3 cr. G.

Topics are limited to the areas of managing change and their business applications. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st

737 Managerial Decisions and Negotiations. 3 cr. G.

Provides frameworks for making effective decisions and negotiating viable solutions. Improves performance in these key managerial roles by engaging in case study, exercises, and industry projects. Prereq: grad st.

738 Human Resource Management. 3 cr. G.

Strategies for attracting, retaining and developing a diverse and international workforce. Topics include employment law, diversity, staffing, training, performance management, compensation and current issues. Prereq: grad st; BusMgmt 706(P).

740 Information Technology Management Concepts and Languages. 3 cr. G.

Introduction to data organization, object-oriented design, construction and validation of application programs, development methodologies and control structures, illustrate with object programming language. Prereq: grad st.

741 Web Mining and Analytics. 3 cr. G.

Measurement methods and analysis of web-based data for strategic decisions; methods and technologies in web mining, visualization, predictive analytics and text mining for knowledge discovery and business analysis. Prereq: grad st.

743 Information Privacy, Security & Continuity. 3 cr. G.

Privacy threats and safeguards; identifying information system vulnerabilities; planning and managing security measures. Ethical and legal perspectives concerning information and data. Prereq: grad st

744 Information Technology Strategy and Management. 3 cr. G.

Various frameworks to evaluate strategic value of IT, aligning IT and competitive business strategies, IT governance models, managing IT operations and outsourcing ethically. Prereq: grad st

746 Topics in Information Technology Management: (Subtitled). 3 cr. G.

Topics are limited to the areas in management information systems and business application. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: grad st.

747 Service-Oriented Analysis and Design. 3 cr. G.

Application development using service-oriented architecture, methodologies for specification, selection, composition, and integration of services, software quality assurance and metrics. Prereq: grad st

748 Managing Information Technology Projects. 3 cr. G.

Understand project management tools/techniques, project planning, software effort/cost estimation models, quality tools/metrics, six-sigma, CMM and ISO-9000, and managing outsourced/off-shored projects. Involves team-based project implementation. Prereq: grad st; Bus Adm 747(P).

749 Data and Information Management. 3 cr. G.

Managing structured, semi-structured and unstructured data, data integrity management, data representation, data integration, governance and administration, data quality and reporting information. Prereq: grad st

751 Analysis of U.S. Business Environment. 3 cr. G.

Analysis of inflation, business cycles, interest rate dynamics and term structure, federal reserve policy, tax policy, and economic growth. Prereq: grad st; Bus Adm 701(P) & 702(P).

752 Corporate Economics. 3 cr. G.

Applied economic analysis of market structure, price discrimination, oligopoly, cartels, and collusion. The course integrates the psychology of price and behavioral economic issues in pricing. Prereq: grad st in mba-executive curric or cons instr.

753 Advanced Business Law. 3 cr. G.

Advanced legal concepts focusing on Uniform Commercial Code, bankruptcy and creditor protection, liability of bailees and common carriers, product liability, and real and personal property. Prereq: grad st; Bus Adm 391(P).

754 Statistical Analysis. 3 cr. G.

Business applications of probability theory and statistical methods to managerial problems of prediction, inference and decision making under uncertainty. Prereq: grad st; cons instr

755 Health Care Administration and Delivery Systems. 3 cr. G.

Covers administrative structures and processes in health care institutions, including managing clinicians and inter-organizational relationships of U.S. and selected foreign health care providers. Prereq: grad st.

757 Managed Care and Integrated Health Networks. 3 cr. G.

Examines concepts and management of capitated and vertically integrated health care organizations; utilization control, risk and quality assessment, benefit design, pricing, management of clinical professionals. Prereq: grad st; Bus Adm 755(P).

759 Seminar in Health Care Management: (Subtitled). 3 cr. G.

Topics limited to the area of health care management. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st

761 Seminar in Marketing: (Subtitled). 3 cr. G.

Current and emerging topics in Marketing. Specific topics and any additional prerequisites will be listed in the Schedule of Classes each semester. May be repeated w/chg in topic to 6 cr. max. Prereq: grad st.

762 Marketing Research. 3 cr. G.

Understanding the market research process, obtaining and integrating relevant information into marketing decision-making processes. Listening to the voice of the customer, customer satisfaction measurement and technology utilization for database marketing. Prereq: grad st; BusMgmt 709(C) or cons of instr.

763 Marketing Analytics. 3 cr. G.

Theoretical background provided to develop hands-on experience analyzing marketing data and using statistical models for marketing decisions. Not open for cr to those w/cr in Bus Adm 761 or 795 w/similar topic. Prereq: grad st; BusMgmt 709(C) or cons instr.

764 Buyer Behavior and Marketing Communications. 3 cr. G.

A multidisciplinary approach to understanding buyer behavior processes in the market place and their implications for the development of marketing strategies, especially marketing communications. Prereq: grad st.

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765 Strategic Product and Brand Management. 3 cr. G.

Customer-focused product development and management; the creation and management of brand equity. Technology-marketing interface and customer involvement in product innovation and strategy. Prereq: grad st.

766 Marketing for Nonprofit Organizations. 3 cr. G.

Explores ways in which non-business organizations such as hospitals, quasi-governmental agencies and educational institutions utilize marketing concepts and techniques in fulfilling their objectives. Prereq: grad st.

768 Marketing Management. 3 cr. G.

Study and application of the concepts, tools and analyses that underlie strategic marketing decisions. Prereq: grad st.

769 Database Marketing. 3 cr. G.

Introduction to using and analyzing data on current and prospective customers to increase sales, customer acquisition, and customer retention. Prereq: grad st; BusMgmt 709(C) or cons instr

771 Investments. 3 cr. G.

Financial assets pricing and selection for stocks, bonds, convertible securities, and warrants. Concepts of diversification, asset valuation models and derivative securities. Prereq: grad st; BusMgmt 705(P) & BusMgmt 709(P).

772 Portfolio Management. 3 cr. G.

Study of dynamic process that periodically matches investors' goals, objectives, and strategies with market expectations through portfolio construction and revision. Covers asset allocation, return optimization, and management of various asset types. Prereq: grad st; Bus Adm 771(P).

773 Options And Futures. 3 cr. G.

Pricing theories and models for options and futures contracts and their application to investment hedging, arbitrage, and portfolio management. Covers equity, fixed income, commodity, and currency options and futures. Prereq: grad st; Bus Adm 771(P).

774 Global Financial Management. 3 cr. G.

Analysis of financial problems corporations face when operating in an international environment. Emphasis on management of foreign exchange risk. Prereq: grad st; Bus Mgmt 705(P); Bus Mgmt 710(C).

774 (effective 09/05/2017) Global Financial Management. 3 cr. G.

Analysis of financial problems corporations face when operating in an international environment. Emphasis on management of foreign exchange risk. Prereq: grad st; Bus Mgmt 705(P).

775 Financial Strategy. 3 cr. G.

Application of financial theory to corporate strategic planning. Working capital management, capital budgeting, capital structure, dividend policy, global finance, and mergers and acquisitions. Prereq: grad st; BusMgmt 705(P) & BusMgmt 709(P).

777 Advanced Corporate Finance. 3 cr. G.

Critical examination and evaluation of modern corporate finance theory. Market efficiency, corporate investment decisions, capital structure, financing vehicles, risk management, corporate restructuring, and governance. Prereq: grad st; Bus Adm 771(P), 775(P).

778 Financial Institutions and Markets. 3 cr. G.

Application of finance theory to financial management of firms including commercial banks, insurance companies, pension funds, mutual funds, and securities firms. Prereq: grad st; BusMgmt 705(P).

779 Fixed Income Securities. 3 cr. G.

Examination of the pricing and features of modern fixed income securities including treasuries, municipals, mortgage-backed, callable and putable bonds, convertibles, and interest rate swaps. Prereq: grad st; Bus Adm 771.

781 Enabling Supply Chains Using SAP. 3 cr. G.

Strategic perspectives on the role of information technology as an enabler of the supply chain processes. Hands-on use of enterprise resource planning (ERP) software. Prereq: grad st; BusMgmt 711(P)and 736(C).

782 Supply Chain Technology and Simulation. 3 cr. G.

Manufacturing innovations (e.g., lean manufacturing), manufacturing information systems, simulation-based technology development and prototyping, manufacturing systems design and simulation. Prereq: grad st; BusMgmt 711(P).

783 Supply Chain Management. 3 cr. G.

Management of supply chain, supply chain design, purchasing and distribution, supply contracts, and supply chain technology. Prereq: grad st; BusMgmt 711(P).

785 Project Management and Innovative Operations. 3 cr. G.

Management of innovative business projects, including multi-tier contracting, cpm/pert, virtual manufacturing, quality targeting and pursuit, and global operations. Prereq: grad st; BusMgmt 711(P) & Bus Adm 782(C).

786 Supply Chain Logistics Management. 3 cr. G.

Strategic perspectives on logistics management concepts, issues, and models. Topics include logistics information systems, inventory

management, transportation methods, packaging, warehousing, and global issues. Prereq: grad st; BusMgmt 711(P)

794 Enterprise Integration: (Subtitled). 1 cr. G.

Knowledge and skills important for effective integration and management of organizations across technical and business functions, and national and cultural boundaries. Topics vary and may include methods for quality improvement, management communications, business ethics, organizational leadership, etc. Prereq: grad st in Bus Adm or prior approval of Bus Adm graduate prog services office.

795 Seminar-in-Management: (Subtitled). 1-3 cr. G.

Intensive and critical examination of a specific management problem area or a related research question. Specific topic and additional prerequisites may appear in the schedule of classes each semester. Repeatable with change in topic. Prereq: grad st; appropriate management science core courses or cons instr.

797 Management Project. 2 or 4 cr. G.

Investigation of an actual management problem or another substantive question in an allied discipline presented, for example, in the form of a business report or professional paper. May be retaken with change in topic with cons appropriate Lubar School of Business prog committee. Prereq: grad st; cons instr.

798 Strategic Planning in Public and Nonprofit Sectors. 3 cr. G.

Focuses on effective designs for strategic planning processes and assessment of external environmental and internal organizational characteristics, design, and evaluation of strategies. Prereq: grad st.

799 Reading and Research. 1-12 cr. G.

Individual work suited to the needs of graduate students. May be retaken with change in topic with cons appropriate Lubar School of Business prog committee. Prereq: grad st; cons instr.

800 Managing Global Organizations. 3 cr. G.

Theories, information, and research pertaining to management of international business including selected aspects of foreign investment decision, strategy development, organization and control of multinational operations. Prereq: grad st.

806 International Marketing. 3 cr. G.

Examines international market development including determining objectives, evaluating market opportunities, entry strategies, and marketing mix in the international environment. Prereq: grad st.

807 Seminar in International Business: (Subtitled). 3 cr. G.

Topics limited to the areas of international business. Specific topics and any additional

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prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to 6 cr max. Prereq: grad st.

809 International Business Strategy. 3 cr. G. Examines the strategic planning and action of international firms from the perspective of corporate headquarters. Prereq: grad st; Bus Adm 800(P) & 806(P), or cons instr.

810 Development of Web-Based Solutions. 3 cr. G. Web development for eBusiness, web development tools and methodologies, web services, content management, developing database-driven web applications, mobile applications, and Web 2.0 technologies. Prereq: grad st; Bus Adm 740(P)

811 Process and Work-Flow Management. 3 cr. G. Business process modeling and design, process optimization, inter/intra organization process integration, process re-engineering and continuous process improvement, process execution and process implementation using ERP. Prereq: grad st; BusMgmt 732(P)

812 Emerging Information Technologies for Business. 3 cr. G. Introduction to novel information technologies; emphasis is on assessing viability, impact, and management of emerging technologies and their integration with traditional information technology. Prereq: grad st

813 Object-Oriented and Visual Paradigms. 3 cr. G. Object-oriented/visual concepts and use in management applications; object-oriented/visual design and development methodologies/languages; prototyping; implementation in an appropriate environment. Prereq: grad st; Bus Adm 740(P).

814 Enterprise Knowledge & Semantic Management. 3 cr. G. Managing knowledge in business enterprises including acquisition, repository creation, dissemination; organizational learning, developing enterprise ontology, collaboration management and e-collaboration; developing intelligent agents and recommendation systems. Prereq: grad st.

816 Business Intelligence Technologies & Solutions. 3 cr. G. Develop business intelligence (BI) solutions using data warehousing, OLAP, and data mining technologies. Students will use SAP Analytics and other tools for implementing BI solutions. Prereq: grad st

817 Infrastructure for Information Systems. 3 cr. G. Overview of computing and network technologies. Design and development of

technology infrastructure for supporting modern information systems. Infrastructure management strategies, security, reliability, and performance considerations. Prereq: grad st

818 Information Systems Practicum. 3 cr. G. Team project to build a working prototype system to address specific client need. This involves need assessment, market research, requirement specification, system design and building. Prereq: grad st; Bus Adm 747(P); cons instr

819 Information Technology Management Internship. 3 cr. G. A defined work period addressing information systems in a corporate, government, or management consulting environment. Prereq: grad st; writ cons instr.

820 Tax Research, Practice, and Procedure. 3 cr. G. Methodology of federal tax research, including computerized research. Organization of and practice before the IRS. Audits, deficiencies, assessment and collection. Preparer penalties. Ethical responsibilities. Prereq: grad st; Bus Adm 405(P).

821 Business Taxation. 3 cr. G. Advanced business tax issues, including tax research, consolidated returns, corporate reorganizations, multistate and international taxation. Prereq: grad st; Bus Adm 406(P).

823 Corporate Income Taxation. 3 cr. G. Tax issues associated with formation, operations, liquidation and reorganization of regular corporations. Introduction to consolidated returns. Prereq: grad st; Bus Adm 406(P)

825 Estate Planning. 3 cr. G. Estate, gift and income tax issues associated with intra-family and charitable wealth transfers. Business succession planning. Prereq: grad st; Bus Adm 406(P)

826 Tax Planning for Individuals. 3 cr. G. Advanced tax issues and planning opportunities for individuals. Introduction to the taxation of trusts and estates, as well as estate and gift tax issues. Prereq: grad st; Bus Adm 406(P)

827 Taxes and Business Strategy. 3 cr. G. Comprehensive examination of tax planning issues associated with choice of entity, start-ups, purchase or sale of business, compensation, and financing options. Business succession planning. Prereq: grad st; Bus Adm 406(P)

828 Taxation of Partnerships, S Corporations, and LLCs. 3 cr. G. Tax issues associated with formation, operation, and dissolution of partnerships. Subchapter S corporations, and limited liability companies.

Sale of ownership interests. Prereq: grad st; Bus Adm 406(P)

829 Executive Compensation and Benefits. 3 cr. G. Tax issues associated with different methods of compensating executives and other employees. Prereq: grad st; Bus Adm 406(P)

831 Multistate Income Taxation. 3 cr. G. State taxation of income derived by corporations, flow through entities, and individuals from interstate business and investment activity. Prereq: grad st.

832 Property Taxation. 3 cr. G. Basic and advanced topics in state and local property taxes, with an emphasis on issues commonly encountered by multistate businesses. Prereq: grad st.

834 International Taxation. 3 cr. G. U.S. taxation of income derived by corporations, flow-through entities, and individuals from both outbound and inbound business and investment activity. Prereq: grad st; Bus Adm 406(P)

837 Sales and Use Taxation. 3 cr. G. Basic and advanced topics in state and local sales and use taxes, with an emphasis on the treatment of transactions commonly encountered by multistate businesses. Prereq: grad st.

838 Managing State and Local Audits. 3 cr. G. Practical insights into managing the problems encountered in state and local income, sales and use, and property tax audits. Prereq: grad st.

840 Current Issues in Financial Reporting. 3 cr. G. Current topics of concern to accounting professionals such as derivatives, stock options, fair value accounting, international standards, intangible assets, SEC issues and foreign currency accounting. Prereq: grad st; Bus Adm 722(P) or 402(P)

841 Financial Statement Analysis. 3 cr. G. Implications of alternative financial accounting methods for analysis and decision-making. New financial transactions. Understanding the motivations for, and results of, financial engineering. Prereq: grad st; Bus Adm 722 (C) or 402(P)

844 Auditing: Professional Standards and Practices. 3 cr. G. An in-depth study of the various professional standards that shape the audit process including those related to audit procedures, reporting responsibilities, and statistical sampling. Prereq: grad st; Bus Adm 409(P).

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847 Topics in Accounting Theory: 3 cr. G.
Analysis of contemporary accounting issues with emphasis on applications of accounting theory and the development of research and analytical skills. Extensive use of case studies. Specific topic and additional prerequisites may appear in the Timetable each semester. Repeatable with change in topic to 6 cr max. Prereq: grad st; Bus Adm 402(P), 403(P), & 404(P).

848 Professional Accounting Practice. 3 cr. G.
In-depth analysis of audit, taxation, and advisory services to clients including legal and ethical issues in the practice of a CPA. Includes professional exam preparation. Course to be taken the semester of graduation. Prereq: grad st; Bus Adm 724(P); Bus Adm 753(C), 840(C), 728(C), or 844(C)

849 Accounting Internship. 1-3 cr. G.
A defined work period in an accounting firm, corporation, or governmental agency. Prereq: grad st; writ cons instr.

851 Global Investments. 3 cr. G.
Introduce market structure, institutions, regulations, instruments, and innovations in global investments. Focus on management of foreign currency risk and performance of global investment portfolios. Prereq: grad st; Bus Adm 771(P).

852 Venture Finance. 3 cr. G.
Examine private equity industry, venture and buyout fund. Focus on the interaction of major parties, general partners, limited partners and portfolio firms. Prereq: grad st; Bus Adm 705(P).

853 Financial Modeling. 3 cr. G.
Development and advanced application of computer-based financial models including pricing of exotic derivative securities. Prereq: grad st; Bus Adm 771(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

894 Internet Marketing. 3 cr. G.
Introduction to the principles of internet marketing, types of products that can be marketed online, communication strategies, selling strategies, and pricing strategies. Prereq: grad st.

895 Strategic Marketing Issues in eBusiness. 3 cr. G.
Online branding, internet pricing and promotion strategy, managing channel conflict, online competitive strategy, synergies between traditional and online operations, and other topical issues. Prereq: grad st.

899 Management Research Project/Thesis. 1-6 cr. G.
Original analysis of a management problem. Involves the application of the elements of scientific inquiry in the context of a contemporary problem. Prereq: grad st; cons instr.

900 Doctoral Orientation to Teaching and Research. 1 cr. G.
Introduces doctoral students to academic careers and research management. Focuses on research approaches, research management in private and public organizations, and teaching responsibilities in higher education. Prereq: grad st.

914 Advanced Multivariate Techniques in Management Research. 3 cr. G.
Analysis of management problems using multivariate methods including logistic regression, structural equations, scale reliability measures, simultaneous inference, observational study corrections, and multidimensional scaling. Prereq: grad st; Bus Adm 714(P) and 754(P).

916 Advanced Operations Research Models. 3 cr. G.
Formulation and solution of operations research models with emphasis on models having a probabilistic structure. Prereq: grad st; Bus Adm 754(P) or cons of instr.

918 Doctoral Seminar in Behavioral Research Methods in Management. 3 cr. G.
Selected advanced topics in behavioral research methods. Prereq: grad st; Bus Adm 709 or 754.

980 Accounting Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected topics focusing on accounting research. Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

981 Accounting Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics focusing on theoretical foundations of accounting and empirical testing of such theories. Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

983 Supply Chain and Operations Management Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected topics focusing on supply chain and operations management. Includes analysis of key research, develop abilities related to research ideas, and execute empirical or analytical study to develop full research paper. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

984 Finance Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected topics focusing on theoretical foundations of corporate finance and investments, and on testing such theories. Topics & prerequisites announced each time course is offered. Retakable with change in topic to max of 9 cr. Prereq: grad st.

990 Doctoral Seminar in Strategic Management: (Subtitled). 3 cr. G.
Selected advanced topics in strategic management. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to a 9 cr max. Prereq: grad st.

991 MIS Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics in management information systems. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. May be repeated w/ chg in topic to a 9 cr max. Prereq: grad st.

992 Doctoral Seminar in Marketing: (Subtitled). 3 cr. G.
Selected advanced topics in marketing. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to 12 cr max. Prereq: grad st.

993 Supply Chain & Operations Management Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics in supply chain and operations management. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to 9 cr max. Prereq: grad st

994 Finance Doctoral Seminar II: (Subtitled). 3 cr. G.
Selected advanced topics in finance. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

995 Doctoral Seminar in Decision Sciences: (Subtitled). 3 cr. G.
Selected advanced topics in multi-disciplinary and methodological issues in management science. Specific topics and any additional prereqs will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st; Bus Adm 709 or 754.

996 Doctoral Seminar in Organizations: (Subtitled). 3 cr. G.
Selected advanced topics in organizations. Specific topics and any additional prerequisites will be announced in the Timetable each time

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the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

997 Doctoral Dissertation. 1-12 cr. G.
Prereq: dissertator st; cons instr.

998 MIS Doctoral Seminar I: (Subtitled). 3 cr. G.
Selected advanced topics in management information systems. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakeable w/ chg in topic to 9 cr max. Prereq: grad st.

999 Independent Work. 1-3 cr. G.
Prereq: grad st; cons instr.

Business Management

704 Accounting Analysis and Control. 3 cr. G.

Prepares managers to critically analyze, interpret and use financial statements, cost reports, and other financial information provided by accountants and accounting systems. Prereq: grad st & Bus Adm 703(P).

705 Corporate Finance. 3 cr. G.

Analysis of corporate financial decision-making including security valuation, cash flow estimation, capital budgeting, financial planning, capital structure, dividend policy, and international financial management. Prereq: grad st & Bus Adm 703(P), BusMgmt 709(C).

706 Managing in a Dynamic Environment. 3 cr. G.

Provides frameworks and techniques for managing people and improving organizations. Topics include group dynamics, leadership, performance management, structure, innovation, power, change, and corporate cultures. Prereq: grad st

707 Information Technology Management in International Businesses. 3 cr. G.

Management of information technology including the role of enterprise systems; business intelligence, mining, & analytics; virtual teams and offshoring; security; and ethical/privacy issues including sustainability and green IT in the globally connected world. Prereq: grad st.

708 Marketing Strategy: Concepts and Practice. 3 cr. G.

Builds key concepts in marketing strategy, develops knowledge of current issues and provides hands-on experience in developing and executing marketing strategies for today's managers. Prereq: grad st

709 Predictive Analytics for Managers. 3 cr. G.

Developing statistical thinking through basic concepts for data analysis. Models for analysis of business environment, software tools,

interpretation and communication of results for management applications. Prereq: grad st

711 Global Supply Chain Strategies & Competitive Operations. 3 cr. G.

Integration and synchronization of the logistics, IT, operations, and sourcing functions. Emphasis on fundamental supply chain strategies, global supply chain design, tactics for supply chain process improvement and competitive advantage. Prereq: grad st.

712 Strategic Management. 3 cr. G.

Integrative course focused on strategic thinking and decision making at the general management level. Implementing business planning and strategy in a field-based interdisciplinary action project. Not open for credit for students who have completed BusMgmt 720. Prereq: admis to MBA Program and BusMgmt 704(P), 705(P), 706(P), 707(P), 708(P), 709(P), & 711(P); one prereq course may be completed concurrently with BusMgmt 712.

713 Entrepreneurship: Venture Creation and Management. 3 cr. G.

Study of creation, growth or acquisition of a business through entrepreneurial efforts. Process of identifying and quantifying opportunities, then conceptualizing, planning and starting a new enterprise. Prereq: grad st; Bus Adm 703(P) & BusMgmt 708(P).

714 Managing People and the Role of General Managers. 3 cr. G.

Provides framework for understanding organizational behavior and roles of general managers, as distinct from functional specialists. Develops managerial skills through cases, exercises, and industry projects. Prereq: grad st.

715 Leadership, Team Building, and Effective Management. 3 cr. G.

Provides a working knowledge of team building, managing change, and effective business communication methods, and an understanding of leadership tools. Prereq: grad st.

716 International Business Management. 3 cr. G.

Theories and research pertaining to international business, including foreign investment, marketing, personnel, strategy development, and control of multinational operations. Prereq: grad st.

718 Concepts and Practice of Nonprofit Management. 3 cr. G.

Characteristics and formation of nonprofit organizations; building effective boards of directors; board roles and responsibilities; conflicts of interest; evaluating nonprofit performance; grant writing, foundations, and fund-raising. Prereq: grad st.

720 Strategic Management in Health Care Organizations. 3 cr. G.

Application of strategic management tools and techniques to health care organizations. Analyzing external, competitive, and internal environment; developing objectives; understanding current strategy; formulating and implementing future directions. Not open for credit for students who have completed BusMgmt 712. Prereq: grad st; Bus Adm 757(P); BusMgmt 708(P) or Bus Adm 766(P); BusMgmt 704(P), 705(P), 706(P), 707(P), & 711(P).

721 Fundraising and Development for Nonprofit Organizations. 3 cr. G.

Philosophical thoughts on development; basics of fundraising; strategic planning and implementation. Prereq: grad st.

722 Global Information Technology Management. 3 cr. G.

Management issues surrounding the effective deployment of it and is in different regions of the world. Prereq: grad st.

723 Managing and Negotiating Across Cultures. 3 cr. G.

Role of culture in international management, including organization, strategy, human resource management, leadership, teams, business ethics, and negotiations. Prereq: grad st.

724 Accounting for Nonprofit Organizations. 3 cr. G.

Financial and managerial accounting topics for the nonprofit sector; relationship of these topics to finance, the legal environment of nonprofits, and mission of the organizations. Prereq: Grad st.

726 Study Abroad: Business Topics: (Subtitled). 1-3 cr. G.

Immersion (including instruction at an international university) in the economic, cultural, and business practices of selected countries. Prereq: grad st & acceptance for Study Abroad Prog.

727 Health Care Accounting, Law and Ethics. 3 cr. G.

Critical examination of healthcare specific issues and differences from other industries: financial and accounting practice; legal requirements and constraints; ethical issues facing healthcare managers. Prereq: grad st; BusMgmt 704(P) and 705(P).

728 Training and Development in Organizations. 3 cr. G.

Development and evaluation of training and career development programs in organizations. Skills-based approach to understanding needs assessments, learning principles, training development and evaluation. Counts as repeat of Bus Adm 443 with similar subtitle. Prereq: grad st.

Business Administration

729 MBA Internship. 3 cr. G.

A defined work experience with a for-profit, non-profit, international, or government organization, applying previous coursework to a workplace setting. Project paper required. Prereq: grad st; completion of any 12 cr (4 courses) from MBA Core (BusMgmt 704-711); Masters gpa of 3.50 or better; writ cons of instr.

730 Strategic Management and Leadership for Nonprofit Organizations. 3 cr. G.

Concepts and methods of strategic thinking and applications of strategy in nonprofit organizational settings. Nonprofit governance and executive leadership roles in strategy formation and implementation. Prereq: grad st; BusMgmt 718(P) or Pol Sci 789(P) or Pol Sci/Sociol/Urb Std 704(P); BusMgmt 721(P), 724(P), & 725(P); Bus Adm 766(P) or Pol Sci 705(P) or Pol Sci 791(P); Pol Sci 792(P) & 793(P)

731 Research Tools for Practitioners in Human Resources and Labor Relations. 3 cr. G.

Planning and carrying out simple surveys; evaluating policies, programs, and procedures in organizations; interpreting, evaluating and using research conducted by others. Ind Rel 731 and BusMgmt 731 are jointly offered; they count as repeats of one another. Prereq: grad st; Econ 210(P) or Bus Adm 210(P) or cons instr.

732 Enterprise Resource Planning. 3 cr. G.

Enterprise Resource Planning concepts, fundamental business processes, interaction of various functional areas, development tools for the implementation of web-based ERP applications. Prereq: grad st

733 Enterprise Simulation Game. 3 cr. G.

Use ERP simulation game, develop understanding of ERP concepts, experience benefits of ERP, develop technical skills using ERP software. Prereq: grad st

734 Enterprise Resource Planning Certification. 3 cr. G.

Understand interdependencies and integration of key business processes and power of technology-enabled ERP system to increase productivity and improve business performance. Includes TERP 10 certification exam preparation. Prereq: grad st; Bus Adm 811(P)

735 Advanced Spreadsheet Tools. 1 cr. G.

Covers advanced spreadsheet decision making tools. Business problems from across the enterprise will be solved using EXCEL functions, pivot tables, scenario evaluation and others. Prereq: grad st; Bus Adm 701(C).

736 Understanding and Using Corporate Financial Reports. 2 cr. G.

Introduces corporate financial reporting practices, accounting terminology, and disclosure concepts. Develops skills in reading

and analyzing annual reports. Emphasizes the impact of alternative accounting practices. Prereq: grad st; Bus Adm 701(C).

737 Business Strategy and Economics. 2 cr. G.

Economics analysis of applied problems in business. Includes behavioral economics, game theory, pricing in oligopolies, monopolies, price discrimination, and the psychology of pricing. Prereq: grad st; Bus Adm 701(C).

738 Critical and Analytical Thinking in Business. 2 cr. G.

Provides training, practice, and feedback in the construction, presentation, and evaluation of clear, well-reasoned arguments. Interactive sessions and structured assignments highlight business applications. Prereq: grad st; Bus Adm 701(C).

741 Management of Technology Ventures. 3 cr. G.

Development, launch, and management of technology ventures including venture growth management. Prepares students to lead and manage technology ventures. Prereq: grad st & admis to business or engineering program or admis to Tech Entrep Cert program.

742 Technology Innovation and Corporate Entrepreneurship. 3 cr. G.

Advanced concepts related to technology management, technological innovation, technology strategy, and corporate entrepreneurship. Prepares students to lead technology commercialization projects. Prereq: grad st & admis to business or engineering program or admis to Tech Enrep Cert program.

743 Technology Entrepreneurship Project. 3 cr. G.

Integration of key product/service innovation, commercialization, and entrepreneurship processes in the establishment of new (or corporate) technology ventures; trains students to lead new ventures. Prereq: grad st & admis to business or engineering program or admis to Tech Entrep Cert program; BusMgmt 741(P).

744 (effective 09/05/2017) R Programming for Business Analytics. 3 cr. G.

Focus on basic data manipulation and statistical modeling in R. The objective is to develop R programming skills to investigate different types of business data to inform business decisions. Prereq: grad st; BusMgmt 709(P).

801 Managing People. 3 cr. G.

Understanding various ways of attracting, selecting, developing, evaluating, and optimizing human resources within a dynamic legal, social, and economic environment. Prereq: grad st; admis to MS-Management program.

802 Accounting for Managers. 3 cr. G.

Basics of preparing, using and understanding financial statements. Using accounting data to quantify business planning and performance evaluation. Provides accounting tools needed for directed practicum. Prereq: grad st; admis to MS-Management program.

803 The Role of IT in Enterprise Management. 3 cr. G.

Acquiring, managing, and using information technology for success in global markets; role of IT in customer retention, employee teamwork, secure enterprise management, environmental corporate citizenship. Prereq: grad st; admis to MS-Management program

804 Business Analytics. 3 cr. G.

Data science and decision making methods, applications for developing business competitive edge, problem formulation, data preparation, pattern exploration, statistical analysis, and presentation of results. Prereq: grad st; admis to MS-Management program.

805 Business Economics. 3 cr. G.

Determination of cost and prices for firms and industries. Demand, supply, and firm behavior. Economic environment in relation to the microeconomics decisions of the firm. Prereq: grad st; admis to MS-Management program.

806 Business Finance. 3 cr. G.

Concepts of risk and return, time value of money and discounting, capital budgeting and asset valuation, and capital structure. Prereq: grad st; admis to MS-Management program; BusMgmt 804(P).

807 Supply Chain Operations. 3 cr. G.

Fundamental concepts of operations and strategic supply chain management, functions within an organization, flow of goods and information, interface with supply chain partners across firms. Prereq: grad st; admis to MS-Management program; BusMgmt 803(P), 804(P), & 805(P).

808 Business Marketing. 3 cr. G.

Introduction to the concepts and principles of marketing and development of an appreciation of their scope, relevance, application and integration in the operations of organizations. Prereq: grad st; admis to MS-Management program; BusMgmt 804(P).

809 Business Practicum. 3 cr. G.

Group project to craft integrated solution for business problems. Involves holistic approach integrating knowledge from multiple business disciplines. Career planning. Prereq: grad st; admis to MS-Management program; BusMgmt 804(P), 806(C), 807(C), & 808(C).

810 Managing Multicultural Organizations. 2 cr. G.

Understanding the challenges and opportunities of doing business in a dynamic global

Business Administration

environment. Emphasis is on different political, economic, and socio-cultural systems. Prereq: grad st; admis to MS-Management program; BusMgmt 801(P).

811 Business Strategy. 2 cr. G.

Integrating policy analysis at the management level using tools for strategic thinking.

Emphasizes external and internal functional strategies. Capstone course. Prereq: grad st; admis to MS-Management program; BusMgmt 801(P), 802(P), 803(P), 804(P), 805(P), 806(P), 807(P), 808(P) & 809(P).

Chemistry

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Chemistry
- Ph.D. in Chemistry

Overview

The Department of Chemistry and Biochemistry offers a graduate program of studies with a choice of areas of specialization in analytical, organic, inorganic and physical chemistry or in biochemistry. The student is expected to develop breadth of study beyond the boundaries of traditional areas and disciplines. The student is afforded the opportunity of interdisciplinary study in the Surface Studies Laboratory and in the [Center for Great Lakes Studies](#).

Graduate Faculty

Distinguished Professors

Cook, James M., Ph.D., University of Michigan
 Petering, David H., Ph.D., University of Michigan
 Tysoe, Wilfred T., Ph.D., University of Cambridge, England

Professors

Bennett, Dennis, Ph.D., University of Utah
 Dietz, Mark, Ph.D., University of Arizona
 Frick, David, Ph.D., The Johns Hopkins University
 Geissinger, Peter, Ph.D., University of Bayreuth, Germany, Chair
 Hossain, M. Mahmum, Ph.D., University of South Carolina
 Moran, Graham, Ph.D. University of Michigan
 Pacheco, Andrew, Ph.D., University of British Columbia

Associate Professors

Aldstadt, Joseph H., Ph.D., Ohio University
 Arnold, Alexander, Ph.D., University of Groningen, Netherlands
 Chen, Jian, Ph.D., Fudan University, PR China
 Indig, Guilherme, Ph.D., University of Sao Paulo, Brazil
 Murphy, Kristen L., Ph.D., University of Wisconsin-Milwaukee
 Peng, Xiaohua, Ph.D., University of Osnabrueck, Germany
 Schwabacher, Alan, Ph.D., Columbia University
 Silvaggi, Nicholas R., Ph.D., University of Connecticut
 Surerus, Kristene K., Ph.D., University of Minnesota
 Woehl, Jörg, Ph.D., University of California – Riverside

Assistant Professors

Blecking, Anja, Ph.D., University of Duisburg, Germany

Mirza, Shama, Ph.D., Indian Institute of Chemical Technology

Master of Science in Chemistry

Admission

An applicant must meet [Graduate School requirements](#) plus this departmental requirement to be considered for admission to the program.

1. Undergraduate preparation in chemistry and related areas equivalent to a chemistry major which includes at least one year each of physical and organic chemistry with laboratories, and one course each in analytical and inorganic chemistry with physical chemistry prerequisite.
2. Submission of scores from the General Test of the [Graduate Record Examination \(GRE\)](#). The Chemistry Subject Test is strongly recommended.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. See Special Non-Thesis Option below for additional requirements for admission to that option.

Standard Thesis Option

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned a temporary advisor; a permanent advisor must be selected by the end of the first semester of study. The major professor serves as the student's research mentor.

Credits and Courses

Minimum degree requirement is 30 graduate credits. Normally these include at least five 600-899 level courses, chosen by the student in consultation with the advisor. A minimum grade point average of 3.00 must be earned in formal coursework, not including research courses (990-996) or seminars (912, 931-935). Students must complete a minimum of 6 credits in research. The remaining credits are taken in research and seminars. The student must take or audit Chem 912 (Graduate Seminar) each semester in residence. This requirement may be modified for part-time students who may be employed during normal hours of the seminar and colloquium. Graduate School regulations require that a majority of all courses taken be at the 700-999 level. Prior to initial registration, the student takes advisory examinations to

assess that individual's preparation in analytical, organic, inorganic, physical, and biochemistry; in consultation with the major professor, the student plans a program based on the results of these examinations. The student also must participate in at least one term of part-time teaching as a teaching assistant.

Thesis

The student writes a thesis, essentially a formal report of that student's research. Since the M.S. is largely a research degree, the quality of research reported in the thesis is an important measure of the student's success in the program.

Comprehensive Examination

The student must pass a final oral examination in defense of the thesis. At the discretion of the examining committee, this examination may include topics in addition to the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Special Non-Thesis Option For Students With Professional Experience In Chemistry

Admission

In addition to the general requirements noted above for the master's degree program, applicants must have a minimum of five years of professional chemistry experience beyond the B.A. or B.S. degree, including a sizable amount of research or development laboratory work. Since the Department of Chemistry and Biochemistry believes that the problem-solving experience of research is an indispensable part of graduate study, applicants will be interviewed by a faculty committee to assess the prior research experience as appropriate background for the program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. For this option, the major professor is chosen (by the Graduate Subcommittee) before admission to the program, and serves as a member of the committee which assesses the prior research experience of the student. The major professor should be from the area of chemistry in which the student intends to concentrate the major portion of course efforts.

Credits and Courses

Minimum degree requirement is 30 graduate credits, including no more than two credits of seminar. The remaining credits should be in research or formal courses. Registration for Graduate Seminar, advisory examinations, course program, and core courses shall follow requirements for full- or part-time graduate

Chemistry

students, as described for the Standard Thesis Option.

Papers and Comprehensive Examinations

The student prepares two survey papers exploring subjects in more depth than the coverage in coursework. Of these, one is in a major area and one is in a minor area. These must be approved by the student's examining committee, which consists of three faculty members representing the areas of the papers. One paper must be approved at least six months before the comprehensive examination. An oral comprehensive examination covers both the areas of the papers and other areas at the discretion of the committee.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Chemistry

Admission

An applicant must meet [Graduate School requirements](#) plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for admission to the Ph.D. program in chemistry.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D. Major.

Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned a temporary advisor; a permanent advisor must be selected by the end of the first semester of study. The major professor serves as the student's research mentor.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student plans an individual program of studies in consultation with the major professor. Coursework must include one of the following: a minor of 9 to 12 credits in a single department; a minor of 9 to 12 credits in two or more departments; a coherent program of at least 9 credits concentrated in an area of chemistry outside the student's principal area of emphasis. A Program of Studies, including coursework and proposed research, must be approved by the Department. A minimum grade point average of 3.00 must be earned in coursework in Chemistry, not including research (900-996) or seminars (912-935). Graduate School regulations require that a majority of all courses taken be at the 700-999 level. The Department has no formal language

requirement but the student is responsible for familiarity with published literature in the area of that student's research. The student must also participate in at least one semester of part-time teaching as a teaching assistant. The first stage of the student's program includes general preparation as in the master's program, as well as specialized courses in principal areas of interest and the initiation of research.

Admission to the second stage of the Ph.D. program is based upon satisfactory performance in courses, research, and in departmental examinations. Upon entrance, the student takes proficiency examinations in analytical, inorganic, organic, and physical chemistry. Departmental approval to continue in the doctoral program is attained by passing an advanced qualifying examination in the major area. This examination must be completed by the end of the fourth semester of study. In the second stage of the program, the student concentrates on the development and execution of original research. Additional coursework may also be required to complete the program of studies.

Residence

The student must meet minimum [Graduate School residence requirements](#).

Doctoral Preliminary Examination

The student must take a doctoral preliminary examination. This serves to qualify the student for formal admission by the Graduate School to candidacy for the degree.

Dissertation

Candidates must each present a dissertation reporting the results of independent, original research carried out under the direction of their major professor. At least three months before the Dissertation Defense, at a time when most of the experimental work has been completed, the student meets with the Examining Committee for a preliminary review of the research to be described in the dissertation.

Dissertation Defense

The candidate must, as the final step toward the degree, defend the dissertation in an oral examination. The candidate also presents a public dissertation seminar, describing research in completed form for the Department and others who may be interested. A student who does not pass this examination within five years of admission to candidacy may be required to take another preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within 10 years from the date of initial enrollment in the doctoral program. For additional information view the [Graduate School Ph.D. requirements](#).

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Introduction to Biochemistry. 3 cr. U/G.

The chemistry of biological systems. Does not count toward graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 341(P) or 345(P).

502 Development of Modern Chemistry. 2 cr. U/G.

Traces the development of chemistry from ancient to modern times. Prereq: jr st; a grade of C or better in Chem 221(P) or 223(P), & Chem 341(P) or 343(P).

511 Inorganic Chemistry. 3 cr. U/G.

Introduction to theoretical principles and descriptive chemistry of the elements. Does not count toward graduate degree in Chemistry. Prereq: jr st & grade of C or better in Chem 562(P); or grad st.

524 Instrumental Analysis. 3 cr. U/G.

Chemical equilibria, separations, and theory and practice of instrumental measurements. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 221(P) or 223(P).

537 Industrial Microbiology and Biochemistry Laboratory. 2 cr. U/G.

Experiments using industrial fermentation approaches for isolation of biologically-relevant molecules, e.g., antibiotics; analysis of their function and activity using microbiological and biochemical techniques. Bio Sci 537 & Chem 537 are jointly offered; they count as repeats of one another. Prereq: Bio Sci 383(P) & Chem 501(P).

543 Bioproduct Regulatory Protocols Laboratory. 3 cr. U/G.

Experiments in the production, purification, and characterization of biopharmaceuticals for the treatment of human disease in compliance with ICH and FDA guidelines. Prereq: jr st; Chem/Bio Sci 537(P); Chem 541(P); Chem 501(P).

560 Biophysical Chemistry. 3 cr. U/G.

General course designed for majors in fields other than chemistry. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 104(P); Math 211(P) or equiv.

561 Physical Chemistry I. 3 cr. U/G.

Primary focus on chemical thermodynamics. Does not count toward a graduate degree in chemistry. Prereq: jr st; grades of C or better in Chem 104(P), Physics 210(P) & 215(P), & Math 233(P); ElecEng 234(R) or Math 234(R).

Chemistry

562 Physical Chemistry II. 3 cr. U/G.

Continuation of Chem 561; course content is largely kinetics, statistical mechanics, and quantum chemistry. Does not count toward a graduate degree in chemistry. Prereq: jr st; grade of C or better in Chem 561(P).

563 Physical Chemistry Laboratory. 1-2 cr. U/G.

Carries grad cr for students other than chem students. Prereq: jr st & grade of C or better in Chem 221(P) or 223(P) & Chem 561(P).

599 Special Projects in Chemistry. 3-5 cr. U/G.

Directed study or research on subjects selected by the instructor. For further information consult dept chair. Retakable to 7 cr max. Does not count toward a graduate degree in chemistry. Prereq: jr st; cons instr.

601 Biochemistry: Protein Structure and Function. 3 cr. U/G.

Cellular synthesis of proteins, protein structure/function, enzyme mechanisms. Prereq: jr st; grades of C or better in Chem 345(P), 501(P), & either 560(C) or 562(C).

602 Biochemistry: Cellular Processes. 3 cr. U/G.

Biosynthesis and metabolism of nucleic acids, structure and replication of DNA, control of gene expression, signal transduction. Prereq: jr st; grade of C or better in Chem 501(P) or cons instr.

603 Introduction to Biochemistry Laboratory. 2 cr. U/G.

Experiments in biological preparations, colorimetry, chromatography, and radioisotope techniques. Prereq: jr st; grades of C or better in Chem 221(P) or 223(P) & in Chem 501(P).

604 Biochemistry: Metabolism. 3 cr. U/G.

Glycolysis, photosynthesis, biosynthesis, metabolism. Prereq: jr st; grade of C or better in Chem 501(P) or cons instr.

611 Physical Inorganic Chemistry. 3 cr. U/G.

Physical and theoretical aspects of inorganic chemistry (spectroscopy, crystallography, kinetic and theoretical methods) are discussed. Prereq: Chem 511(P) or cons instr.

612 Transition Metal and Organometallic Chemistry. 3 cr. U/G.

Advanced survey of elements, emphasizing transition elements and organometallic species. Main group organometallics and actinides and lanthanides briefly discussed. Prereq: Chem 511(P) or cons instr.

613 Main Group Chemistry. 3 cr. U/G.

Advanced survey of metallic and non-metallic main group elements. Prereq: jr st & grade of C or better in Chem 511(P); or grad st.

614 Bio-Inorganic Chemistry. 3 cr. U/G.

Inorganic chemistry for biological systems; metalloproteins; coordination chemistry in enzymes. Prereq: jr st; grade of C or better in Chem 511(P).

628 Nuclear and Radiochemistry. 3 cr. U/G.

Survey of modern nuclear and radiochemistry; emphasis on the interactions of radiation with matter and application in radiation detection and measurement. Counts as repeat of Chem 726 w/same topic. Prereq: jr st.; grades of B or better in Chem 524(P), 561(P), 562(P), & 563(P) or equiv; cons instr for undergrads.

630 Computational Chemistry. 3 cr. U/G.

Computer modeling techniques for molecular systems. Prereq: jr st; grade of C or better in Chem 562(P) or cons instr.

640 Advanced Survey of Organic Chemistry. 3 cr. U/G.

Prereq: jr st; a grade of C or better in Chem 345(P).

647 Physical Methods of Organic Chemistry. 3 cr. U/G.

Application of modern instrumental methods to the separation, analysis, and identification of organic compounds. Prereq: jr st, a grade of C or better in Chem 345(P), 346(P), 524(P).

661 Intermediate Chemical Thermodynamics. 3 cr. U/G.

Laws of thermodynamics equilibria between phases. Introductory statistical thermodynamics. Thermodynamic properties of gases, solids, and solutions. Prereq: sr st, a grade of C or better in Chem 562(P).

662 Chemical Kinetics and Dynamics. 3 cr. U/G.

Present understanding of reaction kinetics and dynamics. Topics range from experimental methods for kinetics measurements to microscopic theories of reaction rates. Prereq: sr st; grade of C or better in Chem 562(P).

701 Topics in Biochemistry: (Subtitled). 2-4 cr. G.

Selected topics in biochemistry. Two topics, each for 2 cr, will last 1/2 of the semester. Students may enroll in either (2 cr) or both (4 cr). The 3 cr option offers a more complete coverage of a single topic for a full semester. Retakable w/chg in topic to 9 cr max. Prereq: grad st; grade of C or better in Chem 501(P) or 601(P).

710 Advanced Survey of Inorganic Chemistry. 3 cr. G.

Graduate-level treatment of theoretical principles and descriptive chemistry of the elements. Prereq: grad st.

711 Topics in Inorganic Chemistry: (Subtitled). 3 cr. G.

Selected topics of current research interest in inorganic chemistry are discussed in detail. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

724 Electrochemistry. 3 cr. G.

Survey of modern electrochemical theory and applications to measurement of solution concentrations, rate constants, thermodynamic quantities, transport properties, and adsorption phenomena. Prereq: grad st; grade of C or better in Chem 524(P) or 621(P).

726 Topics in Analytical Chemistry: (Subtitled). 3 cr. G.

Selected topics which reflect current advances in analytical chemistry. May be retaken with change in topic to max of 9 cr. Prereq: grad st.

740 Advanced Organic Chemistry-Methods in Synthetic Chemistry. 3 cr. G.

Discussion of name reactions and other synthetic methods of preparative significance used in organic syntheses. Introduction and modification of functional groups. Recent examples of application from modern organic chemistry. Prereq: grad st; a grade of C or better in Chem 345(P).

741 Topics in Organic Chemistry: (Subtitled). 2-3 cr. G.

Current topics in organic chemistry, e.g., organometallic compounds, bioorganic chemistry, non-covalent interactions, reaction mechanisms, alkaloid total synthesis or photochemistry. Offered w/1 topic (3cr), w/2 (2cr ea); if two, take one or both. Retakable w/chg in topic to 9 cr max. Prereq: grad st; grade of C or better in Chem 345(P).

743 Medicinal Chemistry: Drug Discovery/Lead Optimization & DNA as Drug Targets. 3 cr. G.

Major principles of drug discovery; focus on nucleic acids as drug targets. Counts as repeat of Chem 741 w/"Medicinal Chemistry I" topic. Prereq: grad st.

744 Medicinal Chemistry: Pharmacokinetics/Enzymes & Receptors as Drug Targets. 3 cr. G.

Principles of drug development; focus on protein drug targets. Counts as repeat of Chem 741 w/"Medicinal Chemistry II" subtitle. Prereq: grad st.

748 Physical Organic Chemistry. 3 cr. G.

Application of kinetics and other physical principles to the determination of reaction mechanisms. Prereq: grad st; a grade of C or better in Chem 562(P) & 640(P).

762 Topics in Physical Chemistry: (Subtitled). 3 cr. G.

In-depth discussion of selected topics of current interest in modern physical chemistry.

Chemistry

Retakeable with change in topic to 9 cr max.
Prereq: grad st.

765 Statistical Thermodynamics. 3 cr. G.
Fundamental principles of statistical mechanics, with applications to topics of physiochemical interest. Prereq: grad st; grade of C or better in Chem 661(P).

767 Basic Quantum Chemistry. 3 cr. G.
Basic postulates of quantum mechanics and consequences. Exact solutions for simple systems. Approximation methods for complex systems. Group theory and applications in organic, inorganic, and physical chemistry. Prereq: grad st; a grade of C or better in Chem 562(P), 564(P), & Math 234(P).

769 Surface Chemistry II. 3 cr. G.
Discussion of kinetic methods of studying reaction mechanisms with particular emphasis on catalytic reactions. Prereq: grad st; grade of C or better in Chem 768(P).

780 Modern Industrial Organic Chemistry. 3 cr. G.
Organic chemical processes-comprehensive emphasis on chemistry, polymers (preparation, properties, application), energy aspects, raw material supplies, impact on nation's and world's economics. Recommended for minor in polymer chem. Prereq: grad st.

781 Pulsed NMR Spectroscopy Theory and Practice. 3 cr. G.
Discussion and hands on practice of modern FT NMR approaches applied to analysis of chemical structure and dynamics in organic, inorganic, and biochemical molecules. Prereq: grad st; cons instr.

782 Liquid Chromatography-Mass Spectrometry Fundamentals and Applications. 3 cr. G.
Discussion and hands on practice of modern mass spectrometry, with a focus on liquid chromatography/mass spectrometry (LC/MS) and LC/tandem MS (LC/MS/MS), as well as ICP-MS. Prereq: grad st; cons instr.

798 Scientific Glassblowing. 1 cr. G.
Techniques in design and maintenance of scientific glassware including low pressure systems together with consideration of the chemical structure and properties of common glasses. Prereq: grad st.

900 Chemistry Colloquium. 0 cr. G.
Weekly lectures on current research by members of the department and visiting scientists. Fee assessed for 1 cr. Required of all Chem grad students. Prereq: grad st.

912 Graduate Seminar. 1 cr. G.
Research problems in chemistry. Weekly papers and reports. Required of all candidates for advanced degree. Prereq: grad st.

931 Advanced Seminar in Analytical Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in analytical chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 993(C).

932 Advanced Seminar in Biochemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in biochemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 996(C).

933 Advanced Seminar in Inorganic Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in inorganic chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 994(C).

934 Advanced Seminar in Organic Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in organic chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 990(C).

935 Advanced Seminar in Physical Chemistry. 1 cr. G.
Weekly discussions and reports on recent developments and current progress in physical chemistry. Topics will differ each semester, reflecting current work of particular interest. Retakable to 9 cr max. No more than 9 cr may be accumulated in courses numbered 931-935. Prereq: grad st & enroll in Chem 992.

990 Research: Organic. 1-9 cr. G.
Retakable. Prereq: grad st.

991 Research: Chemical Education. 1-9 cr. G.
Research in chemical education. Retakable. Prereq: grad st

992 Research: Physical. 1-9 cr. G.
Retakable. Prereq: grad st.

993 Research: Analytical. 1-9 cr. G.
Retakable. Prereq: grad st.

994 Research: Inorganic. 1-9 cr. G.
Retakable. Prereq: grad st.

996 Research: Biochemical. 1-9 cr. G.
Retakable. Prereq: grad st.

Communication

Communication

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Communication
- Ph.D. in Communication

Related Certificates

- [Graduate Certificate in Mediation and Negotiation](#)
- [Graduate Certificate in Rhetorical Leadership](#)
- [Graduate Certificate in Professional Writing and Communication](#)
- [Graduate Certificate in Teaching and Learning in Higher Education](#)

Overview

The Department of Communication offers M.A. and Ph.D. programs. The Master of Arts is designed to provide breadth and depth of study in the following areas:

Organizational/Professional Communication, Intercultural/International Communication, Interpersonal Communication/Mediation, and Rhetoric/Public Communication. The program provides initial and advanced preparation for a variety of careers including continued study leading to the Ph.D. degree.

The Doctor of Philosophy in Communication provides study and training for entry into academic or professional careers that would necessitate theory-driven basic or applied research on communication practices and outcomes. The program's thrust emphasizes studying the effects of professional communication practices on organizational goals and structure, the processes of interpersonal communication and conflict resolution, and the conduct of civic practice and public communication.

Graduate Faculty

Professors

Allen, Michael, Ph.D., Michigan State University, Chair
Braman, Sandra, Ph.D., University of Minnesota
Burrell, Nancy, Ph.D., Michigan State University
Lim, Tae-Seop, Ph.D., Michigan State University
Olson, Kathryn M., Ph.D., Northwestern University

Associate Professors

Fonner, Kathryn, Ph.D., Northwestern University
Harris, Leslie, Ph.D., Northwestern University
Jordan, John, Ph.D., University of Georgia
Sahlstein Parcell, Erin, Ph.D., University of Iowa

Song, Hayeon, Ph.D., University of Southern California
Timmerman, Lindsay, Ph.D., University of Texas
Timmerman, C. Erik, Ph.D., University of Texas

Assistant Professors

Kim, Sang-Yeon, Ph.D., Michigan State University
Ruppel, Erin, Ph.D., University of Arizona

Master of Arts in Communication

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Possess the equivalent of an undergraduate major in speech, speech communication, or related areas.
2. Possess an undergraduate grade point average of 3.00 in the major.
3. Submit three letters of recommendation from persons capable of judging the applicant's capacity for success in a graduate program of study.
4. Submit scores from verbal, quantitative, and analytical sections of the Graduate Record Examination.
5. Submit a sample of written work from an academic and/or professional assignment.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Applicants without the requisite grade point average may be considered for admission on a probationary basis.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The major professor should be designated no later than the end of the student's first year of enrollment. The incoming student is assigned the Graduate Coordinator or other program faculty member as an initial advisor until a major professor is selected.

Credits and Courses

The minimum degree requirement is 30 credits, including 24 credits taken in the Department of Communication; that is, a maximum of 6

credits taken outside the department may count toward the total credits required. Students must take 24 of the 30 required credits in courses numbered 700 or above.

Students must complete either a professional project or a thesis.

Required Courses

General

800 Proseminar: The Discipline of Communication, 3 cr

One Methods Course

700 Quantitative Research in Communication, 3 cr

701 Critical Analysis of Communication, 3 cr

702 Qualitative Research in Communication, 3 cr

770 Measurement and Evaluation in Speech Communication, 3 cr

Electives

Students complete 24 credits in elective courses, most of them selected from courses in the Department of Communication, with the following caveats. A maximum of 6 credits below the 700 level may be counted toward the degree. A maximum of 6 credits in courses outside the department may count toward the degree. No more than 9 credits selected from the combination of Commun 998, Commun 999, and courses outside the department may count toward the degree. In addition, the following restrictions on the number of credits that may count toward the degree are placed on these courses:

860 Seminar: Issues in Communication: (Subtitled) (6 credit maximum)

990 Research and Thesis (1 to 6)

998 Communication Internship (3 credits maximum)

999 Independent Study (3 credits maximum)

Rhetorical Leadership Concentration

Interested students may complete a concentration in rhetorical leadership that will be designated on their transcripts. The concentration requires the following courses, which students may select to meet the M.A. degree's course requirements:

Required courses (6 cr)

772 Rhetorical Leadership and Ethics, 3 cr
762 Argumentation in Theory and Practice, 3 cr
OR 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr)

665 Introduction to Mediation, 3 cr
667 Great American Speakers and Issues, 3 cr

Communication

672 Communication and Social Order, 3 cr
701* Critical Analysis of Communication, 3 cr
735 Rhetorical Theory, 3 cr [title change pending]
762 Argumentation in Theory and Practice, 3 cr (if not selected above)
835 Seminar in Contemporary Public Address, 3 cr
860 Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr
862 Public Deliberation, 3 cr
865 Theory and Practice of Mediation, 3 cr
872 Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)
873 The Digital Mirror, 3 cr
882 The Rhetoric of Kenneth Burke, 3 cr
893 Rhetoric of/and the Internet, 3 cr
972* Advanced Methods in Communication Research: (Subtitle, with rhetorical topic)
998 Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

*Students may count 701 or 972, but not both, toward concentration requirements. Comm 701 can count as a concentration elective or the required methods course above—not both.

These courses complete one content area and 12 elective credits of the degree.

M.A. Portfolio Project

At the master's level, the M.A. Portfolio Project (MAPP) is designed to allow students to synthesize their accomplishments during the M.A. program and identify their strengths and needs as they pursue objectives beyond graduate school. In conjunction with the completion of 30-credit hours (per Department of Communication M.A. guidelines), students who successfully complete a MAPP will meet the requirements for the M.A. in Communication.

The M.A. Portfolio Project will provide students with an opportunity to:

- Compile documentation of academic accomplishments during the pursuit of an M.A.
- Synthesize the primary contributions of M.A. coursework
- Critically reflect upon accomplishments in written work.
- Reflect upon the accomplishment of their initial goals and objectives for the M.A., and articulate future career goals and objectives that will utilize the skills/knowledge gained.
- Establish a connection with a field expert (e.g., an individual who works in the student's desired employment sector or a member of a community group with whom the student hopes to work) and gain additional information about activities the

student may wish to pursue after graduation.

- Reflect upon one's understanding of future pursuits and draw connections between the M.A. experience and the nature of this type of work/service.

Thesis Option

A thesis involves applied or basic research and is a proven method for developing specialized knowledge and skills that can enhance an individual's expertise within a substantive area of study. A thesis is recommended for students who intend to continue study toward the Ph.D. degree or plan research-related employment. If the thesis option is elected, the student must initiate and write an original research project under the guidance of his/her major professor; the student also must pass an oral defense of the finished project conducted by his/her thesis committee.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Communication

Admission

An applicant must meet [Graduate School requirements](#), hold a master's degree in communication or a related field, and meet these departmental requirements to be considered for admission to the program in regular status:

- Have a cumulative GPA of at least a 3.33 (B+) in course work for the master's degree.
- Submit letters of recommendation from at least three (3) communication professionals attesting to the student's capability to perform satisfactorily at the doctoral level (academic references preferred).
- Submit a writing sample that demonstrates the applicant's analytical and critical thinking skills.

Applicants lacking the requisite GPA, and those without the Master of Arts/Science in Communication (or an equivalent degree) may be considered for admission on probation, and may be required to complete preparatory coursework.

Reapplication/Readmission

Students who receive the M.A. in Communication from UWM must reapply to be considered for admission to the Ph.D. program.

Major Professor as Advisor

Initially, unless a student specifically requests a particular faculty member, all doctoral students are assigned an "interim" advisor. After the completion of 12 credits, a student is required to designate a faculty member with specialized interests compatible with those of the student to act as the major professor. The major professor is expected to assist the student in planning the remainder of the program of studies, chair the student's preliminary examination committee, supervise the completion of the Ph.D. dissertation, and conduct of the dissertation defense meeting. All students should consult the departmental handbook for additional details on departmental policies and procedures.

Residence

The student must meet minimum [Graduate School residence requirements](#) of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Course of Study

To fulfill the credit requirement for the Ph.D. in Communication, a student must complete at least 54 credits beyond the master's degree, of which at least 42 credits must be in courses numbered 700 or above. Thirty-three (33) credits must be taken from the Communication Department. Students may complete 6 credit hours in courses below 700 offered outside the Department of Communication. Courses taken toward a master's degree will not apply to the doctoral program of studies. The 54 credits must be distributed as follows:

- A minimum of 6 credits of coursework from communication research tools in courses numbered 900 or above, 3 credits of which must be in Commun 900. (Students will determine additional research-tool credits in consultation with their advisor, so as to demonstrate methodological competence in their chosen area of study.)
- A minimum of 15 credits reflecting the student designing a thematic program of study combining theory and praxis in the study of communication processes.
- A minimum of 27 additional elective credits.
- No more than 12 credits of Commun 990 (Dissertation Research) may be applied toward the 54-credit requirement.

Communication

Transcript-Designated Concentration in Rhetorical Leadership

Within the Ph.D., students may elect to fulfill a transcript-designated concentration in Rhetorical Leadership by completing 15 credits as follows:

Required courses (6 cr):

Commun 772 Rhetorical Leadership and Ethics, 3 cr

At least one of:

Commun 762 Argumentation in Theory and Practice, 3 cr

Commun 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr):

Commun 701* Critical Analysis of Communication, 3 cr

Commun 735 Rhetorical Theory, 3 cr [title change pending]

Commun 762 Argumentation in Theory and Practice, 3 cr (if not selected above)

Commun 835 Seminar in Contemporary Public Address, 3 cr

Commun 860 Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr

Commun 862 Public Deliberation, 3 cr

Commun 865 Theory and Practice of Mediation, 3 cr

Commun 872 Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)

Commun 873 The Digital Mirror, 3 cr

Commun 882 The Rhetoric of Kenneth Burke, 3 cr

Commun 893 Rhetoric of/and the Internet, 3 cr

Commun 972* Advanced Methods in Communication Research: (Subtitle, with rhetorical topic), 3 cr

Commun 998 Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

*students may count Commun 701 or 972, but not both, toward concentration requirements

Comprehensive Preliminary Examination

A student must pass all components of a comprehensive preliminary examination to be advanced to candidacy for the doctoral degree. The examining committee is responsible for setting an examination schedule agreeable to all parties subject to the constraints that: (a) examinations must include at least 18 hours of questioning, and (b) must be completed in no longer than two (2) calendar weeks. Each member of the examining committee must read and pass the student on all examination questions the faculty member contributes. The student must receive a passing evaluation from all members of the committee on the written

portion of the examination in order to attempt an oral defense of the examination. An affirmative vote constitutes the committee's decision to advance the student to candidacy for the doctoral degree.

Students who fail the doctoral preliminary examination may not proceed to the dissertation. The exam may be retaken only once. The preliminary examination must be successfully completed within five years of initial enrollment.

Dissertation

The candidate, under the supervision of the major professor and in collaboration with a dissertation committee, must write a dissertation that demonstrates the ability to formulate a research topic and pursue an independent and original investigation of the chosen topic. The practices for the dissertation will conform to the guidelines established by the UWM Graduate School. The dissertation committee shall be composed of the major professor and four additional graduate faculty members (at least three of whom must be from the Communication Department's graduate faculty). The dissertation committee is responsible for assessing the dissertation project, which involves approving the dissertation prospectus proposal, reviewing working drafts of research in progress, and, finally, evaluating the candidate's ability to defend decisions made during the course of research. After submission of a reading copy of the dissertation to the faculty dissertation committee, the candidate and the major professor will schedule a committee meeting for the purpose of undertaking an oral defense of the dissertation work by the candidate. At the conclusion of the candidate's oral remarks, the dissertation committee will vote on passing the candidate's dissertation work. A majority of the committee must vote to approve the dissertation and recommend granting of the Doctor of Philosophy degree.

Time Limit

All components of the Ph.D. program must be completed within 10 years of matriculation.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; satisfaction of GER English Composition competency req; acceptance for Study Abroad Prog.

550 International and Global Communication. 3 cr. U/G.

Models, theories, and contexts of relational communication between people from different nation states, viewed from interpersonal, small group, organizational, and rhetorical perspectives. Prereq: jr st; Commun 350(P) or

450(P); satisfaction of GER English Composition competency req; or cons instr.

627 Designing and Developing Communication Courses and Programs. 3 cr. U/G.

Theory/methods in designing/developing communication courses/programs for academic (college)/organizational (training) environments. Students design/develop instructional materials for online and/or onsite delivery. Prereq: jr st; 9 cr Commun 300-level or above; declared Commun or BAOA major; satisfaction of GER English Composition competency req; or cons instr.

655 Cultural Training and Adjustment. 3 cr. U/G.

Theories and research related to the role of communication in cultural adjustment processes, cultural training, and evaluation of training. Prereq: jr st; Commun 350(P) or 450(P); satisfaction of GER English Composition competency req; or cons instr.

665 Introduction to Mediation. 3 cr. U/G.

Course focuses on learning about the mediation process, related theories, and its application in a variety of contexts. Students receive twenty hours of mediation training. Prereq: jr st; satisfaction of GER English Composition competency req.

667 Great American Speakers and Issues. 3 cr. U/G.

Selected great speakers and their speeches on major issues in American history. Prereq: jr st; satisfaction of GER English Composition competency req.

672 Communication and Social Order. 3 cr. U/G.

The role of communication in both maintaining and challenging social structures and hierarchies. Prereq: jr st; satisfaction of GER English Composition competency req.

675 Communication in International Mediation and Peacebuilding. 3 cr. U/G.

The various forms of international mediatory activity employed to bring sustainable peace to areas gripped by ethnic and social conflict. Prereq: jr st; satisfaction of GER English Composition competency req; or cons instr.

681 Seminar in Communication in a World of AIDS. 3 cr. U/G.

Communication issues surrounding education and prevention of HIV infection both in the United States and across the world. Prereq: jr st; satisfaction of GER English Composition competency req.

700 Quantitative Research in Communication. 3 cr. G.

Introduction to the methods and techniques of quantitative research in communication, with

Communication

special focus on problems of experimental and field research. Prereq: grad st.

701 Critical Analysis of Communication. 3 cr. G.

Introduction to the methods and techniques of humanistic research in communication, with special focus on problems of criticism and history. Prereq: grad st.

702 Qualitative Research in Communication. 3 cr. G.

Methods and techniques of qualitative research in communication; special focus on problems of discourse analysis and interaction observation. Prereq: grad st.

710 Managerial Communication. 3 cr. G.

Designed for organizational communication practitioners; surveys analytic and implementation skills necessary for effective management of communication processes. Prereq: grad st.

715 Technology for Health Communication. 3 cr. G.

Seminar designed to introduce students to both significant theoretical perspectives and empirical studies related to communication technology for health promotion. Prereq: grad st

727 Seminar in Communication and E-Learning. 3 cr. G.

Theoretical and applied issues related to teaching communication within an e-learning environment. For individuals interested in college teaching/corporate training. Prereq: grad st.

735 Rhetorical Theory. 3 cr. G.

Critical study of various humanistic theories of rhetorical communication. Major emphasis on contemporary theories, trends, and concepts. Prereq: grad st.

750 Theory and Research in Intercultural Communication. 3 cr. G.

Major theories and contemporary research in the field of intercultural, cross-cultural, and global communication. Prereq: grad st.

762 Argumentation in Theory and Practice. 3 cr. G.

Argumentation theories in a performance-based context to train citizen-scholars. Assumes no prior knowledge of argumentation theories. Prereq: grad st.

770 Measurement and Evaluation in Speech Communication. 3 cr. G.

Consideration of problems and methods of formulating, constructing, and interpreting tests, measurements, and evaluation procedures related to speech communication. Prereq: grad st; Commun 700(P) or cons instr.

772 Rhetorical Leadership and Ethics. 3 cr. G.

The practice of responsible leadership from the humanities-based perspective of rhetoric. Prereq: grad st.

800 Proseminar: The Discipline of Communication. 3 cr. G.

The theoretical, conceptual, and pedagogical parameters of communication as a discipline. Prereq: grad st; admission to Commun M.A. Program or cons instr.

801 Seminar in Interpersonal Communication. 3 cr. G.

Overview of current perspectives and critical analysis of research in verbal and nonverbal aspects of interpersonal communication. Prereq: grad st.

802 Marital and Family Communication. 3 cr. G.

Examination of how communication functions to develop, maintain, enrich, or limit family relationships. Prereq: grad st.

803 Gender and Communication. 3 cr. G.

Seminar on interactive relationships between gender, communication, and culture; emphasis on the ways in which communication creates and perpetuates gendered identities and gendered interaction. Prereq: grad st.

804 Seminar on Sexuality and Communication. 3 cr. G.

Formation of and communication about sexuality and sexual issues; connections among media, technology, and interpersonal forms of communication. Counts as repeat of Commun 860 w/similar topic. Prereq: grad st.

805 Seminar on Issues in Interpersonal Communication: (Subtitled). 3 cr. G.

In-depth study and discussion of application of interpersonal communication research and theory. Counts as repeat of Commun 860 with same subtitle. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

806 Understudied Close Relationships. 3 cr. G.

How communication functions to develop, maintain, enrich, or limit understudied close relationships. Counts as a repeat of Commun 805 w/similar topic. Prereq: grad st.

807 Dark Side of Close Relationships. 3 cr. G.

Challenging, complicated, stressful, and unpleasant communication in close relationships. Counts as a repeat of Commun 805 w/similar topic. Prereq: grad st.

810 Studies of Communication in Organizations. 3 cr. G.

Surveys theory and research on communication processes that constitute and maintain organizations. Topics include communication

and networks, managerial hierarchy, power, and organizational culture. Prereq: grad st.

812 Communication Policy for Organizations. 3 cr. G.

Best practices for translating communication laws and regulations into organizational operations, drawing on both social science and the law. Prereq: grad st.

813 Seminar in Mediated Communication. 3 cr. G.

Advanced course focusing on theory and research pertaining to relationships between human communication processes and interactive technologies. Prereq: grad st.

815 Communication Technologies in Organizations. 3 cr. G.

Examination of theory and research addressing the use of technologies in the organizational communication process. Counts as repeat of Commun 860 w/ same topic. Prereq: grad st.

820 Communication in Customer Service Settings. 3 cr. G.

Theory and research addressing communication in customer service settings. Counts as a repeat of Commun 860 w/similar title. Prereq: grad st.

823 Seminar in Small Group Communication. 3 cr. G.

Examination of theory and research in small group communication: methods, applications, and problems of small group communication. Prereq: grad st.

827 Seminar in Instructional Communication. 3 cr. G.

Theory and practice of teaching communication using face-to-face and online methods and in academic (college) and organizational (training) environments. Prereq: grad st.

830 Negotiation. 3 cr. G.

Theory and research addressing negotiation as fundamentally a communicative process. Counts as repeat of Commun 860 w/ same topic. Prereq: grad st.

835 Seminar in Contemporary Public Address. 3 cr. G.

Observation and analysis of verbal and nonverbal messages, forms, situations, strategies and media in contemporary public communication. Prereq: grad st.

837 Instructional Communication in the College Classroom. 3 cr. G.

Theory and practice of instructional communication in the college classroom; research connected to students' own teaching development. Prereq: grad st

850 Seminar in Intercultural Communication. 3 cr. G.

Examination of advanced theory and research in intercultural and international communication;

Communication

methods and problems of intercultural communication research. Prereq: grad st.

860 Seminar: Issues in Communication: (Subtitled). 3 cr. G.

In-depth study and discussion of application of communication research and theory. Content varies. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

862 Public Deliberation. 3 cr. G.

Emerging literature on deliberative democracy; ethical, practical, and political possibilities for public argument and decision making. Prereq: grad st

864 Communication and Social Influence. 3 cr. G.

Advanced theory and experimental studies in persuasion. Prereq: grad st.

865 Theory and Practice of Mediation. 3 cr. G.

Course extends learning about mediator communication competence by exploring professional, ethical and theoretical issues in third party intervention. Students receive advanced mediation training and field experience. Prereq: grad st; Commun 665(P).

872 Rhetorics of Constituting Community and Social Controversy. 3 cr. G.

Advanced theories of promoting and disrupting identification or division and social conflict through rhetoric. Prereq: grad st.

873 The Digital Mirror. 3 cr. G.

Public messages about a wide range of technologies as purposeful statements about our identity as a technoculture and technocitizens. Prereq: grad st

874 Rhetoric of Women's Rights in the US. 3 cr. G.

The rhetorical tradition of women's rights in the U.S. and its use as a lens to reflect on rhetorical theory and criticism. Prereq: grad st

881 Interpersonal Health Communication. 3 cr. G.

Examination of theory and research in interpersonal communication in the management of health and illness. Counts as repeat of Commun 860 w/ same topic. Prereq: grad st

882 The Rhetoric of Kenneth Burke. 3 cr. G.

Synthesis, analysis, and critique of Kenneth Burke's work on rhetoric and its influences. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

893 Rhetoric of/and the Internet. 3 cr. G.

The concept of "The Internet" in popular culture; opportunities and obstacles the internet presents to rhetorical communication. Prereq: grad st

900 Philosophy and Practice of Communication. 3 cr. G.

Philosophical and theoretical perspectives on the scholarly study of human communication. Prereq: grad st

913 Advanced Topics in Group Communication: (Subtitled). 3 cr. G.

Theory of and research on emerging issues related to the study and teaching of group communication. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

950 Theory Building in Communication and Culture. 3 cr. G.

The processes of conducting scientific inquiry about communication and culture. Prereq: grad st; Commun 750(P); Commun 850(P).

965 The Discourse of Conflict. 3 cr. G.

Conflict talk in various contexts; collection, analysis, and transcription of the discourse of conflict. Prereq: grad st; Commun 665(P), 765(P), or 865(P)

971 Meta-Analysis: Practice and Application. 3 cr. G.

Meta-analysis as means of quantitative literature summary for social sciences with application to education and health. Counts as repeat of Commun 972 w/similar subtitle. Prereq: grad st.

972 Advanced Methods in Communication Research: (Subtitled). 3 cr. G.

Multivariate statistical methods. Advanced and emerging new methodologies for communication research. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Commun 700(P), 701(P), 702(P), 770(P); or cons instr

973 (effective 09/05/2017) Topics in Rhetorical Research: (Subtitled). 3 cr. G.

In-depth examination of a particular area of rhetorical research, with focus on methodologies; students reflect on epistemic, publication, and professional issues. Retakable w/chg in topic to 9 cr. Prereq: grad st.

973 Topics in Rhetorical Research: (Subtitled). 3 cr. G.

In-depth examination of a particular area of rhetorical research, with focus on methodologies; students reflect on epistemic, publication, and professional issues. Retakable w/chg in topic to 6 cr. Prereq: grad st.

981 Communication and HIV/AIDS. 3 cr. G.

Communication issues and challenges facing individuals and agencies surrounding HIV and AIDS in the United States and other countries. Prereq: grad st

990 Research and Thesis. 1-12 cr. G.

Production of a thesis under the supervision of student's major professor with consultation of the degree committee. Prereq: grad st & cons instr.

998 Communication Internship. 1-3 cr. G.

Student applies course work in profit or nonprofit setting; synthesizes course and work experience in graded paper. Retakable to 3 cr max. Prereq: grad st; 12 grad cr Commun or, for mediation interns, 6 grad cr from Mediation Cert course list; writ cons sponsoring agency or organization; cons supervising faculty member & Commun grad prog dir.

999 Independent Study. 1-3 cr. G.

Supervised investigation of a particular topic area either not covered by other communication courses or at a level of sophistication beyond that in other courses. Retakable to 3 cr max for M.A. students, and 9 cr max for Ph.D. students. Prereq: grad st; cons instr.

Communication Sciences and Disorders

School/College: College of Health Sciences
Degrees Conferred:

- M.S. in Communication Sciences and Disorders

Related Certificates

- [Certificate in Assistive Technology and Accessible Design](#)

Overview

The Department of Communication Sciences and Disorders offers a program of graduate study which prepares students for careers as speech-language pathologists in public schools, hospitals, rehabilitation centers, nursing homes, and university training programs. The program typically takes 2 calendar years to complete. Students usually prepare for service delivery in both school and healthcare clinical settings to maximize career flexibility. Occasionally, students may choose to focus career preparation on just one type of setting.

Departmental laboratory and instructional facilities include a speech and language clinic, a hearing evaluation center, an instructional communication sciences laboratory, and faculty research laboratories. Research and instructional laboratories contain state-of-the-art technology, a variety of acoustic and physiological measurement systems including a swallow station, and augmentative and alternative communication (AAC) devices. Students typically participate in at least three semesters of on-campus clinic. Student participation in a research experience is required.

Following a minimum of two successful practicum experiences in the on-campus clinics, students are eligible for off-campus externships in medical, rehabilitation, school, and birth-to-three sites. A successful practicum experience is one in which a student earns a grade of B or better. Students placed in these facilities are required to pass a criminal background check prior to the externship placement, in accordance with Wisconsin State Statutes, Chapters 48 and 50.

The master's degree program in speech-language pathology (M.S. in Communication Sciences and Disorders) at the University of Wisconsin-Milwaukee is accredited by the [Council on Academic Accreditation in Audiology and Speech-Language Pathology](#) of the American Speech-Language-Hearing Association, 2200 Research Boulevard, Rockville, MD 20850-3289, 301-296-5700.

The Wisconsin Department of Public Instruction (DPI) has also approved the undergraduate/graduate program in communication sciences and disorders. Students in the graduate program are advised individually to select academic coursework and clinical practica so that they may fulfill the standards of the credentials of their choice, including the state professional license issued by the Wisconsin Department of Regulation and Licensing (DRL), a state public schools license issued by the Wisconsin Department of Public Instruction (DPI), and the national professional Certificate of Clinical Competence in Speech-Language Pathology (CCC) issued by the American Speech-Language-Hearing Association (ASHA).

Graduate Faculty

Professors

Gelfer, Marylou, Ph.D., University of Florida
 Rhyner, Paula, Ph.D., Kent State University

Associate Professors

Heilmann, John, Ph.D., University of Wisconsin-Madison
 Lund, Shelley, Ph.D., Pennsylvania State University
 Pauloski, Barbara, Ph.D., Northwestern University
 Seery, Carol, Ph.D., University of Washington, Chair

Assistant Professors

Heuer, Sabine, Ph.D., Ohio University

Master of Science in Communication Sciences and Disorders

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

- Undergraduate major in communication sciences and disorders.
- A cumulative overall grade point average of 3.0 or better (scale of 4.0).
- Minimum grade point average of 3.0 or better in the undergraduate major courses.
- Submission of three letters of recommendation from persons familiar with applicant's academic qualifications and achievements.
- Submission of [Graduate Record Examination](#) scores.
- Students must apply to the program using the [Communication Sciences and Disorders Centralized Application Service \(CSDCAS\)](#).
- See the [CSD FAQ Website](#) for more information.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Students preparing for professional certification in speech-language pathology must also have transcript credit (which could include coursework, advanced placement, CLEP, or examination of equivalency) for each of the following areas: biological sciences, physical sciences, social/behavioral sciences, and mathematics.

Major Professor as Advisor

The student must have a major professor to advise and supervise the graduate studies as specified in Graduate School regulations. Entering students are assigned advisors according to faculty advising loads.

Credits and Courses

Minimum degree requirement is 49 credits, although total degree credits are typically around 55. The 38 core curriculum requirements must be in Communication Sciences and Disorders academic courses: 670, 688, 701, 702, 703, 704, 706 OR 660, 709, 710, 711, 712, 715, 721, 725, 784, 785, and 790 (1 cr) OR 791. Two credits of electives are required from among 520, 579, 620, 630, 640, 661, 690, 705, 706 OR 660 (whichever was not taken to fulfill a core requirement), 717, 728, 790 (credits beyond 1), 799, 802, 804, for a total of 40 credits. The remaining credits will be taken in required clinical practica, including 720, 771, 726 AND/OR 727

The student, in consultation with the major advisor, plans the appropriate practicum courses for on-campus clinics and off-campus externships to meet ASHA certification, DPI and Wisconsin licensure requirements. Only clinical clock hours for practicum experiences in which the student has earned a grade of B or better will apply toward degree, certification, or licensure requirements.

Students who have fulfilled the program's student learning outcomes in U/G courses (for example, ComSDis 670 or 688) will be waived from taking these courses as part of their graduate program. However, students must still take a minimum of 38 graduate credits in academic coursework, and must have a minimum of 49 total graduate credits to complete degree requirements.

Thesis

Optional. A student may earn up to 6 credits for a thesis (ComSDis 790) if this option is

selected. One of these credits will apply toward the core curriculum, two credits may apply toward the elective credit requirement, and the rest may apply toward the total of 49 credits required for the degree.

Research Experience

Students who do not choose the thesis option are required to engage in a one-credit research experience (ComSDis 791). This experience may involve (but is not limited to) a small-scale original study, a project related to the on-going research of a faculty member, a clinical case study, or a literature review. Students may work individually or in groups. The final product can be either a research paper or a poster of the research findings, presented at a departmental research colloquium.

Knowledge and Skills Acquisition (KASA) Assessment

All students will be responsible for completion of the Knowledge and Skills Acquisition (KASA) assessment, which assesses student attainment of learning outcomes in a variety of content areas. Students who are judged by program faculty and staff to be deficient in one or more content areas will be required to take additional coursework or clinical practica until their deficiencies have been satisfied.

Completion of the degree program affords the necessary opportunities to meet licensure and certification requirements. However, it is still the student's responsibility to ensure that his or her individual course and practicum choices are consistent with the credentials he or she seeks to obtain, and that all competencies and standards have been met.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

520 Counseling in Communication Disorders. 3 cr. U/G.

Current theories in counseling and guidance, procedures designed specifically for use with the communicatively impaired. Opportunity for application of knowledge will be provided. Prereq: jr st; admis to major or cons instr.

579 Special Topics in Communication Sciences and Disorders: (Subtitled). 1-3 cr. U/G.

Specific topic and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be repeated with change in topic to max of 6 cr. Prereq: jr st.

580 Communication Problems of the Older Adult. 3 cr. U/G.

Study of the impairments to the communicative process caused by physiological, environmental, and social psychological

changes which come with aging. Prereq: sr st; ComSDis 460 or cons instr.

620 Craniofacial Disorders. 2 cr. U/G. Genetic, embryological, anatomical and physiological aspects of craniofacial disorders, including cleft lip and palate; associated communicative disorders; diagnostic and therapeutic approaches for related speech-language problems. Prereq: ComSDis 350(P), 351(P), 480(P); cons instr.

630 Communication Disorders in Multicultural Populations. 2 cr. U/G. Application of theoretical models and research perspectives to the assessment and treatment of communication disorders in children from multicultural populations. Prereq: sr st; cons instr.

634 Collaborative Consultation/Teaming-Serving Young Children with Disabilities. 3 cr. U/G. Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthy 634, & ComSDis 634 are jointly offered; they count as repeats of one another. Prereq: jr st.

640 Clinical and Research Instrumentation in Communication Sciences & Disorders. 2 cr. U/G. Hands-on laboratory experience with several clinically practical and non-invasive instrumentation systems for analyzing, monitoring, documenting normal as well as abnormal articulation, voice and prosody. Prereq: sr st; ComSDis 480(P); cons instr.

650 Communication Assessment and Intervention for Persons with Disabilities. 3 cr. U/G. Application of various theories and models of communication assessment and intervention for persons with severe/profound disabilities. Prereq: sr st; cons instr.

660 School-Age Language. 2 cr. U/G. Language disorders in older children and adolescents; application of developmental theory to assessment and intervention. Prereq: sr st; cons instr.

661 The Role of the Speech-language Pathologist in Literacy. 2 cr. U/G. Language theory related to reading and writing disorders. Speech-language pathologist's role in assessment and intervention. Prereq: sr st; cons instr.

670 Advanced Procedures in Audiology. 3 cr. U/G. Masking, speech audiometry, acoustic immittance testing, differential diagnosis, audiological screening design, development and implementation, special pediatric and geriatric concerns; audiologic counseling and hearing aid

orientation. Prereq: sr st; ComSDis 470(P); cons instr.

688 Evaluation and Diagnosis in Speech-Language Pathology. 2 cr. U/G. The diagnostic process in speech-language assessment: case histories and interviewing, formal and informal assessment, interpretation of results, and report writing. Prereq: sr st; ComSDis 351(P); or cons instr.

690 Cognitive Communication Disorders in Adults. 2 cr. U/G. Communication disorders related to traumatic brain injury and dementia in adults. Emphasis on neuropathology, symptomatology, assessment, and management. Prereq: sr st, ComSDis 460, and cons instr; or grad st.

701 Research Design and Methods in Communication Sciences and Disorders. 3 cr. G. Introduction to strategy, design, and methodology in quantitative research; includes considerations in evaluating and understanding components of research articles, and integrating research into clinical practice. Prereq: grad st; cons instr.

702 Clinical Phonology and Articulation. 2 cr. G. Normal and disordered aspects of articulation and phonology. Emphasis on theoretical and practical considerations for clinical assessment and treatment. Prereq: grad st; cons instr.

703 Voice Disorders. 2 cr. G. Diagnosis and treatment of hyperfunctional disorders; psychogenic voice disorders; organic diseases, trauma, and congenital disorders of the larynx; resonance disorders; and alaryngeal speech. Prereq: grad st; cons instr.

704 Speech Fluency and Stuttering. 3 cr. G. Theory and research related to the nature and treatment of stuttering. Discussion of factors important to the clinical management of fluency in children and adults. Prereq: grad st; cons instr.

705 Aphasia in Adults. 2 cr. G. Nature of aphasia and related communication disorders. Study of pertinent diagnostic and prognostic techniques and therapeutic procedures. Prereq: grad st; cons instr.

706 Language Assessment and Intervention: Birth to 5 years. 2 cr. G. Application of various theoretical models and research perspectives to the assessment and treatment of children with language impairments. Prereq: grad st; cons instr.

709 Evaluation and Management of Swallowing Disorders. 3 cr. G. Study of normal and abnormal swallowing across the lifespan, with emphasis on etiologies, clinical and instrumental evaluation techniques,

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and management. Prereq: grad st; ComSDis 712(P); cons instr.

710 Motor Speech Disorders. 3 cr. G.

Basic neurological substrates of the dysarthrias and apraxia, differential diagnosis and treatment of acquired and developmental communication disorders associated with apraxia and dysarthria. Prereq: grad st; ComSDis 703(P) & 712(P).

711 (801) Applied Speech Science. 3 cr. G.

Advanced study of physiological, acoustical, and perceptual perspectives of normal and abnormal speech production mechanisms; laboratory experience with speech science instrumentation for research/clinical application. Counts as repeat of ComSDis 801. Prereq: grad st; cons instr.

712 Acquired Neurogenic Communication Disorders in Adults. 3 cr. G.

Nature of acquired neurogenic communication disorders, including aphasia, TBI, RHD and dementia. Study of pertinent diagnostic and prognostic techniques and therapeutic procedures. Prereq: grad st

713 Degenerative Cognitive Communication Disorders in Older Adults. 2 cr. G.

Nature of healthy cognitive aging and cognitive and communicative disorders of dementia. Study of pertinent diagnostic and prognostic techniques and therapeutic procedures. Prereq: grad st; cons instr.

715 (680) Assessment and Intervention in Augmentative and Alternative Communication. 3 cr. G.

Application of current research in augmentative and alternative communication (AAC) for assessment, prescription of AAC systems, and intervention planning for individuals with severe communication disorders. Prereq: grad st; cons instr.

717 Special Populations in Communication Disorders. 2 cr. G.

Seminar reviewing the current literature on selected populations of individuals with communication disorders and the implications of this literature on clinical practice. Prereq: grad st.

720 (902) Advanced Clinical Practice in Speech-Language Pathology: (Subtitled). 1-3 cr. G.

Supervised clinical practice with different speech and language problems in children and adults. Counts as a repeat of ComSDis 902. Retakable as necessary to fulfill competency requirements. Prereq: grad st; cons instr

721 The Clinical Process. 1 cr. G.

Analysis of the clinical process with application to clients with different speech-language disorders. Prereq: grad st

725 Speech/Language Services in Educational and Medical Environments. 2 cr. G.

Methods and professional issues related to the speech-language pathologist employed in the educational and medical environments. Prereq: grad st, ComSDis 709(C) or cons instr.

726 (903) Speech-Language Pathology Externship in Medical Environments. 4 cr. G.

Supervised clinical experience in medical and rehabilitation settings. Counts as a repeat of ComSDis 903. May be repeated to 8 cr max. Prereq: grad st; ComSDis 709(P); ComSDis 725(P); cons instr & grad advisor.

727 (905) Speech-Language Pathology Externship in Educational Environments. 4 cr. G.

Supervised clinical experience in educational environments. Counts as repeat of ComSDis 905. May be repeated to 8 cr max. Prereq: grad st; ComSDis 660(P) or 706(P); ComSDis 725(P); cons instr & grad advisor.

728 (908) Instrumentation Laboratory. 1 cr. G.

Hands-on experience with speech science instrumentation for analysis of voice, prosody, and resonance. Counts as repeat of ComSDis 908. Prereq: grad st; ComSDis 703(C) or cons instr.

770 (906) Clinical Practice in Audiologic Assessment. 3 cr. G.

Supervised clinical experience at Community Audiology Services, West Allis, WI. Activities include audiologic assessment and (re)habilitation with children and adults (adult emphasis). Counts as repeat of ComSDis 906. Prereq: grad st; ComSDis 670(521); cons instr.

771 (907) Clinical Practice in Audiologic (Re)Habilitation: (Subtitled). 2-3 cr. G.

Supervised experience in audiologic (re)habilitation with pediatric or adult clients at on-campus or community sites. Counts as repeat of ComSDis 907. May be repeated to 4 cr max. Prereq: grad st; ComSDis 670(521) & 706 (for pediatric placements); cons instr.

784 Professional Portfolio Development I. 1 cr. G.

Students are guided through the second (working) review of their professional development portfolios. Prereq: grad st

785 Professional Portfolio Development II. 1 cr. G.

Students are guided through the final process of designing a professional development portfolio. Prereq: grad st; ComSDis 784(P).

790 Research and Thesis. 1-6 cr. G.

Independent research and writing under the supervision of a graduate faculty member. Prereq: grad st; cons instr.

791 Research Experience in Communication Sciences and Disorders. 1 cr. G.

Supervised research in communication sciences and disorders under the direction of an approved mentor. Prereq: grad st; cons instr.

799 Independent Studies. 1-3 cr. G.

Independent pursuit of a creative project designed by the student and supervised by a faculty or instructional academic staff member. Prereq: grad st; cons grad advisor.

802 Seminar in Applied Phonology: 1 cr. G.

Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr.

804 Seminar in Stuttering and Fluency: 1 cr. G.

Specific topic and any additional prerequisites announced in the Timetable each time the course is offered. May be repeated w/chg in topic to 7 cr max. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

Conservation and Environmental Sciences

School/College: College of Letters and Science
No Graduate Degree Conferred: Courses Only

451 (effective 09/05/2017) Field Methods in Conservation. 3 cr. U/G.

Introduction to methods, techniques and tools for natural area management, including plant/animal surveys, vegetation/habitat description, and incorporating hands-on experience. 2 hr lec, 3 hrs lab. Jointly offered with and counts as repeat of Bio Sci 451.

Prereq: jr st; Bio Sci 310(P) or equiv or cons instr.

461 The Politics and Policy of Sustainability. 3 cr. U/G.

Principles of environmental policy, governance, and management for global sustainability. CES 461, FrshWtr 461, & Global 461 are jointly offered; they count as repeats of one another.

Prereq: jr st; CES 210(P) or cons instr.

471 Practicum in Natural Resources Management. 4 cr. U/G.

Preparation and presentation of a natural resource or environmental management plan for a real-world client. 3 hrs lec, 1 hr dis. Prereq: sr st; Bio Sci 310(P); declared CES major; or cons instr.

515 Environmental Law for Natural Resource Managers. 3 cr. U/G.

Overview of United States environmental and natural resource law. Counts as repeat of CES 499 with same topic. Prereq: jr st or cons instr.

550 Introduction to Science Interpretation. 3 cr. U/G.

Concepts and practices of presenting science information for audience understanding of impact of science on daily life. Interpretation techniques for science content in nonformal settings. Prereq: jr st; CES 210(P) or cons instr.

551 Application of Science Interpretation. 3 cr. U/G.

Building upon CES 550, application of skills and knowledge to interdisciplinary environmental issues. Prereq: jr st; CES 550(P).

651 Principles of Stream Management and Restoration. 3 cr. U/G.

Stream management and restoration, open-channel hydraulics, stream geomorphology, stable channel design, sediment transport, and in-stream aquatic ecology and riparian corridor habitats. Prereq: jr st; Bio Sci 310(P) or equiv; Math 211(P) or equiv; or cons instr.

Criminal Justice

School/College: Helen Bader School of Social Welfare

Degrees Conferred:

- M.S. in Criminal Justice

Overview

The School of Social Welfare offers a master's program of study in criminal justice. The program is designed to educate students for leadership positions in the field of criminal justice. The program also provides a strong foundation for students anticipating advanced study at the doctoral level. The curriculum is also designed to prepare Criminal Justice professionals to understand all aspects of criminal justice policy. Legal, organizational, political and behavioral frameworks are used to analyze the operation of the criminal justice system. Students are introduced to advanced knowledge on the nature and causes of crime, the justification and means of social control, the administration of the justice system, and the evaluation of criminal justice programs.

Graduate Faculty

Professor

Stojkovic, Stan, Ph.D., Michigan State University

Brandl, Steven G., Ph.D., Michigan State University

Associate Professors

Hassell, Kimberly D., University of Nebraska-Omaha

LeBel, Thomas P., Ph.D. University at Albany, State University of New York

Freiburger, Tina L., Ph.D., Indiana University of Pennsylvania, Chair

Assistant Professors

Headley, Rebecca, Ph.D., Georgia State University

Romain, Danielle, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Criminal Justice

Admission

An applicant must meet [Graduate School requirements](#) plus these program requirements to be considered for admission:

- Undergraduate degree, from an accredited university, in criminal justice, a related social science or other relevant educational experience.
- Undergraduate cumulative grade point average of 3.00, to be admitted in good standing. (Students with less than a 3.00 GPA may be admitted on probationary status. See below.)

- Two letters of recommendation from persons who are familiar with the applicant's academic record.
- Satisfactory completion of a research methods course and a statistics course. Lacking these, an applicant may be admitted on the condition that these courses will be taken prior to receiving the M.S. degree. Credits for such courses will not count toward the degree.
- Applicants whose GPA is 2.75-2.99 may be considered for admission but must also submit satisfactory scores on the verbal and quantitative sections of the [Graduate Record Examination](#) or the Miller Analogies Test (MAT).

Application

Application must be made to the Graduate School. Applicants are admitted to the program at the beginning of the fall, spring and summer sessions. For further information regarding the application process, please contact the Project Assistant of the Criminal Justice Programs at (414) 229-2392.

Major Professor as Advisor

The student must have a faculty advisor to advise and supervise the student's studies as specified in Graduate School regulations. At the time of admission, the Director of the Criminal Justice Programs will assign each student to a faculty advisor. Students who begin to work closely with a particular faculty member with expertise in their area of interest may request that this faculty member serve as their advisor. Students who pursue the Essay Option must choose a faculty member to serve as their major professor.

Credits and Courses

The Master of Science in Criminal Justice consists of a minimum of 33 graduate credits; 24 credit hours must be taken within the criminal justice program and the other 9 credit hours may be taken elsewhere in the School of Social Welfare or in other departments in the University with the consent of the student's advisor. Each student is required to take the Proseminar in each of three core areas (total of 9 credit hours) and pursue either Option A: Essay Option, or Capstone Option B: Non-Essay Option described below. The three core areas are:

- The Social Context of Crime and the Criminal Justice System
- Program Administration in Criminal Justice
- Programmatic Research in Criminal Justice

Option A: Essay Option

Students must complete the required proseminars and, as part of the 33 graduate credits required, must complete 3 credits of research and a graduate-level statistics course approved by the student's faculty advisor. Students planning to go into doctoral programs are strongly encouraged to pursue the essay option.

Essay

An acceptable essay must be written on the student's area of concentration.

Comprehensive Examination

The student must pass a final oral examination in defense of the essay.

Option B: Non-Essay Option

Students must complete the 33 graduate credits required, including the three proseminars and the criminal justice capstone seminar course.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Crime Analytics Concentration

The Department of Criminal Justice offers a Crime Analytics Concentration at the master's level. A sequence of courses will lead to a concentration in this growing area. Preparation includes a foundation in criminal justice, research methods, and criminological theory. It also includes specialized coursework in measuring crime, crime mapping, and analytic techniques for understanding crime and crime patterns. At the conclusion of the program, students will complete a crime analytics project to demonstrate their mastery of crime analytics.

Students entering the Concentration in Crime Analytics choose one of the two tracks (Crime Analytics Track and Advance Crime Analytics Track).

Crime Analytics Track

Students who complete the Crime Analytics Track will be prepared to enter into crime analysis positions in law enforcement and in other criminal justice organizations. To complete this track, students will take the following series of courses:

CRM JST 520 Analysis Oriented Technology Spatial Data Analysis; Crime Mapping, ArcGIS
 CRM JST 713 Measuring Crime and Analyzing Crime Data
 CRM JST 716 Advance Analytic Techniques for Crime Analysts
 CRM JST 795 Issues in Law Enforcement Practice and Policy
 OR CRM JST 850 Issues in Corrections Police and Practice

Criminal Justice

CRM JST 910 Methods and Practice Capstone for Crime Analysts

Students who complete the Crime Analytics track will also be required to complete the requirements of the master's in Criminal Justice, for a total of 33 credits. Students who completed CRM JST 520 at the undergraduate level can have another course substituted for CRM JST 520 with the permission of the department chair. Students who take CRM JST 910 will not need to take CRM JST 920. Students must receive a B or better in all the listed required courses in order to have the concentration posted on their transcripts.

Advanced Crime Analytics Track

The Advanced Crime Analytics track will be intensive in research methods and advanced statistical analysis. Students who complete the advanced track will be prepared for jobs as advanced analyst, to work with big data, and to conduct advanced predictive modeling. To complete this track, students will take the following series of courses:

CRM JST 520 Analysis Oriented Technology Spatial Data Analysis; Crime Mapping, ArcGIS
CRM JST 713 Measuring Crime and Analyzing Crime Data
CRM JST 716 Advance Analytic Techniques for Crime Analysts
CRM JST 795 Issues in Law Enforcement Practice and Policy
OR CRMJST 850 Issues in Corrections Police and Practice
SOC WRK 962 Statistics II – Applied Multiple Regression Analysis
SOC WRK 963 Statistics III – Measurement Methods & Related Multivariate Statistics
CRM JST 783 Data Mining and Forecasting
CRM JST 910 Methods and Practice Capstone for Crime Analysts

Students who complete the Advanced Crime Analysts track will also be required to complete the requirements of the Master's in Criminal Justice, for a total of 36 completed credits. Students who completed CRM JST 520 at the undergraduate level can have another course substituted for CRM JST 520 with the permission of the department chair. Students who take CRM JST 910 will not need to take CRM JST 920. Students must receive a B or better in all the listed required courses in order to have the concentration posted on their transcripts.

Master of Science in Criminal Justice/Master of Public Administration

Both departments collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving professional practice in the field of criminal justice.

Admission

Students are admitted to both graduate programs separately and admission requirements are consistent with those specified by the UWM Graduate School, the MS in Criminal Justice and the MPA program.

Credit and Courses

Students accepted into this MS/MPA program complete the following courses:

M.S. in Criminal Justice

Crm Jst 773 Perspectives on Crime & the Criminal Justice System 3 cr. G
Crm Jst 743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G

Crm Jst 756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.

12 additional credit hours of courses must be taken within the criminal justice program.

12 credit hours of courses successfully completed for the MPA, selected with the consent of the student's advisor.

Total Degree Credits for Master of Science in Criminal Justice: 33 cr

Master of Public Administration

Students entering the MPA program will be placed, at the discretion of the MPA Director in one of two tracks (A or B) within the core. The minimum degree requirement is 39 credits for Track A and 42 for Track B.

Track A

Students with significant public or nonprofit sector work experience may, at the discretion of the MPA Director, have the Government/Nonprofit Administrative Internship course (Pub Adm 921) waived. Students seeking placement in this track will need to meet with the MPA Director to discuss this possibility and will be required to provide documentation of current public or nonprofit sector work experience.

Track B

Students with no significant public or nonprofit sector work experience are required to enroll in and successfully complete the Government/Nonprofit Administrative Internship course (Pub Adm 921). As part of the requirements for this course, Track B students are required to obtain, with the assistance of the MPA Director, one or more internships in either the public or nonprofit sector while enrolled in the MPA program. Required/Core Courses (15 credits)
Bus Adm 738 - Human Resource Management (3 cr)
Pub Adm 763 - Scope and Dynamics of Public Administration (3 cr)
Pub Adm 769 - Analyzing and Evaluating Public Policies and Programs (3 cr)

One course in statistics selected from the following list:

Bus Mgmt 709 - Analytic Models for Managers (3 cr)

Pub Adm 792 - Decision Making for Public and Nonprofit Organizations (3cr)
Crm Jst 756 – Proseminar: Analysis of Criminal Justice Research (3 cr)

One seminar in organizational management and leadership (3 cr) selected from the following list:

Bus Adm 441 - Diversity in Organizations
Bus Adm 443 - Special Topics in Human Resources Management

Bus Adm 706 - Managing in a Dynamic Environment

Bus Adm 737 - Managerial Decisions and Negotiations

Capstone Seminar (3 Credits)

Every student will be required to take the capstone seminar, Pub Adm(Pol Sci) 959: Capstone Seminar in Public Administration.

The course requirements will include the completion and written and oral presentation of a project on a topic selected with the assistance of the instructor. This course will also be devoted to coverage of special issues and problems of the public administration profession, including administrative ethics. General Public Administration (9 Credits)

Select any three of the following courses:
BusMgmt 724 – Accounting for Nonprofit Organizations

Pub Adm 400 - Ethics and Responsibility in Public Administration (3 cr)

Pub Adm/Urb Plan 630 – Budgeting and Finance in the Public Sector (3 cr)

Pub Adm 750 - Public Administration Risk and Analysis (3 cr)

Pub Adm/Pol Sci 914 - Seminar in Intergovernmental Relations (3 cr)

Pub Adm 958 - Seminar in Public Administration (3 cr)

Pub Adm 965 - Municipal Management (3 cr) Concentration (12 Credits)

Satisfied by 12 credits taken in Crm Jst courses. Internship (0-3 Credits)

Pub Adm 921 - Government/Non-profit Administrative Internship (3 cr) (*An internship is mandatory for students with no public sector work experience.*)

Time Limit

Students in the coordinated MS/MPA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Master of Science in Criminal Justice/Master of Social Work

Both departments in the Helen Bader School of Social Welfare collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving professional practice in the field of criminal justice, or social work with a focus on criminal justice (e.g., corrections, juvenile justice, probation & parole, etc.).

Criminal Justice

Admission

Students are admitted to both graduate programs separately and admission requirements are consistent with those specified by the UWM Graduate School, the MS in Criminal Justice and the MSW program in the Helen Bader School of Social Welfare.

Credit and Courses

Students accepted into this MS/MSW program complete the following courses:

Criminal Justice

Crj 773 Perspectives on Crime & the Criminal Justice System 3 cr. G.

Crj 743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G.

Crj 756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.

12 additional credit hours of courses must be taken within the criminal justice program.

12 credit hours of courses from successfully completed Social Work courses with the consent of the student's advisor. Students must complete the requirements of the Essay Option or Non-Essay Option as the degree capstone.

Social Work Foundation Curriculum

SocWork 604 Social Systems and Social Work Practice. 3 cr. U/G.

SocWork 662 Methods of Social Welfare Research. 3 cr. U/G.

SocWork 665 Cultural Diversity and Social Work. 3 cr. U/G.

SocWork 705 Individual Behavior and Social Welfare. 3 cr. G.

SocWork 708 Social Work Methods I: Individuals and Families. 3 cr. G.

SocWork 709 Social Work Methods II: Groups, Organizations and Communities. 2 cr. G.

SocWork 721 Field Instruction I. 3 cr. G.

SocWork 750 Social Welfare Policy Development and Implementation. 2 cr. G.

Social Work Advanced Practice Curriculum

- 11 credits of Field Instruction (SocWork 722/821/822)
- 8 credits of Social Work Practice Methods (SocWork 711, 811*, and additional practice course) or (SocWork 713, 915, and additional practice course)
- 4 credits of Social Work Research (SocWork 793/794)
- 5 credits within selected area of concentration (SocWork 851* and one of 685, 753, or 771, depending on area of concentration)
- 6 credits of electives

* Requires sections to be selected from within the specialized concentration area

Electives (6 cr) Selected from among successfully completed CJ courses in consultation with faculty advisor.

Capstone

The capstone requirement is satisfied by Soc Wrk 822 (Field Instruction IV).

Total Credits for Coordinated Degree:

71 (without a BSW) or **49** (with a BSW).

The total credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. Degrees will be awarded simultaneously.

A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated MS/MSW degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

421 Cybercrime. 3 cr. U/G.

Legal issues associated with cybercrimes, including response, investigation and prosecution. Counts as repeat of Crj 592/970 with same topic. Prereq: jr st.

490 Drugs, Crime and Criminal Justice. 3 cr. U/G.

Overviews illicit drug use, the relationship between drugs and crime, and responses of criminal justice agencies to illegal drug use. Counts as repeat of Crj 592/970 w/same topic. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-6 cr. U/G.

Variable content (subtitle is area of concentration). Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakeable with change in topic to max of 9 cr. Prereq: jr st; acceptance for Study Abroad Prog.

520 Analysis Oriented Technology: Spatial Data Analysis; Crime Mapping; ArcGIS. 3 cr. U/G.

Examines theories and applications to analyze data. Approaches include crime mapping and spatial analysis; strategic, administrative, and tactical crime analysis. Other methods are also covered. Prereq: jr st; Crj 110(P).

671 Juvenile Justice. 3 cr. U/G.

Structure of juvenile justice system -- police, courts, and corrections; analysis of structure of subsystems of the juvenile justice process; introduction to literature and research. Prereq: jr st or cons instr.

680 Jails. 3 cr. U/G.

The primary purpose is to develop a comprehensive understanding of the role of the jail in contemporary society. Prereq: jr st; Crj 110 (P).

713 Measuring Crime & Analyzing Crime Data. 3 cr. G.

This course discusses various measures of crime, how different measures affect outcomes, and strategies to analyze and visualize crime data. Prereq: grad st.

716 Advanced Analytic Techniques for Crime Analysts. 3 cr. G.

Current methods and analyses commonly used by crime analysts, including the identification of crime patterns, risk factors, and intelligence gathering strategies. Prereq: Grad st; Crj 520(P), Crj 713(P), Crj 716(P)

743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G.

An examination of criminal justice organizations from a public administration focus, integrating organizational theory and political theory for the analysis of criminal justice administration. Prereq: grad st.

756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.

A study of the application of social science research methods to criminal justice issues. Prereq: grad st.

773 Perspectives on Crime and the Criminal Justice System. 2-3 cr. G.

An in-depth analysis of the etiology of criminal behavior; processes of becoming a criminal; patterns of criminal behavior; and policy and individual consequences of decriminalization. Not open to students who have cr in Soc Wrk 773, which is identical to Crj 773. Prereq: grad st.

775 Race, Crime and Criminal Justice. 3 cr. G.

A study of crime and criminal justice issues as they impact major racial groups such as Blacks, American Indians, and Hispanics Prereq: grad st.

795 Issues in Law Enforcement Practice and Policy. 3 cr. G.

An examination of police practice in a democratic society from an operational, legal, and sociological perspective

810 Police Administration. 3 cr. G.

An application of management principles to the police organization. Prereq: grad st.

820 Police and the Multicultural Community. 3 cr. G.

A study of the critical issues facing police officers and administrators in relation to policing a diverse society, with particular emphasis on training leadership, minorities and women police officers, and police - community relations. Prereq: grad st.

830 Intervention Strategies for Correctional Clients. 3 cr. G.

A review and analysis of intervention approaches and programs used with correctional clients, both juvenile and adult, with emphasis on diversion, prevention, and rehabilitation strategies. Prereq: grad st.

840 Philosophical Foundations of Policing. 3 cr. G.

An in-depth analysis of the social theory of policing. The most significant theoretical and empirical works on policing are examined. Prereq: grad st

850 Issues in Correctional Practice and Policy. 3 cr. G.

Overview of significant issues facing corrections, including sentencing, life imprisonment, violence and victimization in prison, supermax, evidence-based practices, and parole revocation. Prereq: grad st

910 Methods and Practice Capstone for Crime Analysts. 3 cr. G.

Seminar in use of crime analysis techniques and synthesis of prior empirical research using crime analysis techniques. Prereq: grad st

920 Criminal Justice Masters Capstone Seminar. 3 cr. G.

Seminar involving synthesis and integration of degree coursework on criminal justice theories, empirical research and program creation and implementation. Prereq: grad st

970 Readings in Criminal Justice Research: (Subtitled). 3 cr. G.

Variable content research oriented course involving systematic analysis and investigation of criminal justice topics. May be retaken to max of 9 cr. Prereq: grad st; cons instr.

990 Thesis or Research Project. 1-3 cr. G.

May be repeated once for cr. Prereq: grad st; writ cons instr & coord grad prog.

999 Independent Reading in Criminal Justice. 1-3 cr. G.

Work suited to individual graduate students arranged. Prereq: grad st; cons instr & coord Grad Prog.

Cultural Foundations of Community Engagement and Education

(Formerly Cultural Foundations of Education)

School/College: School of Education
Degrees Conferred:

- M.S. in Cultural Foundations of Community Engagement and Education

Overview

The Department of Educational Policy and Community Studies offers a master's program for educators, community leaders, and those working in community-based organizations. Students deepen their knowledge base around issues relating to urban education and the contexts of urban communities. The program of study enhances participants' ability to critically analyze education and processes of community change.

Our courses are offered in the evenings, online, and on weekends to serve working students. All in-department courses required for the degree are offered online, and students are able to complete all of their departmental courses online over a two year cycle as space permits.

A core of four courses provides a foundation in sociology, history, philosophy and research.

Students are encouraged to develop and understand their own frameworks of values and theoretical perspectives as applied to the realities of urban education and urban communities. A faculty advisor will assist the student through the program, balancing flexibility and structure according to professional needs. Common focus areas include the following:

- Alternative Education/At-Risk Students
- Child Care
- Community Organizing for Social Change
- Community Engagement and Partnerships
- Educational Policy
- Race Relations
- Urban Education
- Youth Work

Because our program is very flexible, allowing 6 credits of electives within

the department as well as 9 credits that can be chosen from across the university, students often create their own unique informal focus areas, which have included: Latino Studies, Working-Class Studies, Educating Hmong Students, Global Education, Comparative Education, Race and the Police, Education and the Homeless, and more.

Students are encouraged to develop and understand their own values and theoretical perspectives as applied to the realities of urban education and community change. A faculty advisor will assist the student through the program, balancing flexibility and structure according to professional needs.

A wide variety of professionals seeking to understand the urban context of education and community change have found this program useful. Graduates work in a range of fields: directors of non-profit and community-based agencies; teachers and principals in public, private, and alternative schools; administrators of child care centers; directors of social action organizations; managers of programs serving youth; administrators in health service facilities; community organizers; elected government officials; police officers; administrators of group homes; doctoral students; professors; and more.

Graduate Faculty

Professor

Schutz, Aaron, Ph.D., University of Michigan, Chair

Associate Professors

Bonds, Michael, Ph.D., University of Wisconsin-Milwaukee

Farmer-Hinton, Raquel, Ph.D., University of Illinois-Urbana/Champaign

Kailin, Julie, Ph.D., University of Wisconsin-Madison

Sandy, Marie, Ph.D. Claremont Graduate University

Swaminathan, Raji, Ph.D., Syracuse University

Tapia, Javier, Ph.D., Arizona State University

Rai, Kalyani, Ph.D., University of Wisconsin-Madison

Williams, Gary, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Cultural Foundations of Community Engagement and Education

Admission

An applicant must meet [Graduate School requirements](#) plus the following departmental requirements to be considered for admission to the program:

1. Submission of two letters of recommendation from individuals who can testify to the applicant's academic potential.
2. Written statement of educational and professional goals with desired area of concentration.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

The program in Cultural Foundations of Community Engagement and Education requires a minimum of 30 graduate credits, divided among the following: required core courses (15); focus work (minimum 9 graduate credits), electives (minimum 6 graduate credits).

Core Courses

The required core for all students consists of the following 15 credits: Ed Pol 702, Cultural Foundations of Education Graduate Seminar (3), EdPol 705 Sociology of Education and Community Engagement (3), EdPol 710 Research Methods for Education and Community Engagement (3), EdPol 740 Modern Philosophies of Education and Community (3), and EdPol 750 History of Education in American Communities (3). Each of these required courses has a set of major questions that guide the instructor and the students. Ed Pol 702 must be taken in the first two semesters after a student enrolls in the program.

Focus Work in Cultural Foundations

In addition to the core courses, Cultural Foundations majors must complete a minimum of 9 credits in the Department of Educational Policy and Community Studies that may be focused in the following areas: alternative education, multicultural education, peace education, urban education, and educational policy. They will select this focus with the help of an advisor.

Cultural Foundations of Community Engagement and Education

Electives

In order to individualize the program, a maximum of 6 graduate credits of electives is selected in consultation with the advisor to enhance the specific professional goals of the student. These credits may be selected from courses within the Department, courses in other departments in the School of Education, or courses outside of the School of Education. A maximum of 3 credits of Independent Reading and 3 credits of fieldwork may be included in the program.

Capstone Paper/Project or Thesis

All students in the Cultural Foundations of Community Engagement and Education program must complete either a capstone practicum, final paper, or thesis as part of their degree requirements. This choice should be made by the student in consultation with his/her advisor. Each option is completed under the direction of a faculty thesis/paper/project chair and a second reader, and requires an oral defense.

Capstone Practicum Option

For the Capstone Practicum option, students take three credits of Ed Pol 791: Action Research: Capstone Workshop. Working with the instructor of this course, students conduct a project that relates to their core interests in the program and write a final paper related to their capstone project. More details are given in the syllabus for the 791 course. This course is generally taken in the last or close to last semester of a student's program.

Final Paper Option

The final paper option generally begins with a research paper written in one of the student's classes, and then this paper is brought to a more complete form with the support of a faculty advisor. This option is designed for students who are planning to go on to further graduate study, and provides an opportunity to generate a writing sample for applications as well as to hone one's research abilities. Students do not generally take extra credits to complete this option. Note that this is NOT a thesis, which is a much more intensive and formalized research effort.

Thesis Option

A thesis represents a much more substantial research project that is submitted formally to the Graduate School. Students pursuing the thesis

option may take up to 6 credits of Ed Pol 990 Research or Thesis.

Exit Interview

Students completing any of the above options will also end with a final exit interview with two faculty members from the program.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Sociology and Policy of Urban Communities and Schools. 3 cr. U/G.

Selected contemporary social issues analyzed for their bearing on urban communities and schools. Prereq: jr st.

501 Community Change and Engagement. 3 cr. U/G.

Concepts and strategies for community change and engagement in low-income urban settings. Prereq: jr st or cons instr.

507 Action Research on Milwaukee Institutions. 3 cr. U/G.

Examination and analysis of the organization, philosophy, and history of specific Milwaukee institutions. Emphasis placed on how these institutions affect the lives of community residents and appropriate alternatives to current arrangements. Prereq: jr st or cons instr.

508 Advanced Problems in Community Change and Engagement. 3 cr. U/G.

Advanced training in community engagement with reflective paper. Prereq: Ed Pol 111(P) & cons instr.

509 (409) Fieldwork/Practicum in Education and the Community. 1-3 cr. U/G.

Advanced fieldwork/practicum for students to acquire skills for educational and community practice; fieldwork hours correspond to credit

value -50 hours for 1 cr, 75 hours for 2 crs, 100 hours for 3 crs. May be retaken to 6 cr max. Prereq: Comm Ed majors only.

510 Human Relations for Community Organizations & Community Engagement. 3 cr. U/G.

Analysis of selected concepts and resources bearing on human relations training. Various approaches, e.g., Harvard case studies, to human relations will be evaluated. Prereq: jr st.

519 Peer Programs and Mediation: Youth Mentoring and Supporting Youth. 3 cr. U/G.

Theory and practice of peer programs and how they are developed and sustained. Counts as repeat of Ed Pol 579 w/same topic. Prereq: jr st.

520 Peace Education. 3 cr. U/G.

Discusses how education and community education can address the threats of violence and prepares students to teach about peace, nonviolence, and conflict resolution. Prereq: jr st or cons instr. Minimum of 9 hrs Soc Sci division course work.

521 Nonviolence in Education. 3 cr. U/G.

An overview of different theories of nonviolence and an examination of their applications in educational setting. Prereq: jr st; Ed Pol 520(R); Psych 201(R) or cons instr.

522 Abusive Relationships: Community Problems, Community Solutions. 3 cr. U/G.

The origins of relationship abuse, the legal aspects of domestic violence, and the healing process for people hurting in relationships. Prereq: jr st; Ed Pol 520(P) or cons instr.

530 Urban Education: Foundations. 3 cr. U/G.

Application of basic social science concepts to study of education in the urban setting. Prereq: jr st.

531 Alternative Schools. 3 cr. U/G.

Examine the alternative schools movement. Counts as repeat of Ed Pol 330. Prereq: jr st.

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532 Male Identity: Education and Development. 3 cr. U/G.

Contribution of schools in forming male identity. Changing expectations of men in work, the family and society. Prereq: jr st.

533 Educating Black Males-Theories, Methods and Strategies. 3 cr. U/G.

This course will develop skills and strategies to affect changes in the lives of black males in the school system, k through 12 grade. Prereq: jr st; Ed Pol 112 or 375 or equiv or teacher certification.

534 The Student at Risk (Causes). 3 cr. U/G.

Helps teachers to identify and understand the personal, social, cultural and community contexts which contribute to the at-risk status of public school students. Prereq: jr st.

535 Educating At-Risk Students. 3 cr. U/G.

Development of skills and techniques to enable teachers to be instructionally effective with at-risk students. Prereq: jr st.

541 Wisconsin Juvenile Justice System and the Law for School Personnel. 1 cr. U/G.

Provides students and school personnel with knowledge of Wisconsin juvenile justice system, and legal responsibilities of all school personnel, emphasizing current code. Prereq: jr st.

550 Comparative Education. 3 cr. U/G.

Survey of foreign school systems with attention to cultural setting and major purposes. Prereq: jr st.

560 Education and Hispanics. 3 cr. U/G.

Examination of the educational experiences of Hispanics in schools in the USA. Prereq: jr st.

561 Education Issues in American Indian Communities. 3 cr. U/G.

Unique political-legal, social-cultural contexts of Native Education, intergovernmental involvement and role in addressing social/cultural and developmental needs of tribal societies. Prereq: jr st or cons instr.

579 Current Topics in Cultural Foundations of Education: (Subtitled). 1-6 cr. U/G.

Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Retakeable with change in topic to max of 9 cr, including cr earned under Ed Pol 779. Prereq: jr st.

580 An Overview of Child/Youth Care. 3 cr. U/G.

Survey of skills, theories and approaches of the youth work field. Emphasis on interactive, developmental and relationship-building approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.

Applies the skills, theories and approaches of the youth work field to settings such as schools, community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

582 Operations Management in Early Childhood Programs. 3 cr. U/G.

An introduction to systems and operations theory. Students explore and apply management concepts, systems, policies, and procedures to improve the quality of programs and services. Jointly offered with & counts as repeat of Ad Ldsp 582. Prereq: jr st; Ad Ldsp 581(P); or cons instr.

584 Early Childhood Programs and the External Environment. 3 cr. U/G.

Examines external influences that impact daycare. Students explore issues of culture, community, diversity, and policy as well as technical issues related to program quality. Prereq: jr st & Ad Ldsp 581(P); or cons instr.

585 Supervised Practicum in Child and Youth Care. 2-4 cr. U/G.

Supervised practicum in residential agencies and settings which utilize child and youth care workers and serve behaviorally, cognitively and/or physically disabled youth. Ed Pol/ExcEduc 585 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P), or grad st; cons instr.

597 Public Schools, Church-State Issues: Educational Foundations. 3 cr. U/G.

Examination of the intersection between church and state in public education, including historical, legal, and moral issues; discussions of religious conflicts. Prereq: jr st.

601 Foundations of Community-Based Organizations. 3 cr. U/G.

Overview of community based organizations, their structures, functions, & administration. Students will also be taught proposal writing skills. Prereq: jr st or cons instr.

602 Proposal Writing and Fundraising Skills for Community-Based Organizations. 3 cr. U/G.

Course prepares students to research, identify and apply for government funded community programs. Prereq: jr st.

603 Community Policy Analysis. 3 cr. U/G.

Overview of policy analysis theory and approaches and techniques used to make sound policy decisions. Prereq: jr st or cons instr.

604 Marketing for Community-Based Organizations. 3 cr. U/G.

Basic theories of marketing and the application of marketing strategies used by community-based organizations. Prereq: jr st or cons instr.

605 Community-Based Organization Funding. 3 cr. U/G.

Overview of basic fiscal issues (funding types and sources, accountability issues, oversight systems, etc) impacting community-based organizations. Prereq: jr st or cons instr.

606 Quality Controls and Accountability for Community-Based Organizations. 3 cr. U/G.

Introduction to quality controls and accountability tools that community-based organizations need in an era of increased accountability. Prereq: jr st.

607 Service Learning and Community Engagement. 3 cr. U/G.

Examines theories and practices of Service Learning and Community Engagement. Provides frameworks for reflection and action. Explores power, inequality and approaches to social justice. Part of concentration in

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Community Engagement and Partnerships.
Prereq: jr st or cons instr.

608 Social Media and Technology for Community Engagement. 3 cr. U/G.

Introduces a variety of current visions of social media and approaches to community informatics. Prereq: jr st or cons instr.

609 Community Partnerships. 3 cr. U/G.

Explores different partnership environments, including: community-campus partnerships, inter-agency non-profit partnerships; governmental-non-profit partnerships; and public-private partnerships through theory and practice. Prereq: jr st or cons instr.

610 Reproduction of Minority Communities. 3 cr. U/G.

Analysis of the social, economic, and cultural forces behind the formation and reproduction of minority and disadvantaged communities in the United States. Jointly offered w/& counts as repeat of Sociol 610. Prereq: jr st; any Sociol 100-level course.

611 Community Policies and Urban Minority Youths. 3 cr. U/G.

Focus on how community policies impact urban minority youths. Prereq: jr st.

612 Community Participation and Power. 3 cr. U/G.

Strategies for community participation in policy and practice; importance of understanding power relations for success. Students choose individual focus: e.g., housing, public health, education, etc. Prereq: jr st.

613 Context and Foundations of Educational Policy. 3 cr. U/G.

Defines educational policy, studies philosophical, historical, and social contexts of educational policy, examines context of educational policy, and presents contemporary educational concerns. Prereq: jr st.

615 Service Delivery Policies & Systems for Community-Based Organizations. 3 cr. U/G.

Overview of key policies used by community-based organizations in developing service delivery systems. Prereq: jr st.

620 History of the Education of African Americans. 3 cr. U/G.

Study of the history, biographies, trends, cultural influences, and movements in the education of African Americans: Africa to slavery to the present. Comparison with 'white education.' Prereq: jr st.

621 History of Native Education and Policy Development. 3 cr. U/G.

Historic policy development affecting the education of American Indians including the development of schools and the relationship of education to federal Indian policy. Prereq: jr st or cons instr.

624 Gender and Education. 3 cr. U/G.

Overview of the major discussions and debates in the area of gender, focusing on the intersections of gender, race, class, ethnicity, and sexuality. Prereq: jr st.

625 Race Relations in Education. 3 cr. U/G.

Study and analysis of historical and theoretical bases of racism/race relations in america and their influences on contemporary educational policies and practices. Prereq: jr st.

626 Antiracist Education. 3 cr. U/G.

Comparative perspectives on racism and antiracism in society and education. Counts as repeat of Ed Pol 579 with same topic. Prereq: jr st.

630 Race and Public Policy in Urban America. 3 cr. U/G.

Examination of the relationship between race and public policy with emphasis on issues (housing, crime, welfare reform, poverty, employment, discrimination, etc.) impacting urban communities. Prereq: jr st or cons instr.

633 Community Development for Low-Income and Minority Communities. 3 cr. U/G.

Introduction to the principles, ideas, and techniques of community development and the development of minority communities. Prereq: jr st.

636 Issues in African American Education. 3 cr. U/G.

Contemporary issues in African American education, including special education, poverty, and academics, and their historical contexts. Prereq: jr st.

639 Milwaukee Black Community. 3 cr. U/G.

Overview of the social, historical, economic and political developments of Milwaukee's Black community. Prereq: jr st.

640 The Rise and Fall of America's Southern Civil Rights Movement. 3 cr. U/G.

African Americans' struggle for Civil Rights in the South, focusing on issues such as education, housing, and politics; social and historical context for related policies. Prereq: jr st.

650 The Civil Rights Movement in Northern Cities. 3 cr. U/G.

Exploration of the Civil Rights Movement in northern cities, focusing on issues such as education, housing, and politics; social and historical context for related policies. Prereq: jr st.

660 History of Western Education. 3 cr. U/G.

Chronological narrative examining educational systems in western countries through the development of various civilizations from ancient Egypt to Europe. Prereq: jr st.

688 Fieldwork in Multicultural Education. 1-6 cr. U/G.

Fieldwork in multicultural settings appropriate for cultural research, analysis and study. Individualized requirements and evaluation criteria to be determined by faculty on individualized bases. May be retaken to 6 cr max. Prereq: jr st; cons instr.

698 Fieldwork in International Education. 1-6 cr. U/G.

Fieldwork in intercultural settings appropriate for cultural research, analysis and study. Requirements and evaluation criteria to be determined by faculty on individualized basis. Retakable to 6 cr max. Prereq: jr st; cons instr.

Cultural Foundations of Community Engagement and Education

702 Cultural Foundations of Education Graduate Seminar. 3 cr. G.

Introduction to graduate studies. Provides students the skills and knowledge needed to succeed in graduate school. Prereq: grad st

705 Sociology of Education and Community Engagement. 3 cr. G.

Focus on education and communities as social systems. Examination of race/ethnicity, socioeconomic class, and gender in communities and schools. Prereq: grad st.

710 Research Methods for Education and Community Engagement. 3 cr. G.

Critical examination of historical, philosophical, sociological and comparative research methods and strategies and their implications for community engagement and educational change. Prereq: grad st.

711 Community Change and Engagement Strategies: (Subtitled). 3 cr. G.

History of community change and engagement strategies in America. Strategies for planning and action to address inequality. Students can focus on issue from area of interest. Not retakable for cr. Prereq: grad st.

712 Community Participation and Power: Advanced Topics. 3 cr. G.

Strategies for community participation in policy and practice. Importance of understanding power relations for success. Students choose individual issue focus: e.g., housing, public health, education, the environment, health care, etc. Prereq: grad st.

713 Structural/Political Analysis in Community Engagement and Popular Education: (Subtitled). 3 cr. G.

Theoretical overview of structural and political analysis, focused mainly on the major strands in political economy conducted in relation to specific community case studies. Not retakable for cr. Prereq: grad st; cons instr

714 Practical and Theoretical Issues in Community Change and Engagement. (Subtitled). 3 cr. G.

Theoretical overview and strategic implications of some of the major social issues confronting community change practitioners, including race/class/gender dynamics, intercultural

communication, and leadership. Not retakable for cr. Prereq: grad st, cons instr.

715 Popular Education: Theory and Practice. (Subtitled). 3 cr. G.

Overview of popular education and related educational pedagogies. Strategies for developing popular education programs. Not retakable for cr. Prereq: grad st, cons instr.

721 Data Analysis for Educational Policy & Community Engagement. 3 cr. G.

Provides students with basic quantitative skills needed for gathering, organizing, interpreting, reporting and presenting data to impact community policies. Prereq: grad st.

725 Community Organizing in Low-Income and Minority Communities. 3 cr. G.

Overview of issues related to organizing in low-income and minority communities. Prereq: grad st.

740 Modern Philosophies of Education and Community. 3 cr. G.

Analysis of philosophies of education and of community processes; exploration of beliefs about values and knowledge within cultural contexts. Prereq: grad st.

750 History of Education in American Communities. 3 cr. G.

Study of consensus and conflict in the ideas and issues shaping education and community in the changing U.S. society; includes an emphasis on the education and engagement of immigrants, minorities and women in and outside of mainstream society.. Prereq: grad st.

770 (670) History of Urban Education Reform Policies. 3 cr. G.

Historical overview of urban education reform efforts in America. Prereq: grad st.

780 (680) Urban Education Policies and Community: Problems and Opportunities. 3 cr. G.

Issues impacting urban school districts. Prereq: grad st.

791 Action Research: Capstone Workshop. 3 cr. G.

Capstone research course for students in the Cultural Foundations of Education MS program Open to Cultural Foundations Students only. Prereq: grad st; Ed Pol 710 and 705 (P), 740 & 750 (P) or (C) plus 6 addl cr; cons instr.

799 Independent Reading. 1-3 cr. G.

For benefit of grad students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

801 (831) Urban Education: Doctoral Seminar. 1-3 cr. G.

Administrative leadership and policy development in urban education. Retakable to 3 cr max. Prereq: grad st; Educ 701(P); admis Urban Ed Ph.D. prog

805 Sociology of Education: Seminar. 3 cr. G.

Evaluation of theory, scholarly research, and issues in the sociology of education, with emphasis on empirical studies of social stratification and social mobility. Prereq: Doctoral st or cons instr.

822 Global Educational Studies. 3 cr. G.

Study of worldwide growth in learning needs and how to meet them; inequalities between and within countries; and proposed reforms, innovations and technologies. Prereq: grad st.

823 Multicultural Education. 3 cr. G.

Study of cultural diversity and its relationship to educational theory and practice. Emphasis upon developing and analyzing programs with a multicultural emphasis. Prereq: grad st; Ed Pol 705(P) or 750(P) or cons instr.

833 Seminar in Multicultural Education. 3 cr. G.

Emphasis upon devising an individually defined study of a specific educational issue or practice to encourage development of multicultural education. Prereq: grad st; Ed Pol 688(P) or 823(P) or cons instr.

Cultural Foundations of Community Engagement and Education

837 Emergent Methods in Qualitative Research for Social Foundations. 3 cr. G.

Provides students an advance overview of state-of-the-art qualitative research methods. Prereq: grad st.

840 Seminar in Educational Theory. 3 cr. G.

Examination of prominent theories of education and society and application to current educational issues and contexts. Prereq: Doctoral st or cons instr.

850 Seminar in History of American Education. 3 cr. G.

Historical background of contemporary debates and controversies in American education. Prereq: Doctoral st or cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

897 Seminar in the Philosophy and History of Adult Education. 3 cr. G.

Philosophical foundations related to the historical movement of adult education and implications for future directions. Prereq: grad st; Ad Ldsp 657 or cons instr.

990 Research or Thesis. 1-3 cr. G.

Prereq: grad st.

999 Independent Reading. 1-3 cr. G.

Variable content course. Retakeable to max of 9 cr. Prereq: master's degree.

Curriculum and Instruction

School/College: School of Education
Degrees Conferred:

- M.S. in Curriculum and Instruction

Overview

The Department of Curriculum and Instruction offers a graduate program of study in curriculum and instruction, including choices of concentration in three Focus Areas: Subject Area, Instructional Level Area and Cross-Curricular Area.

The Department also cooperates with the Department of Administrative Leadership in the Specialist Certificate Program with an emphasis in reading. Under the auspices of the Ph.D. program in Urban Education, the Department offers doctoral specializations in Curriculum and Instruction and in Mathematics Education.

Graduate Faculty

Professors

Berg, Craig, Ph.D., University of Iowa
 File, Nancy, Ph.D., Purdue University
 Huinker, DeAnn M., Ed.D., University of Michigan
 Pasternak, Donna, Ph.D., New York University

Associate Professors

Habeck, Tania (Mertzman), Ph.D., University of South Florida
 Hawkins, Jeffrey, Ed.D., University of San Francisco
 Longwell-Grice, Hope, Ph.D., University of Delaware
 Mueller, Jennifer, Ph.D., University of Michigan
 Posnanski, Tracy, Ph.D., University of Wisconsin-Milwaukee
 Post, Linda, Ph.D., Syracuse University
 Saffold, Felicia, Ed.D., Cardinal Stritch University
 Steele, Michael, Ed.D., University of Pittsburgh, Chair

Assistant Professors

Evans, Leanne, Ph.D., University of Wisconsin-Milwaukee
 Hamlin, Maria, Ph.D., University of Michigan
 Doerr-Stevens, Candance, Ph.D., University of Minnesota
 Joseph, Tatiana, Ph.D., University of Wisconsin-Milwaukee

Master of Science in Curriculum and Instruction

Admission

An applicant must meet Graduate School requirements to be considered for admission to the program.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than 6 credits.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

An applicant lacking the required grade point average (2.75 on a 4.00 scale) may be considered for admission on probation.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the department chair. Students who have not completed a Proposed Program of Study form with their advisor and filed it with the Department by the end of the semester in which they are admitted may not be allowed to register for the next term.

Credits and Courses

- The minimum degree requirement is 30 credits, including:
- 12 credits in Curriculum and Instruction core areas.
- 12 to 15 credits in a focus area approved by the student's major professor
- Completion of 3 credits of CurrIns 800, Master's Seminar in Curriculum and Instruction **or** 3 to 6 credits of CurrIns 890, Master's Research or Thesis.

Certifications

Graduate students seeking initial teacher certification or added certification(s) can arrange their master's degree program so that a portion of the credits earned towards the master's degree can also serve as partial fulfillment of teacher certification requirements.

Please note that students must also make a separate application to the School of Education's Post-Baccalaureate Teacher Certification program. Degree and certification requirements may differ. The following certification programs are available:

Initial Teacher Certifications

- Early Childhood Education (birth through age 8)
- Early Childhood through Adolescence (birth through 21)

- Middle Childhood through Early Adolescence (ages 6 through 13)
- Early Adolescence through Adolescence (ages 10 through 21)

Supplemental Certifications

- Bilingual Education
- Reading Teacher (ages 4 through 21)
- Reading Specialist (ages 4 through 21)

Certification programs in English as a Second Language and world languages, such as Chinese, Spanish or French are part of the Early Childhood through Adolescence program. Certification programs in English, mathematics, science and social studies are parts of the Early Adolescence through Adolescence program. Students interested in mathematics and/or science certification typically participate in the Milwaukee Area Collaborative Science Teacher Education Program (MACSTEP).

Information about the specific subject area certification programs listed above may be obtained from the UWM Undergraduate Catalog, the Curriculum and Instruction Office (Enderis Hall, room 310), or the [Department of Curriculum and Instruction's Website](#).

Certification Programs in Reading

Reading Teacher K-12

Requirements for a Wisconsin Reading Teacher license

1. Bachelor's degree in education or a related area with a 2.75 GPA on a 4.0 scale.
2. Eligibility to hold a Wisconsin license to teach or successful completion of an approved teacher education program.
3. Two years of successful regular classroom teaching experience.
4. A portfolio demonstrating competence in the teaching of reading according to the 6 proficiencies listed in the Wisconsin Administrative Code, Chapter PI34.33(6) and 1 program proficiency.
5. Successful completion of 24 credits of coursework with at least 12 of the credits taken beyond the Bachelor's degree level. Credit for prior coursework may be considered for courses taken within five (5) years of initial enrollment.

Reading Specialist K-12

Requirements for a Wisconsin Reading Specialist license

1. A Reading Teacher license (Wisconsin administrative code, chapter PI34.33(6)).
2. A Master's degree with a major emphasis in reading.

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3. A portfolio demonstrating competence in the direction of an early childhood through adolescence reading program or the ability to successfully work with reading teachers, classroom teachers, literacy coaches, administrators and others as a resource teacher in reading according to the 5 proficiencies listed in the Wisconsin Administrative Code, Chapter PI34.32(8).

Information about the specific courses needed to successfully complete the Reading Teacher and Reading Specialist programs can be obtained from the School of Education's Certification Office (Enderis Hall, room 220), the Advising Office in the Department of Curriculum and Instruction (Enderis Hall, room 366) or the C&I Reading Program faculty.

Doctor of Philosophy in Urban Education

Under the auspices of the Ph.D. program in Urban Education, the Department of Curriculum and Instruction offers two doctoral specializations: (1) Curriculum and Instruction and (2) Mathematics Education. Prospective doctoral students wishing to specialize in either of these areas must first be admitted to the Urban Education Doctoral Program. Admission and general program requirements are described in detail in the [Urban Education section](#).

Specialization in Curriculum and Instruction

The specialization in Curriculum and Instruction provides program emphasis in a content area (e.g., reading), education level (e.g., early childhood), a general area (e.g., curriculum theory), or special area (e.g., guiding instructional improvement). For specific requirements, refer to the section on the [Curriculum and Instruction Specialization](#).

Specialization in Mathematics Education

The specialization in Mathematics Education integrates mathematical knowledge for teaching, content-focused equitable pedagogy, and practice-based inquiry and research. The program prepares leaders and researchers for mathematics instruction, curriculum, and programs. For specific requirements, refer to the section on the [Mathematics Education Specialization](#).

415 Preliminary Student Teaching:

(Subtitled). 1-6 cr. U/G.

Initial Student Teaching Experience for EAA Licensure Candidates. Prereq: jr st; eligibility for student teaching & dept req.

423 Student Teaching in Social Studies. 10-12 cr. U/G.

Final Student Teaching Semester for EAA Social Studies Licensure Candidates. Prereq: jr st; eligibility for student teaching & dept req.

428 Student Teaching Science Seminar. 3 cr. U/G.

Seminar to support secondary science student teachers. Planning and debriefing lessons, analyzing pedagogy and student work, preparation for teaching licensure assessments. Prereq: jr st; eligibility for student teaching.

432 Student Teaching Mathematics Seminar. 3 cr. U/G.

Seminar to support secondary mathematics student teachers. Planning and debriefing lessons, analyzing pedagogy and student work, preparation for teaching licensure assessments. Prereq: jr st or grad st; eligibility for student teaching.

497 Study Abroad. (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Workshop in Curriculum and Instruction: (Subtitled). 1-6 cr. U/G.

Development of teacher growth through problem solving, self-expression, group thinking, and individual study. Individuals or small groups work on problems growing out of their professional needs. Specific topics and any additional prerequisites will be announced in Timetable each time the course is offered. May be retaken with change of topic. Prereq: jr st or grad st.

503 Assessment Issues in Language Education. 3 cr. U/G.

Approaches to assessment of first and second language learning including rationale, traditional and alternative strategies, interpretation of results for placement, instruction, and program evaluation. Prereq: jr st or instr cons; admis to School of Educ or grad st.

508 Language and Urban Schooling. 3 cr. U/G.

General overview of the major issues in both first and second language acquisition, and the relevant implications for urban schooling. Prereq: jr st & admis to School of Educ, or grad st; or cons instr.

509 Reading and Social Welfare. 1 cr. U/G.

Reading process, characteristics of effective reading programs and bibliotherapy as they relate to the work of school social workers. Prereq: admis to Helen Bader School of Social Welfare.

510 Cooperative Strategies for Pre and Early Adolescents. 1-3 cr. U/G.

Teaching and management strategies consistent with fostering productive learning environments for pre and early adolescents. May be retaken to

max of 3 cr. Prereq: admis to School of Educ, or grad st.

516 Field Work in Middle School. 2-6 cr. U/G.

Implementation of strategies learned in the 6-12 teacher education program May be taken to max of 6 cr. Prereq: admis to School of Educ or grad st.

518 Science Methods I: Middle/Secondary Methods and Fieldwork. 3-6 cr. U/G.

The objectives, curriculum, instructional strategies, and assessment of middle/secondary school science. Not retakeable for cr. Prereq: admis to School of Educ, or grad st.

519 Science Methods II: Middle/Secondary Methods and Fieldwork. 3-6 cr. U/G.

The objectives, curriculum, instructional strategies, and assessment of middle/secondary school science. Includes fieldwork in middle/secondary school. Not retakeable for cr. Prereq: admis to School of Educ or grad st.

520 Developing Mathematical Thinking in Young Children. 3 cr. U/G.

Teaching and learning of mathematics, grades pre k-3. Emphasis on problem-solving, communication, developmentally appropriate experiences with whole numbers, fractions, geometry, measurement, and data analysis. Prereq: jr st; teaching experience.

522 Economic Education. 3 cr. U/G.

Approaches to teaching economic principles. Applications of economic reasoning to current problems. Curricular implications for school programs, grades K-12. Prereq: jr st.

523 Current Issues and Practices in the Teaching of Social Studies. 3 cr. U/G.

Examination of current issues in social studies curriculum reform. Emphasis on the latest research and teaching practices. Prereq: CurrIns 323 or grad st.

525 Environmental Resources Workshop: (Subtitled). 1-3 cr. U/G.

Methods and curriculum for teaching about environmental problems. Topic-specific prereq will be published in the Schedule of Classes May be retaken with change in topic to max of 6 cr. Prereq: jr st.

527 Science in the Elementary School. 3 cr. U/G.

Study of science curriculum materials; instructional procedures; analysis of pupil learning modes; experience with science equipment; teaching of science as inquiry; individual problems and projects. Prereq: jr st & admis to School of Educ; or grad st.

530 Workshop in Computer Instruction in the Schools. 3 cr. U/G.

Examination, construction and evaluation of computer extended instruction. Emphasis on

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participant development of curriculum materials and instructional procedures centered on pupil development. Not open to students who have cr in Ed Psy 530, which is identical to CurrIns 530. Prereq: jr st; cons instr.

531 Teaching of Computer Science. 3 cr. U/G.

Methods and curriculum for the teaching of computer science in the secondary schools. A brief introduction to management of a computer laboratory. Prereq: jr st & admis to School of Educ & CompSci 351; or grad st.

532 Teaching of Mathematics: Secondary. 3 cr. U/G.

Methods and curriculum for the teaching of mathematics in middle and high schools. Prereq: jr st; admis to School of Educ.

533 Foreign Language Workshop. 1-4 cr. U/G.

Analysis of current developments and changes in foreign language education. Critical examination of specific problems, conflicts, and trends -e.g. in teaching basic skills, teaching culture and literature, use of audio-visual materials and the language laboratory; the effect of current competition and foreign language student teaching supervision. Study of curriculum revision and of instructional materials. Individual curriculum projects or research possibilities. Prereq: jr st & cons dept. Not

535 Methods and Techniques in Affective Education. 1-3 cr. U/G.

Basic principles and practical techniques for instruction in the affective domain are modeled and practiced. Although process oriented, the course does not neglect theoretical frameworks. Prereq: jr st.

536 Literacy 1: Assessing and Teaching Early Literacy. 3 cr. U/G.

Addresses early reading and language arts assessment and instruction with diverse learners. Includes concurrent clinical experience. Prereq: jr st, CurrIns 306(C) & admis to SOE; or cons instr.

537 Literacy 2: Assessing and Teaching Literacy through Early Adolescence. 3 cr. U/G.

The role of reading and language arts assessment and instruction with diverse learners in 1st-8th grade classrooms with particular emphasis on comprehension, vocabulary, and disciplinary literacy. Prereq: jr st & admis to SOE; or cons instr.

538 Literacy 3: Introduction to New Literacies. 3 cr. U/G.

Examines research based processes for literacy instruction, effects of and approaches for the use of technology on literacy development. Prereq: jr st, admis to SOE, & CurrIns 537(P); or cons instr.

541 Principles and Methods of Teaching ESL. 3 cr. U/G.

Techniques of introducing ESL at the K-12 level. Teaching of basic language skills, especially listening comprehension and speaking. Curriculum materials and current literature in ESL. Micro teaching provided. Prereq: jr st and admis to SOE; or cons instr

542 History and Politics of Second Language Education. 3 cr. U/G.

General overview of the history, politics, legal and social contexts of language education in the United States today. Prereq: jr st or cons instr.

543 Developing Biliteracy. 3 cr. U/G.

Stresses the practical application of theory and research on language development in a bilingual setting. The development of primary language skills is emphasized. Prereq: jr st or cons instr; admis to School of Educ, or grad st.

544 Improving the Teaching of Reading: (Subtitled). 1-3 cr. U/G.

Focuses on instructional problems of teachers in teaching developmental reading. Specific topic and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 6 cr. Prereq: jr st; teaching experience.

545 Reading in the Content Areas: Middle, Junior, and Senior High School. 3 cr. U/G.

Survey of reading process and developmental reading in the middle, junior and senior high school. Emphasis on application of instructional techniques relating the use of reading within subject matter fields. Prereq: jr st; admis to School of Educ or grad st.

546 Language, Content, and Comprehensible Input. 3 cr. U/G.

Theories and methods for delivering content to second language learners. Models of sheltered and learning strategies instruction will be explored. Prereq: jr st or cons instr.

547 Curricular Applications of the Internet. 3 cr. U/G.

Analysis and construction of internet based instruction focusing on the use of interactive media in grades 1-12. Prereq: jr st & admis to School of Educ, or grad st.

550 Using Children's Literature to Explore Latin Am/Latino Cultural Heritage. 3 cr. U/G.

Using children's books that explore Latin American/Latino cultural heritage. Counts as repeat of CurrIns 579 with similar topic. Prereq: jr st.

551 Teaching of Language Arts. 1-4 cr. U/G.

Survey of curriculum, methods and materials in skills and expressive areas of language, linking theory with practical instructional strategies in

both preschool and elementary settings. Prereq: jr st & admis to School of Educ; or grad st.

552 Teaching Reading, Grades 1-3. 3 cr. U/G.

Foundations of reading and instructional strategies which support the development of literacy learning in the primary grades (grades 1-3) with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 506. Prereq: jr st, Admis to School of Educ; or grad st.

553 Teaching Language Arts and Children's Literature, Grades 1-3. 3 cr. U/G.

Language arts instruction and children's literature in the middle childhood grades (grades 1-3) with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 506. Prereq: jr st; admis to School of Educ; or grad st.

554 Teaching Reading and Adolescent Literature, Grades 4-8. 3 cr. U/G.

Reading instruction and literature for early adolescents, grades 4-8 with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 507. Prereq: jr st; admis to School of Educ; CurrIns 552(P); or grad st.

555 Teaching Language Arts, Grades 4-8. 3 cr. U/G.

Language arts instruction in the early adolescent grades, grades 4-8, with concurrent teaching field experience. Counts as repeat of 3 cr of CurrIns 507. Prereq: jr st; admis to School of Educ; CurrIns 553(P); or grad st.

556 Professional Seminar 1: Foundations of Curriculum and Instruction. 3 cr. U/G.

Philosophies of curriculum and instructional models to meet the developmental needs of children in urban contexts. Prereq: jr st, admis to SOE, Ed Psy 325(C), CurrIns 306(C), & 536(C); or cons instr.

557 Professional Seminar 2: Classroom Management: Theory, Practice and Context. 3 cr. U/G.

Addresses the theoretical frameworks, models and goals in classroom management practices in grades 1-8. Prereq: jr st, admis to SOE, CurrIns 556(P) & 307(C); or cons instr.

558 Professional Seminar 3: Building Learning Communities. 3 cr. U/G.

Exploration and application of strategies that build positive learning climates/communities in urban classrooms in grades 1-8. Prereq: jr st, admis to SOE, CurrIns 557(P) & 406(C); or cons instr.

560 Improving Mathematics Teaching and Learning: (Subtitled). 1-3 cr. U/G.

Focuses on instructional and curricular issues in mathematics. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. May be

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retaken w/chg in topic to 18 cr max. Prereq: jr st or grad st.

561 Issues in Elementary and Middle School Mathematics. 3 cr. U/G.

Introduction to the teaching and learning of mathematics at the elementary and middle school levels. Emphasis on curriculum, instructional strategies, and assessment. Prereq: jr st; admis to School of Educ or cons instr or grad st.

562 Secondary School Mathematics Issues for Exceptional Education Teachers. 1 cr. U/G.

Issues in secondary mathematics curriculum, instructional strategies, and assessment for teachers of students with special needs. Prereq: jr st; admis to exceeduc middle/high cert prog.

570 Improving Science Teaching and Learning: (Subtitled). 1-3 cr. U/G.

Focuses on instructional and curricular issues in science. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: jr st; teaching experience.

579 Current Topics in Curriculum and Instruction: (Subtitled). 1-3 cr. U/G.

The specific topic will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 9 cr including cr earned under CurrIns 779. Prereq: jr st, cons instr.

580 Mathematics Education: (Subtitled). 1-3 cr. U/G.

Analysis of school and classroom practices in mathematics. Specific topics and any additional prereqs will be announced in the Schedule of Classes each time the course is offered. May be retaken for cr w/chg in topic. Prereq: jr st or grad st.

585 Best Practices in Early Childhood for Children and Families. 3 cr. U/G.

Child care as a family-friendly community including integration of child growth and development principles into all aspects of the program. Prereq: jr st; admis to child care director's prog or cons instr.

593 Supervision of Student Teaching. 1 cr. U/G.

Roles and responsibilities of the supervising teacher in planning, guidance and evaluation of the learning experiences of prospective teachers. Prereq: current teacher certification.

602 Early Childhood Education. 1-4 cr. U/G.

Basic principles of curriculum planning for young children. Education in nursery schools, day care centers, kindergartens and primary grades. A study of the materials of instruction and techniques of teaching at this level. Prereq: jr st.

612 Collaborations for Teachers with Families, Schools, and Communities. 3 cr. U/G.

Theory/strategies for developing effective family-school relationships, with a focus on urban issues, inclusive classrooms, teacher-family communications, family education and support, and community resources for teachers. Counts as repeat of CurrIns 505 and ExcEduc 651. Jointly offered with and counts as repeat of CurrIns 612. Prereq: jr st; admis to SOE; or cons instr.

624 Instructional Trajectories for Fraction Concepts and Operations. 3 cr. U/G.

Examination of mathematical trajectories for teaching fractions with focus on evidence-based instructional and assessment strategies and analysis of curriculum. Prereq: jr st; teaching experience, or cons instr.

625 Principles and Practices of Teaching Geometry and Geometric Thinking. 3 cr. U/G.

Examination of instructional sequences for geometry and analysis of teaching strategies for developing and assessing students' geometric thought. Counts as repeat of CurrIns 560 with topic "Geometry and Geometric Thinking." Prereq: jr st; teaching experience

626 Principles and Practices of Teaching Algebraic Reasoning. 3 cr. U/G.

Examination of instructional trajectories for algebra and analysis of teaching strategies for developing and assessing students' algebraic reasoning. Prereq: jr st; teaching experience.

629 Change and Change Strategies in Education. 1-4 cr. U/G.

This course will involve students in an exploration of individual groups and institutions as these elements relate to change processes in education. Models and strategies will be studied and applied to change problems. May be retaken to a 4 cr max. Prereq: jr st; teaching experience.

637 World Language Methods and Materials. 3 cr. U/G.

Basic principles and practical instructional techniques intended to prepare teachers with experiences and background to teach world languages. Prereq: jr st or cons instr.

639 Critical Issues and Methods in World Language Education. 3 cr. U/G.

Advanced preparation for teachers of world languages that will equip them for teaching world languages to students from early childhood through adolescence. Prereq: jr st, CurrIns 637(P) or equiv, or cons instr.

642 Teaching Standard English as an Alternate Dialect in Urban Schools. 1-4 cr. U/G.

Offered once per academic year, once every second summer. Linguistic aspects of

application of research and scholarship to the problems of teaching standard english in urban schools. Includes recent curricular developments and micro teaching. Prereq: jr st. Available as grad level only.

643 Balanced Literacy Instruction in the Elementary School. 1-3 cr. U/G.

Study and implementation of assessment and teaching strategies for balanced literacy instruction including phonics. Retakable to max of 6 cr. Not open for cr to students with CurrIns 343(ER) or equiv. Prereq: jr st.

644 Enhancing Literacy Learning for Diverse Learners: (Subtitled). 3 cr. U/G.

Teaching reading and writing to diverse learners. Jointly offered with & subtitles count as repeat of same title of ExcEduc 644. CurrIns 644 & ExcEduc 644 may be retaken with change of topic to combined 9 cr max. Prereq: currently teaching with at least 2 yrs experience; cons instr.

646 University of Wisconsin System Reading Research Symposium. 1-3 cr. U/G.

Updates students on most recent reading research. Students are required to attend the two-day symposium. May be retaken for credit. Prereq: jr st.

647 Early Reading Empowerment: Part 1. 3 cr. U/G.

First semester of a 2 semester practicum designed for practicing teachers; develop expertise in assessing and teaching reading to struggling early literacy learners. Prereq: currently teaching, at least 2 years teaching experience, cons instr.

648 Early Reading Empowerment: Part 2. 3 cr. U/G.

Second semester of a 2 semester practicum designed for practicing teachers; develop expertise in assessing and teaching reading to struggling early literacy learners. Prereq: CurrIns 647(P), currently teaching, at least 2 years teaching experience, cons instr.

649 Children's Literature. 1-4 cr. U/G.

To acquaint students with the wide range of good books for children and to provide wide reading experiences in children's literature; evaluation and use of current materials. Prereq: jr st & admis to School of Educ; or grad st.

650 Reading Interests of Adolescents. 3 cr. U/G.

Recently published literature for adolescents - types, themes, issues related to school programs. Prereq: jr st.

653 Children's Literature: The Past Five Years. 3 cr. U/G.

Analysis of children's books published in the past five years. Arranged by genres, this course considers issues, trends, evaluative criteria, and

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classroom uses of books. Prereq: jr st; CurrIns 649 or equiv.

655 Applied Educational Linguistics. 3 cr. U/G.

Explanation of linguistic principles which can be applied to language-based activities in the classroom and which can be useful in solving language-learning problems. Prereq: jr st or cons instr.

657 Approaches to Teaching and Assessing Texts in the Secondary Schools. 3 cr. U/G. Pedagogy and assessment of literature and other texts and their classroom applications: canonical and diverse literary selections; literary critical theory. Prereq: jr st.

658 Teaching and Assessing English. 3 cr. U/G.

The objectives, materials, techniques and assessments of teaching English. Covers language and writing methods. Prereq: jr st, Admis to SOE & CurrIns 657(P); or grad st.

659 Teaching and Assessing Grammar to Enrich Writing. 2 or 3 cr. U/G.

Current research about teaching grammar, and the historical, social, and political consequences associated with various approaches to grammar instruction and assessment. English Educ Cert students enroll for 2 cr; other Cert students enroll for 3 cr. Prereq: jr st.

664 Dramatizing Literature in Elementary Classrooms. 1-4 cr. U/G.

Nature of creativity in children; basic principles of informal playmaking, including movement, mime, characterization, dialogue, and conflict. Using children's ideas to develop literature-based dramatizations. Prereq: jr st.

668 Introduction to Instructional Technology. 1-4 cr. U/G.

The utilization of instructional technology. Emphasis is placed upon the effective integration and utilization of instructional media as based upon a systems approach to organization. Laboratory exercises included. Prereq: jr st. Not available for grad cr.

675 Making Schools Work: Promoting Positive Change in Chronic Problem Behavior. 3 cr. U/G.

Methods of applying system theory, cybernetics, and communication theory concepts in classrooms and schools to help solve recurring interpersonal problems and improve educational effectiveness. Prereq: grad st or cons instr.

700 Field Work in Schools, Agencies and Institutions: (Subtitled). 2-6 cr. G. Supervised field experience planned in conference with the student's major professor. An evaluation report required. Prereq: grad st & cons instr.

701 Curriculum Planning and Ideologies. 3 cr. G.

The concept of elementary and secondary curriculum in modern american education. Foundation principles and major objectives. Prereq: grad st.

702 Curriculum Problems and Practices in Early Childhood Education. 4 cr. G.

Current trends in the education of children in day care centers, nursery schools, kindergartens and primary grades. Opportunities for study of individual problems of teachers at this level. Prereq: grad st.

703 Advanced Curriculum in Early Childhood Education. 4 cr. G.

Theoretical foundations of curriculum planning in early childhood education programs. Counts as repeat of CurrIns 779 with same topic. Prereq: grad st

705 Research in Schools and Communities. 3 cr. G.

Overview of content and inquiry in curriculum and instruction. Prereq: grad st.

714 Analysis of Instruction to Improve Teaching and Learning. 3 cr. G.

Study of teaching behaviors and models. Examination of factors involved in deciding how to teach. Opportunity to analyze teaching and clarify personal teaching preferences. Prereq: grad st.

715 Guiding Instructional Improvement. 3 cr. G.

Methods of applying the knowledge of instruction to solve instructional problems; ways of working with teachers to improve the quality of instructional behavior, styles and strategies. Prereq: grad st; CurrIns 714 or cons dept.

716 Teaching in Urban & Diverse Communities. 1-4 cr. G.

Teaching in a culturally pluralistic setting. An examination of how the law, school policy and equity issues affect curriculum and instructional practices. Prereq: grad st.

720 (620) Curriculum and Standards for School Mathematics. 3 cr. G.

Overview of historical and current perspectives on curricular reforms and the standards movement in mathematics education. Counts as repeat of CurrIns 579 with topic, 'National Mathematics Standards.' Prereq: grad st

721 Advanced Problems in the Teaching of Social Studies. 3 cr. G.

For teachers with experience who wish to improve their understanding and skill; equal emphasis on theory and practice. Prereq: grad st & cons instr.

724 Advanced Problems in Science Education. 3 cr. G.

Study of current issues and problems related to science instruction and curriculum developments, course planning, analysis of learning in the science classroom, techniques of evaluation, review of research in science education. Prereq: grad st & science teaching experience.

725 Improving Teaching and Learning with Classroom-Based Assessments. 3 cr. G.

Development and implementation of classroom-based assessment instruments within existing large-scale state and district accountability systems. Jointly offered w/ & counts as repeat of Ed Psy 725. Prereq: grad st.

729 Qualitative Research and Field Studies in Educational Settings. 3 cr. G.

Examination of qualitative techniques as applied to educational research and evaluation in schools, classrooms, and other educational settings. Not open to students who have cr in Ad Ldsp 729 which is identical to CurrIns 729. Prereq: grad st; Ed Psy 528(P) or equiv.

730 Mathematics in Elementary Education. 3 cr. G.

Current trends in mathematics instruction. Investigation of curricular scope and sequence as it relates to mathematics learning by children. Emphasis on special issues. Prereq: grad st; teaching experience.

731 Mathematics in the Secondary School. 3 cr. G.

Current trends in curriculum and instruction. Opportunity to work on special problems. Prereq: grad st.

734 Advanced Problems in the Teaching of Foreign Languages. 3 cr. G.

Close re-examination of instructional practices and the soundness of the underlying principles in a period of transition regarding aims, methods, content and psychological aspects of foreign language learning. The teaching of culture and other timely material in changing curricular expectations. Prereq: grad st & teaching experience.

740 UWM Writing Project: Teachers as Writers. 3 cr. G.

Develop self-awareness as writer and compare understanding to theories of writing instruction. Analyze writing opportunities and reflect on experience in relation to classroom practice. Counts as repeat of CurrIns 779 w/ same topic. Concurrent enrollment in CurrIns 741 required. Prereq: grad st; acceptance into UWM Writing Project.

741 UWM Writing Project: Teacher Leadership in Writing. 3 cr. G.

Analyze theory and research about writing in classrooms. Synthesize and evaluate various methods that enhance writing instruction

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leading to developing teacher as leader in writing. Concurrent enrollment in CurrIns 740 required. Prereq: grad st; acceptance into UWM Writing Project.

742 UWM Writing Project: (Subtitled). 1-9 cr. G.

Develop as a writer. Analyze theory and research about writing in classrooms. Synthesize and evaluate various methods that enhance writing instruction leading to developing teacher as leader in writing. Prereq: grad st., acceptance into UWM Writing Project, retakable with change in topic to 9 cr max, retakable with same topic to 6 cr max.

744 Secondary Developmental Reading Practicum. 2-4 cr. G.

Analysis of developmental reading methods, assessment devices for secondary students, supervised classroom teaching practicum of secondary students. Prereq: grad st; CurrIns 747 & 545.

746 Advanced Reading Education. 3 cr. G.

Analysis and evaluation of research on reading processes, including psycholinguistic perspectives. Evaluation of reading models. Application to current approaches to teaching reading emphasized. Prereq: grad st; CurrIns 643(P) or equiv.

747 Reading Assessment and Instruction with Practicum: K-12 Part I. 3 cr. G.

Analysis of the factors contributing to reading difficulty; use of formal and informal assessments with implications for instruction. Includes work with student who have reading difficulties. Prereq: grad st; CurrIns 504, 506, 544, 545 or equiv; or cons instr.

748 Reading Assessment and Instruction with Practicum, K-12: Part II. 3 cr. G.

Diagnosis, teaching, curriculum planning and materials for disabled readers. Students will work with small groups of elementary age disabled readers in a supervised tutorial situation. Prereq: grad st; CurrIns 747(P).

751 Language Arts in the Elementary School. 3 cr. G.

Survey and critical appraisal of programs, practices and trends, emphasis on oral and written expression including spelling and handwriting; specific study of individual problems. Prereq: grad st.

753 Teaching Language and Composition. 3 cr. G.

Consideration of problems, curricular materials and teaching procedures in the areas of language, grammar and written composition, with emphasis on language history and applications of linguistic knowledge. Prereq: grad st.

754 Teaching Literature. 3 cr. G.

Curriculum materials, methods of organization and approaches to the study of literature, with attention to problems of teaching prose fiction and nonfiction, drama and poetry. Micro teaching used. Prereq: teaching experience & grad st.

761 Mathematics Instructional Leadership. 3 cr. G.

Study and development of teacher leadership for supporting effective mathematics instruction and high-leverage mathematics teaching practices through collaborative cultures and content-focused coaching. Prereq: grad st.

774 College Teaching. 3 cr. G.

Analyzes curricular issues and instructional practices in college and adult programs. Research on youth, college influences and adult change will be reviewed. Prereq: grad st.

779 Current Topics in Curriculum and Instruction: (Subtitled). 1-3 cr. G.

Specific topic announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr, including grad cr earned under CurrIns 579. Prereq: grad st, cons instr.

799 Independent Reading: (Subtitled). 1-3 cr. G.

Prereq: enrollment in master's prog.

800 Master's Seminar in Curriculum and Instruction. 3 cr. G.

Required for all curriculum and instruction students. Students develop and defend a seminar project. Master's examination is in conjunction with the seminar. Prereq: grad st; 27 grad cr; cons dept; cons advisor

801 Urban Education: Doctoral Seminar in Curriculum & Instruction. 3 cr. G.

Curriculum and instruction goals, programs, and practices in urban schools, as analyzed in varying critical perspectives. Prereq: admis to PhD prog; Educ 701(P).

802 Recent Research in the Field of Early Childhood Education. 4 cr. G.

A study of recent research in the area of early childhood education and in child development at these levels. Practical applications to the programs of day care centers, nursery schools, kindergartens and primary grades will be made. Prereq: grad st.

803 Reflective Practice: Urban Early Childhood Teaching. 4 cr. G.

The relationships between teaching practice and the socio-cultural-historical contexts of teaching; application to teaching through reflective analysis. Prereq: grad st

805 History Of Curriculum Development. 3 cr. G.

A study of the history of curriculum development in american education including major issues, movements and figures. Prereq: grad st; Ed Pol 650; cons dept.

813 Instructional Research and Theory. 3 cr. G.

Examination of current research and theory concerning teacher behavior and its antecedents and consequences. Implications for teaching teacher training, evaluation of teaching, and classroom research. Prereq: grad st; CurrIns 714 or cons dept.

814 Seminar in Instruction. 3 cr. G.

Individual instruction problems are examined. Emphasis is placed upon developing and carrying out a research project dealing with instruction. Prereq: grad st; CurrIns 714 or cons dept.

816 Curriculum Designs for Urban Schools. 3 cr. G.

Examination of the problems of urban schools and the implications of these problems for the design of school curriculum. Prereq: grad st; CurrIns 701 or 716; or cons instr.

819 Theory and Design of Curriculum. 3 cr. G.

Examination of the essential operations of curriculum from the point of view of common curriculum patterns, development of the theoretical considerations underlying the application of these operations to curriculum planning and development. Prereq: grad st; CurrIns 701(P).

829 Advanced Qualitative Research Techniques for Education Settings. 3 cr. G.

Advanced examination of qualitative research techniques in three areas: conceptual design; data collection methods; and data analysis and reporting. Not open to students who have cr in Ad Ldsp 829, which is identical to CurrIns 829. Prereq: Ad Ldsp 729 (CurrIns 729) or cons instr.

830 Seminar in Elementary School Mathematics Education. 3 cr. G.

Critical issues in arithmetic instruction. Survey of research studies and their implications for instruction. Development and discussion of individual research problems. Prereq: grad st; cons dept.

839 Practicum in Writing from Qualitative Research for Educational Settings. 3 cr. G.

Practice in writing from qualitative research data and analysis of qualitative text. Not open to students who have cr in Ad Ldsp 839 which is identical to CurrIns 839. Prereq: grad st; Ad Ldsp or CurrIns 729(P) & 829(P).

Curriculum and Instruction

846 Seminar in Developmental Reading: (Subtitled). 3 cr. G.

Topics will vary. In-depth study of implications of trends and research for improving instruction and k-12 curriculum planning. Specific topic and any additional prerequisites will be announced in schedule of classes each time course is offered. May be retaken with change in topic to max of 6 cr. Prereq: grad st; CurrIns 746.

849 Guiding and Directing School Reading Programs K-12. 3 cr. G.

The role of the Reading Specialist/Literacy Coach in guiding and directing K-12 reading programs and supervising literacy instruction. Required for WI Reading Specialist license. Prereq: grad st; CurrIns 747 & 748 (P); CurrIns 646 (P) or cons instr.

861 Seminar in Mathematics Urban Education. 3 cr. G.

Focus on issues of equity and access to high-quality mathematics teaching, curriculum, and assessment for students with diverse cultural, linguistic, and economic backgrounds. Prereq: grad st

864 Integrating Mathematics Education Research into Curriculum and Instruction. 3 cr. G.

Using results from research on mathematics teaching and learning to shape teaching practice, including impacts on curriculum development, implementation, and pedagogical practice. Prereq: grad st

865 Mathematics Program Design and Development. 3 cr. G.

Research-based practices for guiding and developing school and district mathematics curriculum and programs. Inquiry into problems of practice in mathematics education. Prereq: grad st

880 Proseminar in Urban Education: Curriculum and Instruction. 2 cr. G.

An examination of selected problems and issues in urban education. Prereq: grad st; admis to urban educ doctoral prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Master's Research or Thesis. 3-6 cr. G.

Research or thesis work for students in the master's program in curriculum and instruction. Prereq: grad st; cons advisor.

900 Seminar In Curriculum Construction. 3 cr. G.

Opportunity to develop curriculum materials or work on individual problems. Prereq: grad st; cons dept.

990 Doctoral Research or Thesis. 1-3 cr. G.

Prereq: admis to doctoral prog.

993 Seminar in the Pre-Service and In-Service Education of Teachers. 3 cr. G.

For advanced students interested in problems of teacher education. Prereq: grad st; cons dept.

999 Independent Reading. 1-3 cr. G.

For the benefit of doctoral students unable to secure needed content in regular courses. Prereq: post-masters or doctoral st; cons instr.

Dance

School/College: Peck School of the Arts
Degrees Conferred:

- MFA in Dance

Overview

The Department of Dance offers graduate study leading to the Master of Fine Arts in Dance. The program offers opportunity to hone technical skills, to explore personal intuition, imagination, and craft both in creating dance works and also in performing them, and to focus on critical areas of dance core studies.

The MFA in Dance is structured to meet the scheduling constraints of working dance professional performers, choreographers, and educators: A block of on-campus and distance learning coursework is available during the fall and spring semesters, in addition to the intensive summer graduate course offerings. The program is designed to offer a balance of theoretical, creative and practical coursework with the goal of preparing future university dance faculty.

Students may arrange to set works for schools, churches, galleries, community projects, and local dance companies, and are encouraged to discover new dance environments and resources. Two on-campus dance spaces, the Mainstage Theatre and the Mitchell Hall Studio 254, may be available for selected works during the year.

Graduate Faculty

Professors

Ferro, Simone, MFA, University of Iowa
 Parsons, Marcia Ruth, M.A., University of Illinois-Champaign/Urbana; M.A., Columbia College, Chicago
 Wutz, Darci, MFA, Smith College

Assistant Professors

Burkholder, Daniel, MFA, University of Wisconsin, Milwaukee
 Gillespie, Maria, MFA, University of California – Los Angeles

Senior Lecturer

Loewen, Debra, MFA, University of Wisconsin, Milwaukee

Master of Fine Arts in Dance

Admission

Applicants who meet [Graduate School requirements](#) plus these program requirements may be admitted in good standing:

1. Submission of a videotape or DVD of past or current performance and/or choreographic work.

2. Submission of two letters of recommendation.

Applicants lacking in course background may be admitted with deficiencies on the condition that deficiencies be made up; credits earned in making up deficiencies do not count toward the master's degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise studies as specified in Graduate School regulations; the student may not register for any courses without this advisor's prior approval. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

Minimum degree requirement in Performing Arts-Dance is 60 credits distributed as follows, of which at least 6 must be in complementary studies.

1. Dance Techniques and Somatics (Modern, African, Ballet, Alexander, Pilates, Yoga), 9-15 cr.
2. Creating, Staging, and Performing Dance Works, 16-22 cr.
3. Theory and Application of Dance, 12-18 cr.
4. Electives in Complementary Studies, 6-14 cr.
5. Final Project, 4-8 cr.

For those who began the program prior to summer 2008, the minimum degree requirement in Performing Arts—Dance is 48 credits, of which at least 6 must be in complementary studies. Students may distribute the required 48 credits of coursework as follows:

1. Dance Techniques (modern, African, ballet, yoga), 6-14 cr.
2. Creating and Performing Dance Works, 12-18 cr.
3. Core Dance Studies, 12-18 cr.
4. Electives in Complementary Studies, 6-14 cr.
5. Final Project, 4-8 cr.

Total Required: **48 Credits**

Final Project

Each student must undertake a final project of either one or two semesters duration (4-8 cr.). The project must be approved by the major advisor. The project may involve an array of challenging roles and/or production of choreographic work created by the student. These may occur in a variety of approved performance settings which may include on- or off-campus sites. The quality of performance and/or choreography will determine whether the degree is granted. This evaluation is made by

the graduate faculty after the presentation of the final project. No comprehensive examination is required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

319 Dance Service-Learning. 1-3 cr. U/G.

Service-Learning as field work in a community partnership setting under supervision of Dance faculty member. Conc reg in dance course which allows Dance 319 component by cons instr. May be retaken to max of 4 sem or 9 cr. Prereq: jr st; Dance 219(P), & cons instr.

403 Intermediate Yoga For Dancers. 2-3 cr. U/G.

A continuation of Dance 103 stressing the performance and integration of more advanced asanas. May be retaken to a max of 2 sem. Prereq: Dance 103, or grad st in Dance component of MFA prog, or cons instr.

497 Study Abroad in Dance: (Subtitled). 1-12 cr. U/G.

Interdisciplinary and foundational learning in the area of world dance through interactions with and explorations in differing cultures and areas. May be retaken with change in topic to max of 12 cr. Prereq: jr st or cons instr; & acceptance for Study Abroad Prog.

701 Dance Composition I. 3 cr. G.

An investigation of resources for discovering and inventing movement material, and for developing concepts and structures to give this material perceptual, emotional validity. Prereq: grad st in Dance component of MFA prog; conc reg Dance 733(C).

702 Dance Composition II. 3 cr. G.

A continuation of Dance 701. Prereq: grad st; Dance 701(P), conc reg Dance 734(C).

711 Theory and Techniques of Ballet: Intermediate. 2 cr. G.

Technical study of classical ballet. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

712 Theory and Techniques of Ballet: Intermediate. 2 cr. G.

A continuation of Dance 711. May be repeated twice for cr. Prereq: grad st; Dance 711 or audition.

Dance

717 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.

An intensive course designed to develop understanding of the major techniques of contemporary concert dance. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

718 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.

A continuation of Dance 717. May be repeated twice for cr. Prereq: grad st; Dance 717 or audition.

721 Alexander Technique, Developmental Movement and Dance. 1-3 cr. G.

A hands-on exploration of the application of the Alexander Technique to advanced dance training through developmental movement. Prereq: grad st in Dance component of MFA prog or cons instr

722 Alexander Technique Practicum. 1-3 cr. G.

Continuation of Dance 721 focusing on a more in-depth study and application of Alexander Technique for advanced dancers. Prereq: grad st in Dance component of MFA prog & Dance 721

723 Pilates Technique and Applications. 2 cr. G.

Use of Pilates method to understand and articulate essential concepts and theories of movement, and refine dance technique. May be retaken once. Prereq: grad st in MFA Dance Program or cons instr.

733 Improvisation 1. 3 cr. G.

Techniques and structures for improvisation--the development of processes for evolving movement material from an exploration of the dynamics of inter and intra-relationships, and environment. Prereq: admission to Dance MFA program.

734 Improvisation 2. 3 cr. G.

A continuation of Dance 733. Prereq: grad st; Dance 733(P) & conc reg in Dance 702(C).

743 Dynamic Analysis of Movement I. 2 cr. G.

Exploration of personal patterning and discovery of movement sources at the body level. Incorporates material from bartenieff fundamentals, feldenkrais, and sveigard. Prereq: grad st in dance component of mfa prog.

744 Dynamic Analysis of Movement II. 2 cr. G.

A continuation of Dance 743. Advanced body level work, application of bartenieff fundamentals to dance technique. Prereq: grad st & Dance 743(P).

751 Laban Movement Analysis. 3 cr. G.

Theory and movement practice in effort/shape for use both in performance and in choreography. Prereq: grad st in dance component of mfa prog.

761 Survey of Dance Literature and Bibliography. 3 cr. G.

Lecture, research, and discussion of the major English language dance reference works, and of dance research publications. Prereq: grad st in Dance component of MFA prog.

762 Dance in Secondary Education and College. 3 cr. G.

Methods and philosophy of teaching dance in the secondary school. Theory and practice in solving problems arising in practical teaching situations. Observation of dance lessons. Prereq: grad st & admis to MFA prog in Dance.

771 History of Renaissance and Baroque Dance. 3 cr. G.

Lecture, discussion of readings of the periods (in translation). Emphasis also upon performing some of the period dances. Prereq: grad st in dance component of mfa prog.

772 American Concert Dance of the Twentieth Century. 3 cr. G.

Graduate seminar in special topics of American concert dance of the twentieth century. Prereq: grad st in Dance component of MFA prog.

772 (effective 01/22/2018) American Concert Dance of the 20th and 21st Century. 3 cr. G.

Graduate seminar in special topics of American concert dance of the twentieth and twentieth first century. Prereq: admis to Dance MFA prog.

775 Valuing and Evaluation of Dance. 3 cr. G.

Observing and describing dancing and choreography and shaping values. Prereq: grad st.

790 Repertoire and Ensemble. 1-3 cr. G.

Practicum in group performance in dance department productions, touring groups, and performances related to the dance department. Includes original works from classical and contemporary

repertoire. May be repeated to max of 12 cr. Prereq: grad st in Dance component of MFA program.

799 Independent Study. 1-3 cr. G.

Individual faculty and student will define the teaching/learning contract for the semester and agree on the credit. Prereq: grad st.

801 Choreography I. 3 cr. G.

Creating fully mounted works; choreography, performance quality, lighting decor, costumes. Prereq: grad st in Dance choreography track of MFA prog; Dance 701(P) & 702(P) or cons instr.

802 Choreography II. 3 cr. G.

Creating fully mounted works of greater length and complexity. Prereq: grad st in Dance Choreography track of MFA prog; Dance 701(P), 702(P), 801(P), or cons instr.

861 Research Methodology for Dance. 3 cr. G.

Lecture, formulation of research proposal, research and write-up of a dance research problem. Prereq: grad st & admis to dance component of mfa prog.

871 Applied Anatomy for Dance. 2 or 3 cr. G.

Study of human bony and neuromuscular structures in theory and movement. Lec only for 2 cr; lec & lab for 3 cr. Prereq: grad st in dance component of MFA prog; Dance 711(P) & 717(P) or cons instr.

873 Field History: Contemporary Dance Festivals. 2-4 cr. G.

Research, reading, attendance and documentation on selected festivals/series events. Pre-study of choreography/performance style, background, influences, artistic themes. Group discussions and evaluations. May be repeated with permission to max of 9 cr. Prereq: grad st in Dance component of MFA prog.

880 Developing Performance Quality. 1-3 cr. G.

Studies in dynamics of specific choreography. Cr determined prior to regis. May be repeated for up to 6 cr. Prereq: grad st in MFA performance component of dance prog; Dance 711 & 717 or cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

Dance

889 Special Workshops: (Subtitled).

1-3 cr. G.

Special short intensive workshops of 1-4 weeks during inter-terms or summer sessions presented by guest artists. May be retaken to 9 cr max. Prereq: grad st in MFA component of dance prog or cons instr.

990 Dance Final Thesis/Project. 2-4 cr. G.

Final demonstration of craft and artistry mastered in program, when completion approved by project committee. May be repeated to max of 8 cr. Prereq: grad st; cons dept chair.

Economics

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Economics
- Ph.D. in Economics

Overview

The Department of Economics offers graduate programs of study designed to prepare students for careers in education and for careers in administrative and research positions in government, industry and labor. The programs are built upon a solid core of training in economic theory and in quantitative analysis, with area concentrations in econometrics, economic growth and development, industrial organization, international economics, labor economics and human resources, mathematical economics, monetary theory and policy, and urban and regional economics.

Graduate Faculty

Distinguished Professors

Bahmani-Oskooee, Mohsen, Ph.D., Michigan State University
 Heywood, John, Ph.D., University of Michigan

Professors

Adams, Scott, Ph.D., Michigan State University
 Arora, Swarnjit S., Ph.D., State University of New York at Buffalo
 Bose, Niloy, Ph.D., Virginia Polytechnic Institute and State University
 Kim, Sunwoong, Ph.D., Massachusetts Institute of Technology
 Mohtadi, Hamid, Ph.D., University of Michigan
 Peoples, James H., Ph.D., University of California-Berkeley

Associate Professors

Chakrabarti, Avik., Ph.D., University of Michigan
 Drewianka, Scott, Ph.D., University of Chicago
 Kishor, N.Kundan, Ph.D., University of Washington
 Lei, Vivian, Ph.D., Purdue University
 McGinty, Matthew, Ph.D., University of California-Santa Cruz
 Murshid, Antu, Ph.D., Rutgers University
 Neumann, Rebecca, Ph.D., University of Colorado
 Vesely, Filip, Ph.D., Purdue University

Assistant Professors

Goh, Chuan, Ph.D., University of California at Berkeley.
 Kroeger, Sarah, Ph.D., Boston University
 Lazkano, Itziar, Ph.D., University of Calgary, Canada.
 Thompson-Ferguson, Owen, University of Massachusetts-Amherst

Master of Arts in Economics

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. An undergraduate major in economics and one semester of calculus. Alternatively, adequate preparation at the undergraduate level equivalent to two semesters of coursework in intermediate economic theory, one semester of statistics, and one semester of calculus.
2. Submission of scores on the [Graduate Record Examination](#). General Test or equivalent quantitative courses is recommended. Test of English as a Foreign Language exam is required for applicants whose native language is not English.
3. Two letters of recommendation from persons familiar with applicant's scholastic achievement and potential.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. Deficiencies in economic theory are made up through Economics 301 (Intermediate Price Theory) and 302 (Intermediate Income Theory); in statistics through Economics 210 (Economic Statistics); and in calculus through Math 211.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. In Economics the newly admitted master's student is advised by the Graduate Study advisor.

Option A: Thesis Option

Credits and Courses

Minimum degree requirement is 30 graduate credits, 6 of which may be taken in Economics 990 (Graduate Thesis), for the completion of an acceptable thesis. Econ 701 (Economic Theory: Microeconomics), 702 (Economic Theory: Macroeconomics), 703 (Econometrics), and 790 (Research Seminar for M.A. Students) are required. In addition, the student must select one area of concentration offered by the Department and must take at least two semesters in this concentration in courses numbered 700 or above (except Economics 990, 991 and 999) or take Economics 506 and 606.

A concentration on Latin America is available. A student with previous interest and commitment in Latin American studies, who is able to demonstrate—through examination—good reading ability and fair conversational ability in Spanish or Portuguese, is permitted to select this concentration under Option A. Requirements for this concentration are Econ 774, 775, and 778 as well as 3 credits in Interdisciplinary Seminar on Latin America plus a graduate course in Latin America in some field other than economics.

Thesis

An acceptable thesis must be written on the student's area of concentration.

Comprehensive Examination

The student must pass a final oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Option B: Non-Thesis Option

Credits and Courses

Minimum degree requirement is 30 credits of graduate work, including Econ 701 (Economic Theory: Microeconomics), 702 (Economic Theory: Macroeconomics), 703 (Econometrics), and 790 (Research Seminar for M.A. Students). The student must select one area of concentration offered by the Department and must take at least two courses in this concentration in courses numbered 700 or above, or take Economics 506 and 606. The student also must select any two courses numbered 700 or above (except Economics 734, 990, 991, and 999) in other areas of economics.

Thesis

No formal thesis is required. The student must submit a master's paper instead of a thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Economics

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program. A master's degree is not prerequisite for admission to the Ph.D. program in economics.

- An undergraduate major in economics with a grade point average (both overall and in economics) of 3.0 (4.0 scale) and one semester of calculus or adequate preparation at the undergraduate level

Economics

equivalent to two semesters of coursework in intermediate economic theory, one semester of statistics, and one semester of calculus.

- An applicant having a master's degree in economics or graduate coursework in economic theory must have a graduate grade point average of at least 3.33 (4.0 scale).
- Submission of scores on the [Graduate Record Examination](#) General Test and Subject Test or equivalent quantitative courses is recommended. Test of English as a Foreign Language exam is required for applicants whose native language is not English.
- Two letters of recommendation from persons familiar with applicant's scholastic achievement and potential.

Reapplication

A student who is in the master's program must formally reapply for admission to Graduate School before continuing toward the Ph.D. To receive doctoral student status, a student must complete the master's degree or obtain a waiver of this requirement from the admissions committee, the graduate study advisor, and the Department Chair. The waiver must be obtained before the student completes 27 credits in the M.A. program.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. In Economics, the newly admitted Ph.D. student is advised by the Graduate Study advisor.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. Of the total credits required, a minimum of 42 must be taken in the field of economics, including 12 credits in Econ 801, 802, 803, and 804; 12 credits in quantitative theory; a total of 15 credits in two areas of concentration; and 3 cr of research skills as detailed below. An additional 9 to 12 credits may be chosen either in a minor field outside the Department or in electives either in or outside the Department, as follows.

Minor field or electives: This requirement may be satisfied in one of two ways:

1. Minor field: 9 to 12 credits in a single department other than Economics; courses planned with a professor in the minor department and the examination, if required, is administered by the minor department.
2. Electives: 9 to 12 credits in courses from any departments, including Economics, but

no more than 6 credits in any one department other than Economics; courses are to be planned with the approval of the Graduate Study advisor and no examination is required.

Research Skill

Research skill requirements are individually assigned by the graduate study advisor. Research skill requirement is fulfilled through courses in computer science, mathematics, statistics, mathematical economics (700 level or above), or econometrics (700 level or above).

Residence

The student must meet minimum Graduate School residence requirements. The Ph.D. student meets the continuous portion of the residence credit requirement by completing 8 to 12 credits in each of two consecutive semesters, including summer sessions. Residence credit is not earned at the master's level or prior to award of the master's degree.

Doctoral Preliminary Examination

The student must pass doctoral preliminary examinations for formal admission to candidacy for the degree. The examinations are given in sections covering economic theory and the student's two areas of concentration. Students must take the sections in economic theory first.

Students may attempt any prelim exam twice. Any student failing a prelim exam twice may appeal to the Graduate Faculty for permission to take the exam for a third time if:

1. The student's request is accompanied by letters of support from at least two members of the faculty and where one of the faculty is a member of the prelim committee awarding the failing grade, and
2. The student is still able to satisfy the time limits outlined below. (Note: These conditions must be met before an appeal can be considered by the Graduate Faculty. Satisfaction of these conditions in no way obligates the Graduate Faculty to grant any appeal.)

Students may not take the field exams until they have passed both theory exams. A section is also included covering the minor if there is one; this section is administered by the department concerned.

The schedule specifying the time at which these examinations are taken is as follows:

1. A doctoral student with an M.A. in Economics from UWM must attempt both theory prelims at the conclusion of 2 semesters or 12 credits (whichever happens last) and must pass both theory prelims prior to the start of the 5th

semester or at the conclusion of 24 credits (whichever happens last).

2. A doctoral student with an M.A. in Economics from another institution must attempt both theory prelims at the conclusion of 3 semesters or 24 credits (whichever happens last) and must pass both theory prelims prior to the beginning of the 6th semester or at the conclusion of 36 credits (whichever happens last).
3. A doctoral student without an M.A. in Economics must attempt both theory prelims at the conclusion of 5 semesters or 36 credits (whichever happens last) and must pass both exams prior to the beginning of the 8th semester or at the conclusion of 48 credits (whichever happens last).

Dissertation

The candidate must write a dissertation which demonstrates ability to formulate a research topic and pursue independent and original investigation.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

310 Research Methods for Economics. 3 cr. U/G.

Statistical research methods, especially cross-section and time-series regression, applied to evaluation of empirical literature and a directed research project. Not open for cr to students who have cr in Econ 513(531). Prereq: jr st; Econ 210(P) or cons instr.

411 (effective 09/05/2017) Economic Forecasting Methods. 3 cr. U/G.

Economic time series, analysis, forecasts. Trends, seasonality, cycles, smoothing procedures. Simulation models; sample survey methods. Extensive applications using macro and financial data. Forecasting software use. Prereq: jr st; Econ 210(P); Econ 310(P) or cons instr.

411 Economic Forecasting Methods. 3 cr. U/G.

Economic time series, analysis, forecasts. Trends, seasonality, cycles, smoothing procedures. Simulation models; sample survey methods. Extensive applications using macro and financial data. Forecasting software use. Prereq: jr st; Econ 210(P).

413 Statistics for Economists. 3 cr. U/G.

Elements of probability; joint marginal and conditional distributions; measures of central

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tendency and dispersion, calculus of expectations; central limit theorem. Estimation and testing of economic relations. Prereq: jr st; Econ 210(P); Math 211(P) & cons instr, or Math 231(P). Math 232(R) & 233(R).

415 Economics of Employment and Labor Relations. 3 cr. U/G.

Analysis of wage setting, labor markets, human capital and collective bargaining. Study of labor standards, regulation and the role of unions and government. Prereq: jr st; Econ 103(P).

426 Public Economics. 3 cr. U/G.

Economic analysis of government and policy, including taxation and expenditures, policy responses to market failures, redistributive programs, and related topics. Prereq: jr st; Econ 104(P) & 301(P).

432 Industrial Organization. 3 cr. U/G.

Economic analysis of asymmetric information, barriers to competitive entry, licensing, pricing practices/transactions costs; application to markets for insurance, computers, health care, used cars, food. Prereq: jr st; Econ 301(P).

447 Labor Economics. 3 cr. U/G.

The economics of unions, minimum wage, poverty and welfare programs; influence of international trade on domestic labor markets. Study of labor supply and labor demand. Prereq: jr st; Econ 301(P).

448 Economics of Human Resources. 3 cr. U/G.

The economics of education, training, discrimination, and workplace incentives. Study of hiring, promotion, and job search. Prereq: jr st; Econ 103(P) or cons instr.

450 Health Economics. 3 cr. U/G.

Efficiency of medical care, health insurance and access to care, alternative models of health care delivery, health behaviors and public policy. Prereq: jr st; Econ 103(P).

454 International Trade. 3 cr. U/G.

Why countries trade; who wins, who loses; facts about world trade; political economy of trade. Balance of payments, Asian crisis, European Union, American wage dispersion. Prereq: jr st; Econ 301(P).

455 International Finance. 3 cr. U/G.

International monetary system; spot and foreign exchange markets; balance of payments; international adjustment mechanisms; international finance policy; history and institution. Prereq: jr st; Econ 302(P).

458 Selected Topics in Economics: (Subtitled), 3 cr. U/G.

Variable content course designed to focus on special topics not normally discussed in detail in other existing courses. Retakable w/chg in topic. Prereq: jr st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance in Study Abroad Prog.

506 Mathematical Economics I. 3 cr. U/G.

Mathematical techniques used in economic analysis, including calculus and matrix algebra. Applications include optimizing behavior of firms and consumers. Prereq: jr st; Econ 301(P); Math 211(P) & cons instr, or Math 231(P). Math 232(R) & 233(R).

525 The Economics of Water. 3 cr. U/G.

Comprehensive development of water resource economics for engineers, scientists, and economists; analysis of the public and private sector economics of water resources. Prereq: jr st; Econ 103(P); Math 231(P); a statistics course; or cons instr.

606 Mathematical Economics II. 3 cr. U/G.

Difference and differential equations applied to economic variables such as human capital, consumption, learning, energy use, and pollution. Essential preparation for graduate work. Prereq: jr st; Econ 506(P).

701 Economic Theory: Microeconomics. 4 cr. G.

Conventional theory of the behavior of firms, consumers, and markets; partial and general equilibria. Prereq: grad st; Econ 301(P). Econ 506(R).

702 Economic Theory: Macroeconomics. 4 cr. G.

Aggregative economic analysis, problems of aggregation and significant aggregates; national income, flow-of-funds, and input-output. Prereq: grad st; Econ 302(P). Econ 506(R).

703 Econometrics. 4 cr. G.

Regression theory, generalized least squares, heteroscedasticity, autocorrelation, multicollinearity, distributed lags, and discrete variable models, system of equations. No cr for students who have grad cr in Econ 513. Prereq: grad st

706 Mathematical Economics. 3 cr. G.

Mathematical analysis of modern economic problems; dynamic input-output system, stability analysis, general equilibrium analysis, optimizing theory including linear and non-linear programming, activity analysis and turnpike theory, and mathematical growth models. Prereq: grad st; Econ 506(P) & 606(P).

708 Industrial Organization I. 3 cr. G.

Exploration of the relationship between industrial structure and market performance. Topics covered include r&d, advertising and government regulations. Prereq: grad st; Econ 301(P), 302(P) & 506(P), or cons instr.

709 Industrial Organization II. 3 cr. G.

Evaluation of the economic impact of the anti-trust laws. Topics covered include horizontal restraint, vertical restraint, patent, and mergers. Prereq: grad st; Econ 301(P), 302(P), & 413(P).

710 Applied Econometrics. 3 cr. G.

Specification, estimation and testing of economic theory. Application of distributed lags, autoregressive models, system of equations, discrete choice models and cointegration principles. Prereq: grad st; Econ 703(P).

712 Urban Economic Theory. 3 cr. G.

Trends in U.S. urbanization and suburbanization. Studies of urban household and firm behavior. General equilibrium analytical and simulation models of urban structure. Prereq: grad st; Econ 301(P).

713 Regional Economic Theory. 3 cr. G.

Location theory and land-use patterns, regional social accounts and input-output models, shift-share analysis, regional econometric model, and growth policies. Prereq: grad st; Econ 301(P) or cons instr; Econ 413(431)(R).

731 Money, Income, and Prices. 3 cr. G.

Analysis of the demand for money by monetary theorists. Integration of theories into general equilibrium macro-models. Prereq: grad st; Econ 302(P). Econ 702(R).

734 Foundation of Econometric Methods. 3 cr. G.

Statistical and econometric methods for econometrics research. Asymptotic theory; maximum likelihood, generalized method of moments estimation; classical linear regression model; non-linear and multivariate regression models. Prereq: grad st; Econ 413(431)(P) & 506(P) or cons instr.

735 Econometric Methods I. 3 cr. G.

Review of statistical inference, asymptotic distribution theory, multivariate regression model and its extension, and use of prior information; estimation and testing of econometric models. Prereq: grad st; Econ 734(635)(P) or cons instr.

749 Urban Public Finance. 3 cr. G.

Analysis of state and local government expenditures and revenues; demand for urban services, costs of supplying them, and methods of financing them. Prereq: grad st; Econ 301(P).

751 Labor Economics I. 3 cr. G.

Human capital investments: determinants of earnings (education, experience, incentives, discrimination, unions, compensating differentials); public sector labor markets; issues of retirement and aging. Prereq: grad st; Econ 701(C).

Economics

752 Labor Economics II. 3 cr. G.

Income distribution and inequality; migration and immigration; fertility, family structure, human capital and labor supply; unemployment and job search; selection bias; specialization and work organization. Prereq: grad st; Econ 701(C).

753 Collective Bargaining. 3 cr. G.

Economic and behavioral theories of collective bargaining, bargaining structure, impasses and truces, union effects, management goals, terms of the agreement and national policy. May not be substituted for Econ 751 or 752 in meeting the concentration req of the Econ MA Non-thesis option or in preparing for Ph D prelims. Prereq: grad st; Ind Rel 701(R).

755 Comparative Labor Markets and Employment Relations. 3 cr. G.

Labor market institutions, practices and performance. The U.S. is compared with western europe, japan and elsewhere. May not substitute for Econ 751 or 752. Prereq: grad st; Econ 210(P) & 415(451)(P) or cons instr.

774 Economic Development - Theory. 3 cr. G.

Theories relating to production, distribution, and capital formation in less-developed nations. Prereq: grad st; Econ 301(P) & 302(P).

775 Economic Development - Policy. 3 cr. G.

Planning, case studies, and empirical analysis of less-developed nations. Prereq: grad st; Econ 301(P) & 302(P).

790 Research Seminar for M.A. Students. 3 cr. G.

Basic research methods and guidance in developing a research proposal and writing a formal research paper. Prereq: grad st

801 Advanced Microeconomic Theory I. 3 cr. G.

Decision-making under risk and over time, general equilibrium and welfare, market failure, and applications, including demand systems, household production, interpersonal economics, and hedonic pricing. Prereq: grad st; Econ 701(P) & 506(P). Econ 606(R).

802 Advanced Macroeconomic Theory I. 3 cr. G.

Money, credit, and governmental operations in aggregative analysis; critical study of some aggregative and analytical systems. Prereq: grad st; Econ 702(P).

803 Advanced Microeconomic Theory II. 3 cr. G.

Theory of the firm, imperfect competition, game theory, asymmetric information, transaction costs and applications including matching/search, factor markets, contract theory, mechanism design and specialization. Prereq: grad st; Econ 506 (P) & 701(P); Econ 606 (R).

804 Advanced Macroeconomic Theory II. 3 cr. G.

New growth theories, new Keynesian theories, role of information in macro models, and financial markets and macro economy. Prereq: grad st; Econ 802(P).

806 Mathematical Economics. 3 cr. G.

Applications of dynamic optimization technique to modern economic problems; optimal economic growth, optimal pricing, optimal stabilization policies, etc. Prereq: Econ 706(P).

831 Monetary Theory and Policy. 3 cr. G.

Study of money, credit, and liquidity as related to income, employment, and prices. Study of goals and effectiveness of monetary and banking policy. Prereq: grad st; Econ 701(P). Econ 702(C) or cons instr.

835 Econometric Methods II. 3 cr. G.

Identification problem, econometric model building, and simultaneous equation techniques such as two- and three-stage least squares and full- and limited-information maximum likelihood methods. Prereq: grad st; Econ 735(P).

871 The Pure Theory of International Trade. 3 cr. G.

Examines for both static and growing economies the impact of trade upon relative prices of goods and factors of production. Prereq: grad st; Econ 701(P).

872 Money in the International Economy. 3 cr. G.

Examines the theory and measurement of the balance of payments, appropriate policies for internal and external balance, the problems of making international payments and the issue of exchange rate flexibility. Prereq: Econ 702(P) & 455(576)(P).

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

905 Seminar: Banking and Monetary Theory: (Subtitled). 3 cr. G.

Consideration of the relationship between monetary policy and short-run fluctuations and long-run economic trends. May be retaken with change in topic to 6 cr max. Prereq: grad st; Econ 831(P) or cons instr.

915 Seminar: Econometric Methods: 3 cr. G.

Selected advanced topics in econometric methods and their application to current economic problems. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 835(P).

931 Seminar: Regulated Industries: 3 cr. G.

Research in the field of public utilities and other regulated industries, with emphasis on changing the emerging transportation problems.

Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 701(P).

947 Seminar: Public Finance: 3 cr. G.

Advanced study of public finance problems and literature. Research. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 701(P) & 702(P).

974 Seminar: Economic Development and Growth: (Subtitled). 3 cr. G.

Analysis of advanced topics relating to the process of economic development and theory of growth. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Econ 774(P) & 775(P).

990 Graduate Thesis. 1-3 cr. G.

Reserved for research in connection with doctoral thesis. Retakable as necessary to fulfill thesis requirements. Prereq: grad st; cons major prof.

991 Workshop in Economic Research: (Subtitled). 2-3 cr. G.

Individual research and group discussion of selected problems in economic theory and its applications. Retakable with change in topic to 9 cr max. Prereq: grad st & cons instr.

999 Independent Work. 1-3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

Educational Psychology

Educational Psychology

School/College: School of Education
Degrees Conferred:

- M.S. in Educational Psychology
- Ed.S. in School Psychology
- Ph.D. in Educational Psychology

Overview

The Department of Educational Psychology resides in the School of Education at the University of Wisconsin-Milwaukee and prepares graduate students for a variety of clinical, research, and teaching professions at the master's or doctoral level.

The Master of Science in Educational Psychology is designed to serve those who want to increase their understanding of human behavior from conception through adulthood, research and evaluation of learning, and teaching in informal and formal educational settings. The program permits concentrations in School Counseling, Community Counseling, School Psychology, Human Development and Learning, and Educational Statistics and Measurement. The Department also offers certification sequences to qualify students as school psychologists and school counselors.

The goal of the Doctor of Philosophy in Educational Psychology is to prepare psychologists, researchers and educational professionals to effectively work on the unique challenges of promoting education, learning, and mental health in urban environments. The four areas of emphasis in the doctoral program are Counseling Psychology, Learning and Development, Educational Statistics and Measurement, and School Psychology.

The Counseling Psychology and School Psychology specializations at the master's and doctoral level are accredited by the American Psychological Association (APA).

Graduate Faculty

Distinguished Professor
Fouad, Nadya, Ph.D., University of Minnesota,
Chair

Professors

Hains, Anthony, Ph.D., University of Notre Dame
Sapp, Marty, Ed.D., University of Cincinnati
Stoiber, Karen, Ph.D., University of Wisconsin-Madison
Walker, Cindy, Ph.D., University of Illinois, Urbana - Champaign
Wester, Stephen, Ph.D., University of Florida

Associate Professors

Azen, Razia, Ph.D., University of Illinois, Urbana-Champaign

Baskin, Thomas, Ph.D., University of Wisconsin - Madison
Chavez-Korell, Shannon, Ph.D., Pennsylvania State University
Lamborn, Susie, Ph.D., University of Denver
Zhang, Bo, Ph.D., University of Pittsburgh

Assistant Professors

Klingeil, David, Ph.D., University of Minnesota
Kwon, Kyongboon, Ph.D., University of Georgia
Lawson, Christopher, Ph.D. University of Wisconsin-Madison
Nguyen, Jacqueline, Ph.D. University of Wisconsin-Madison

Master of Science in Educational Psychology

Application

Before applying

Please see the [Educational Psychology Website](#) for department-specific application requirements.

Applicants should indicate the concentration for which they wish to be considered on their application:

- Community Counseling
- Learning & Development
- Research & Evaluation
- School Counseling
- School Psychology

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program

1. An undergraduate GPA of 3.00.
2. At least 18 undergraduate credits in education or related social sciences. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.
3. Applicants who have a GPA lower than 3.00 but above 2.5 may be recommended for probationary admission with appropriate supporting documentation.
4. Personal interviews may be required prior to admission.
5. Applicants for programs in counseling, educational statistics and measurement,

and school psychology are required to submit three letters of recommendation.

6. Initial advisor assignment will be made by the area chair of the concentration to which the applicant has applied.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

Each concentration has unique requirements; the student should consult the descriptions of each concentration to determine specific requirements. Descriptions are available from the Department.

Students seeking an emphasis in counseling are required to complete 48 credits.

Thesis

Optional. Up to 6 degree credits may be awarded for thesis research.

Comprehensive Examination

The student who writes a thesis must pass a final oral examination in defense of that thesis. The student who does not write a thesis must pass a final oral or written comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Community Counseling and School Counseling

The counseling program in the Department of Educational Psychology offers two distinct concentration areas: Community Counseling and School Counseling. Given UWM's location in the largest urban area in Wisconsin, the counseling faculty is committed to training multiculturally competent community counselors and school counselors to serve clients in urban environments. Both concentrations share a core preparation in the areas of counseling and educational psychology. As students make progress in their program of studies, their focus will take on a more specialized training with content specific courses and field placements where they will refine their counseling skills in practical settings.

The concentrations train counselors to work with a diverse group of clients in urban settings and to deliver services in an ethical manner, as outlined by professional codes of conduct. They share in common courses comprising an Educational Psychology core of studies, a

Educational Psychology

general Counseling core of studies, and a Concentration core. The Educational Psychology core provides knowledge for understanding research and professional scholarship, techniques of educational and psychological measurement, and typical human growth and development across the life-span. The Counseling core courses provide training in basic helping processes and relationships, career development, social and diversity issues in counseling, group work, appraisal of client issues, counseling theory, and the role of family systems. The Concentration core provides training in advanced strategies for helping clients change, and opportunities for increasing competency with specific populations through field placement. Fieldwork in Counseling and Supervised Practicum in Counseling involve the refinement of more advanced and sophisticated counseling skills in placements in actual counseling settings. Students are required to spend 20 hours each week during the semester at their placement site (an exception to this hour requirement is described below for students interested in seeking experience in dual concentrations). Each concentration requires 48 credits.

Community Counseling

The Community Counseling concentration prepares students for work in a variety of community settings such as mental health clinics, community agencies, counseling centers, colleges and universities, and business and industry. Students arrange their program of studies in consultation with their advisors so that the 48 credits earned toward a master's degree will meet selected state certification requirements.

School Counseling

The School Counseling concentration prepares students to work as school counselors. The program is approved by the Wisconsin Department of Public Instruction. Students are trained to apply the principles of learning, human development, counseling, and research and measurement within the schools. Preparation is designed to enable students to deliver school counseling programs and services to schools and the community. Students arrange their program of studies in consultation with their advisors so that the 48 credits earned toward a master's degree also will satisfy Wisconsin State Certification requirements. Certification is available as a K-12 School Counselor and as a Bilingual Counselor.

The School Counseling Certification program is for students who already possess a master's degree. Certification students are admitted to the school counseling certification and enroll as non-degree candidates. They need to meet the requirements for school counselor certification,

which are generally fewer than the credits required for the M.S. Final selection of courses is determined by consultation with an advisor. Certification is available as a K-12 School Counselor and as a Bilingual Counselor. The requirements for this certification program meet the certification standards of the Wisconsin Department of Public Instruction.

Admission

Admission to the master's concentrations in counseling takes place twice a year. Deadline date for department receipt of completed applications is November 1 for spring semester admission and February 15 for fall.

If you are interested in applying to one of the master's concentrations in counseling, please see the [Educational Psychology Website](#) for more information. A student handbook containing detailed information on each program is available online; it can be accessed by clicking on the specific program of interest in the left-hand navigation bar. For further questions not addressed on the Web site, contact the Department of Educational Psychology at edpsydp@uwm.edu.

Students who seek admission to the Community or School Counseling concentrations within the counseling area must [apply through the Graduate School](#) for admission to the Department of Educational Psychology. Please note that Graduate School deadlines are earlier because they receive, evaluate, and send completed graduate school applications to the Department. Upon admission, the student is assigned to a faculty member of the Department of Educational Psychology-Counseling Area who shall serve as the student's advisor.

The Counseling Area follows the admissions requirements of the Graduate School and the Department of Educational Psychology.

60 credits are required

Credits and Courses

Educational Psychology Core, 9 cr

Ed Psy 624 Educational Statistics I
Ed Psy 640 Human Development: Theory and Research
Ed Psy 720 Techniques of Educational and Psychological Measurement

Counseling Core, 21 cr

Couns 710 Counseling: Theories and Issues
Couns 711 Foundations of Career Development
Couns 714 Essentials of Counseling Practice
Couns 715 Multicultural Counseling
Couns 764 Trauma Counseling 1: Theory and Research
Couns 800 Group Counseling Theory
Couns 904 Family Systems: Theory, Research, and Practice

For Community Counseling (30 cr)

Couns 600 Introduction to Community Counseling
Couns 702 Neuroscience and Medical Aspects of Counseling
Couns 755 Prepracticum in Counseling
Couns 751 Multicultural Considerations in Lifespan
Couns 765 Supervised Practicum 1 in Community Counseling
Couns 812 Clinical Studies in Counseling
Couns 820 Counseling Appraisal and Clinical Decision-making
Couns 970 Supervised Practicum 2 in Community Counseling

Psychopathology

SOCWRK 791 Alcohol and Other Drug Abuse

Electives, 3 cr

For School Counseling

Couns 602 Introduction to School Counseling
Couns 764 Supervised Practicum 1 in School Counseling
Couns 810 Counseling in the Schools
Couns 816 Counseling Children and Adolescents
Couns 968 Supervised Practicum 2 in School Counseling

Elective, 3 cr (Note: ExcEduc 600, Survey of Exceptional Education, is required for non-teachers in place of the elective)

In addition to the courses listed above, students must complete a comprehensive examination, a master's paper, or a thesis (no more than three thesis credits to apply towards the degree).

Learning & Development

The Learning and Development concentration provides students with the psychological foundations of education. The program emphasizes the perspective of the learner and concentrates on the following content areas: cognition, development, and social. The program focuses on research skills as they apply to education and training, throughout the lifespan, in a broad range of settings.

Requirements

Students are required to complete 30 credits for the master's degree. Students complete 9 credits of core courses, 15 credits of a concentration, and 6 elective credits. Students' programs of studies are developed in consultation with their assigned advisor.

Educational Statistics and Measurement

The Educational Statistics and Measurement concentration is designed to provide students with the knowledge necessary to execute research and evaluate and critique existing research. Course work exposes students to the general principles of inferential statistics,

Educational Psychology

research methodology and experimental design, psychometrics, and categorical and qualitative research methods.

Requirements

Students are required to complete 30 credits for the master's degree. Students complete 13 credits of core courses, which include 624, 720, 724, and 728; 6 credits in Learning and Development; and 11 elective credits, 6 of which must be in Educational Statistics and Measurement. Students' programs of studies are developed in consultation with their assigned advisor.

School Psychology

The School Psychology concentration incorporates the scientist-practitioner model and provides a concrete link between theory, research, and practice. The program prepares students for employment in school and mental health settings. Students are prepared to provide psychological services to children, adolescents, and families; to conduct research; and to empirically evaluate the efficacy of their psychoeducational interventions and assessment procedures.

The following degree options are available: Master of Science Degree in Educational Psychology with a concentration in School Psychology; Education Specialist Degree in School Psychology; and, a Ph.D. in Urban Education: Specialization in School Psychology. The Ph.D. Program is accredited by the American Psychological Association (APA) and the National Association of School Psychologists (NASP).

Credits and Courses

Master's Degree Requirements (30 credits minimum)

School Psychology Core, 12 credits

Ed Psy 751 Professional and Historical Issues in School Psychology

Ed Psy 752 Pediatric Psychopathology

Ed Psy 755 Assessment and Intervention: School Age

Ed Psy 851 Assessment and Interventions: Personality, Social and Emotional Functioning

Educational Methods and Intervention Strategies, 3 cr

Ed Psy 760 Academic Intervention and Alternative Assessment

Educational Statistics and Measurement, 9 cr

Ed Psy 624 Educational Statistical Methods I
OR Ed Psy 724 Educational Statistical Methods II

Ed Psy 720 Techniques of Educational & Psychological Measurement

Ed Psy 728 Techniques of Educational Research

Human Development, 3 cr

Ed Psy 640 Human Development: Theory and Research (or other course chosen in consultation with advisor)

Research, 3 cr

Ed Psy 790 Research or Thesis

Master's Examination, or Thesis/Paper

Upon successful completion of 30 graduate credits, the student is eligible to become a candidate for the Master of Science in Educational Psychology. The master's degree is awarded pending successful completion of a master's thesis, paper, or comprehensive examination.

Education Specialist in School Psychology

Upon completion of the master's degree in Educational Psychology (i.e., 30 graduate credits and successful completion of the master's exam, paper or thesis), the student will be considered for the Education Specialist Degree program in School Psychology. The student must file an application for the Ed. S. with the Graduate School. Admission to the Ed. S. program is dependent upon recommendation of the student's advisor and final approval of the school psychology faculty. Decisions will be made on the basis of successful completion of master's degree requirements, a minimum of at least one "satisfactory" annual review, and adequate demonstration of knowledge through review of the student's progressive portfolio (see the School Psychology Student Handbook for these evaluations).

Students who are not recommended for admission into the Education Specialist Degree program are not eligible for school psychology certification through UWM.

Credits and Courses

Education Specialist Degree (Ed. S.) (39 credits minimum)

Advanced Professional and Clinical Practice, 24 cr

Ed Psy 732 Cognitive Behavioral Intervention Strategies in Education

Ed Psy 952 Pediatric Psychology in Urban Settings

Ed Psy 955 Advanced Therapeutic Interventions

Ed Psy 974 Beg. Practicum in School Psychology (3 credits)

Ed Psy 975 Adv. Practicum in School Psychology (6 credits)

Ed Psy 976 M.S. Internship in School Psychology (6 credits)

School Psychology Electives, 6 cr

Ed Psy 579 Current Topics in Educational Psychology (with appropriate topic)

Ed Psy 589 Workshop in Educational Psychology

Ed Psy 779 Current Topics in Educational Psychology (with appropriate topic)

Learning, 3 cr

Ed Psy 631 Cognition: Learning, Problem Solving and Thinking (or other course chosen in consultation with advisor)

Educational Methods & Intervention Strategies, 6 cr

Ed Psy 852 Social, Psychological, and Biological Basis of Learning Disorders
Couns 805 Consultation Strategies for Counselors and School Psychologists
CurrIns 747 Reading Assessment and Instruction with Practicum: K-12 Part I
ExcEduc 715 Issues and Trends in Exceptional Education OR other course chosen in consultation with advisor

Education Specialist Final Project

Upon completion of all course work, including practicum, students will demonstrate their professional knowledge by completing a Education Specialist Final Project. The Final Project will demonstrate the student's knowledge and proficiency in a clinical area such as innovative assessment practices, consultation, psychosocial therapy, or behavioral/academic intervention planning. Students will demonstrate their knowledge and proficiency by successfully completing one of the following projects:

- Produce a videotape showing a consultation session with a consultee
- Produce a videotape of a therapy session with a child or adolescent
- Develop a treatment manual for reducing psychosocial, behavioral or academic problems in children or adolescents
- Develop a parenting program for families with difficult or at-risk children
- Develop materials for an in-service program for teachers or parents (i.e., power point presentation, overheads, or manual)
- Develop a school-wide prevention program for at-risk students
- Develop an innovative assessment program for reducing academic, behavioral and/or psychosocial problems

The Education Specialist Final Projects are due at the end of the internship. Projects will be judged to be acceptable by the school psychology faculty in charge of the internship and the student's advisor. Recommendations for satisfactory completion of all of the Education Specialist degree requirements will be made by the student's advisor, and will be forwarded to the department chair.

Educational Psychology

Certification as a School Psychologist

Students completing the M.S. concentration and the Ed.S. in School Psychology are eligible for certification as a School Psychologist in the State of Wisconsin. School Psychologists are eligible and encouraged to obtain National Certification as a School Psychologist (NCSP) by taking the national certification examination.

Doctor of Philosophy in Educational Psychology

The goal of the Doctor of Philosophy in Educational Psychology is to prepare psychologists, researchers and educational professionals to effectively work on the unique challenges of promoting education, learning, and mental health in urban environments. The four areas of emphasis in the doctoral program are:

- Counseling Psychology
- Learning and Development
- Educational Statistics and Measurement
- School Psychology

See the [Educational Psychology Website](#) for more information on these areas.

Admission

To be considered for admission to the program applicants must complete the Graduate School application, and satisfy all UWM Graduate School admission requirements in addition to the following program requirements:

- Submission of scores on the General Test portion of the [Graduate Record Examination](#); test taken within last five years.
- Undergraduate GPA of at least 3.0; graduate GPA of at least 3.5 required.
- A letter outlining the applicant's academic and professional background, declaration of Area of Concentration (Counseling Psychology, Learning and Development, Educational Statistics and Measurement, or School Psychology) as well as specific research interests and goals for the Ph.D. program. This statement should be submitted to the Graduate School and must be complete and thorough as it provides information that is central to the admission decision. This letter will serve in lieu of the Graduate School's "Reasons for Graduate Study" statement.
- Three letters of recommendation from individuals familiar with the applicant's intellectual achievement and potential.

A master's degree is not required for admission. However, it is recommended that students seeking admission to the Learning and Development area have a master's degree in

educational psychology that includes a thesis or master's paper derived from empirical research before admission. Students with a master's degree and no thesis or master's paper must complete an equivalency paper prior to taking their preliminary exams (see other requirements below).

Advising and the Major Professor

Upon admission to the doctoral program in Educational Psychology, students are assigned a temporary advisor in their area of emphasis (e.g., Counseling Psychology, Learning and Development, Educational Statistics and Measurement, or School Psychology). This person is available to discuss initial course selection and provide general advice about the program. After beginning the program and before filing a Student Academic Plan, students should seek a Major Professor. The permanent Major Professor may—but does not have to be—the same person who is the temporary advisor. Students must select an advisor in their area of emphasis. Selection of a Major Professor is by mutual consent between the student and the faculty member. Students should notify the Training Director within their emphasis when the Major Professor has been selected.

Residence

The student must meet minimum [Graduate School residence requirements](#) of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Program of Study

Core Educational Psychology Requirements:

All doctoral students are required to complete 36 core credits in the areas of Psychological Foundations, Urban Foundations, and Research Methods. In many cases, students entering with a Master's degree will have completed some of these courses. Courses taken during Master's preparation may be counted in meeting the core requirements. Elective credits are taken in consultation with the major professor.

Psychological Foundations Core: Students must take 12 credits minimum of psychological foundations (social, cognitive, affective, or biological basis of behavior); students without Ed Psy 631 and Ed Psy 640 must take these courses as part of their 12-credit minimum.

Urban Foundations: 3 credits minimum.

Research Methods Core: 15 credits

All doctoral students must show documentation that they have acquired research skills needed for dissertation work. To fulfill this requirement students must successfully complete 13 credits

of coursework in the area of research methods at the 700 level or above, including Ed Psy 724 and six credits at the 800 level or above.

Students should consult the specific requirements for their area of specialization for additional requirements, as the requirements for each area of specialization may exceed those specified here.

Psychological Foundations Core (12 credits from the following courses):

Ed Psy 631 Cognition: Learning, Problem Solving and Thinking*

Ed Psy 640 Human Development: Theory and Research*

Ed Psy 734 Contextual Determinants of Motivation

Ed Psy 735 Social Cognition in Educational Psychology

Ed Psy 741 Cognitive Development

Ed Psy 742 Personality Theories and the Educational Process

Ed Psy 743 Human Development: Study of Infancy and Early Childhood

Ed Psy 746 Human Development: Study of the Adolescent

Ed Psy 747 Human Development: Study of the Adult

Ed Psy 748 Oral Language, Cognition, and Literacy

Ed Psy 831 Cognition: Theory and Research

Ed Psy 833 Psychology of Race and Ethnicity

Ed Psy 834 The Psychology of Achievement Motivation

Ed Psy 844 The Multicultural Family

Ed Psy 845 Immigrant Child in Developmental Perspective

* Required of all Students

Urban Foundations (3 credits minimum):

Educ 701 Urban Education Issues*

Research Core (15 credits from the following courses):

Ed Psy 624 Educational Statistical Methods I*

Ed Psy 626 Workshop in the Computerized Analysis of Educational Data*

Ed Psy 724 Educational Statistical Methods II*

Ed Psy 720 Techniques of Educational and Psychological Measurement

Ed Psy 728 Techniques of Educational Research

Ed Psy 820 Multiple Regression

Ed Psy 821 Psychometric Theory and Practice

Ed Psy 822 Item Response Theory

Ed Psy 823 Structural Equation Modeling

Ed Psy 824 Advanced Experimental Design and Analysis

Ed Psy 825 Multivariate Methods

Ed Psy 826 Analysis of Cross-Classified Categorical Data

Ed Psy 827 Survey Research Methods in Education

Ed Psy 829 Instrument Development

Ed Psy 922 Seminar in Measurement and Evaluation

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Ed Psy 929 Seminar in Statistics and Research Design

Ad Ldsp 729 Qualitative Research and Field Studies in Educational Settings

* Required of all Students

Core Concentration Requirements

All students must complete core courses in their area of concentration. Minimum credit requirements vary with the area of concentration due to accreditation and certification requirements.

Counseling Psychology Concentration (21 credits)

Couns 803: Vocational Psychology

Couns 807: Advanced Counseling Strategies (students must take the 3 cr option)

Couns 814: Professional, Ethical, and Legal Issues in Counseling Psychology

Couns 815: Advanced Multicultural Counseling

Couns 840: Psychological Assessment

Couns 860: Capstone—Research in Counseling Psychology

Couns 917: Supervision of Counseling

Learning/Development Concentration (15 credits from the following courses)

Ed Psy 734 Contextual Determinants of Motivation

Ed Psy 735 Social Cognition in Educational Psychology

Ed Psy 741 Cognitive Development

Ed Psy 742 Personality Theories and the Educational Process

Ed Psy 743 Human Development: Study of Infancy and Early Childhood

Ed Psy 745 Human Development: Study of Middle Childhood

Ed Psy 746 Human Development: Study of the Adolescent

Ed Psy 747 Human Development: Study of the Adult

Ed Psy 831 Cognition: Theory and Research

Ed Psy 833 Psychology of Race and Ethnicity

Ed Psy 834 The Psychology of Achievement Motivation

Ed Psy 844 The Multicultural Family

Ed Psy 845 Immigrant Child in Developmental Perspective

See [Learning and Development](#) for more information

Educational Statistics and Measurement Concentration (24 credits from the following courses)

Ed Psy 720 Techniques of Educational and Psychological Measurement

Ed Psy 728 Techniques of Educational Research

Ed Psy 820 Multiple Regression

Ed Psy 821 Psychometric Theory and Practice

Ed Psy 822 Item Response Theory

Ed Psy 823 Structural Equation Modeling

Ed Psy 824 Advanced Experimental Design and Analysis

Ed Psy 825 Multivariate Methods

Ed Psy 826 Analysis of Cross-Classified Categorical Data

Ed Psy 827 Survey Research Methods in Education

Ed Psy 829 Instrument Development

Ed Psy 922 Seminar in Measurement and Evaluation

Ed Psy 929 Seminar in Statistics and Research Design

See [Educational Statistics and Measurement](#) for more information

School Psychology Concentration (24 credits †)

Ed Psy 732 Cognitive Behavioral Intervention Strategies in Education *

Couns 805 Consultation Strategies for Counselors and School Psychologists *

Ed Psy 851 Assessment and Interventions: Personality, Social and Emotional Functioning *

Ed Psy 952 Pediatric Psychology in Urban Settings *

Ed Psy 955 Advanced Therapeutic Interventions *

Ed Psy 960 Evidence-Based Practices in School Psychology: Prevention & Intervention *

† Students in the School Psychology concentration must also complete 6 credits in Educational Interventions in order to meet certification requirements

* required within concentration

See [School Psychology](#) for more information

Other Requirements

In addition to the requirements listed below, please refer to the program handbook for each concentration.

Students Entering Without a Master's

For the Counseling Psychology concentration, students entering without a Master's degree in Counseling must also complete Couns 710, 711, 714, 715, 800 and 970 in order to meet accreditation/certification requirements.

In the School Psychology concentration, students entering without a master's degree in School Psychology must complete Ed Psy 751, 752, 755, 760, and 851.

Practicum

Students in the Counseling Psychology and School Psychology concentrations are required to complete practicum requirements to become licensed.

Internship

Following Practicum, students in the Counseling Psychology and School Psychology

concentrations are required to complete a year-long internship in order to be licensed.

Publishable Paper

Students are required to work with faculty to have a "publishable" paper within 30 credits of admission to the doctoral program. This may be their master's theses and/or master's papers, where original research is generated or a critical review of research is developed. It may also be a collaborative effort, such as publishing a chapter or article with a faculty advisor or other faculty collaborator.

Minor

Counseling Psychology and School Psychology students must complete 9 credits in the Department of Psychology. The minor will be optional for students in Learning & Development and Educational Statistics and Measurement, based on consultation with an advisor.

Doctoral Preliminary Examination

The Doctoral Preliminary Examination is taken at the end of a student's coursework. A description of the Preliminary Examination is provided in the doctoral handbook corresponding to the student's specialization area within Educational Psychology.

The Preliminary Examination consists of a written component and, in some specializations, an oral component. The purpose of the Preliminary Examination is to determine whether the student demonstrates understanding of coursework and related bodies of knowledge and is qualified to proceed with dissertation planning. A minimum of three faculty members in the specialization area shall participate on a student's Preliminary Examination.

Proposal Hearing

A doctoral student qualifies as a "doctoral candidate" upon completion of the doctoral Student Academic Plan, successful completion of the Doctoral Preliminary Examination for the Ph.D. degree, and successfully passing a dissertation proposal hearing. The hearing is open and the date, time and location must be announced by the Doctoral Coordinator. Each member of the committee must sign the doctoral dissertation proposal hearing form, and indicate approval or disapproval. A simple majority of all committee members is required. No absentee ballots are acceptable.

Dissertation Defense

The candidate must write a dissertation that demonstrates the ability to pursue independent research. The candidate must pass an oral exam in defense of the dissertation.

Exit Requirements

Contingent upon satisfactory completion of program requirements, passage of the preliminary qualifying examination, and successful oral defense of the dissertation, the

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Chair of the Department of Educational Psychology will give final approval of the Ph. D. in Educational Psychology.

Time Limit

It is expected that most students will complete all degree requirements within six years of initial enrollment in the doctoral program. All requirements MUST be completed within ten years from the date of initial enrollment.

Courses

Counseling

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

579 Current Topics in Counseling: (Subtitled). 1-3 cr. U/G.

Specific topic and prerequisites announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st

600 Introduction to Community Counseling. 3 cr. U/G.

Survey of history of counseling; systems of counseling; credentialing in community counseling, counseling techniques; behavior modification and behavioral counseling; group processes in counseling. Prereq: jr st.

602 Introduction to School Counseling. 3 cr. U/G.

Survey of history of school counseling, counseling techniques, systems of counseling, group counseling in schools. Prereq: jr st

701 Psychosocial Aspects of Disability in Rehabilitation Counseling. 3 cr. G.

Psychological adjustment to disabling conditions by clients and families; case management practices with non-physical disabilities; substance abuse among persons with disabilities. Prereq: grad st; Couns 601(C)

702 (effective 01/22/2018) Neuroscience and Medical Aspects of Counseling. 3 cr. G.

Neuroscience and medical practices related to emotional and behavioral conditions with emphasis on appropriate intervention strategies. Prereq: grad st.

702 Medical Aspects of Disability in Rehabilitation Counseling. 3 cr. G.

Medical and case management practices with common physically disabling conditions with emphasis on functional capacities and appropriate intervention resources (e.g., assistive technology). Prereq: grad st; Couns 601(C).

703 Vocational Aspects in Rehabilitation and Exceptional Education. 3 cr. G.

Disability and case management practices for severely disabled persons. Emphasis on return to work interventions: vocational evaluation, work adjustment, job placement, accommodation, ergonomics. Jointly offered with & counts as repeat of ExcEduc 703. Prereq: grad st; Couns 601(C) or ExcEduc 679(P).

704 Multicultural Mental Health Guidelines and Ethics Overview. 3 cr. G.

Basic concepts in multicultural psychology and how they interact to shape the individual. Prereq: grad st

705 Multicultural Practice: Awareness and Knowledge of Others. 3 cr. G.

Understanding and knowledge related to mental health practices of individuals from diverse cultural groups. Prereq: grad st; Couns 704

710 Counseling: Theory and Issues. 3 cr. G.

Counseling theories and issues, associated research, and application of theory to counseling practice. Prereq: grad st; course in learning, human development &/or personality theory.

711 Foundations in Career Development. 3 cr. G.

Educational, psychological, and sociological bases for career development; evolution of career development research; consideration and application of educational-occupational-social information through individual and group counseling approaches. Prereq: grad st.

714 Essentials of Counseling Practice. 3 cr. G.

Experience and practice in basic counseling skills related to the helping process. Analysis of barriers and hazards in the counseling process. Prereq: grad st.

715 Multicultural Counseling. 3 cr. G.

Understanding the impact of culture on behavior and how to use that knowledge to increase effectiveness in counseling individuals from other cultures. Prereq: grad st; Couns 714(C).

740 Multicultural Mental Health Guidelines for Working with Latinos. 3 cr. G.

Information about the Hispanic/Latino population in the U.S. through concepts such as identity, acculturation, language, family values, religion, gender, and social class. Prereq: grad st; Couns 704 & 705 (P)

741 Multicultural Mental Health Guidelines for Working with LGBT Individuals. 3 cr. G.

Essential multicultural mental health information as it pertains to the LGBT population in the U.S. Areas related to demographics, historical factors, sociopolitical issues and their influence on mental health. Prereq: grad st; Couns 704 & 705 (P)

742 Multicultural Health Guidelines for Working with Asian Americans. 3 cr. G.

Understanding and knowledge related to mental health practices of individuals of Asian descent living in the U.S.; demographic, historical, and sociopolitical factors influencing mental health. Prereq: grad st; Couns 704 & 705 (P)

743 Multicultural Mental Health Guidelines for Working with African Americans. 3 cr. G.

Multicultural mental health information as it pertains to African Americans in the U.S.; addresses demographics, historical factors, and sociopolitical issues and their impact on mental health. Prereq: grad st; Couns 704 & 705 (P)

744 Multicultural Mental Health Guidelines, Working with First Nations Persons. 3 cr. G.

Pan-cultural information about the mental health issues facing the First Nations populations in North America. Prereq: grad st; Couns 704 & 705 (P)

745 Multicultural Mental Health Guidelines for Working with Men. 3 cr. G.

Understanding how the traditionally socialized male gender role affects the lives of men and therapeutic techniques for working with men from a gender sensitive perspective. Prereq: grad st; Couns 704 & 705 (P)

751 (effective 09/05/2017) Multicultural Considerations in Lifespan Psychopathology. 3 cr. G.

Etiology and pathogenesis of mental disorders as they occur throughout the lifespan, with special attention paid to the multicultural influences. Prereq: grad st.

755 Counseling Pre-Practicum. 3 cr. G.

Introductory experience for Master's level counseling students, and is designed to meet the Wisconsin licensing requirement of 100 hours of supervised experience. Counts as repeat of Couns 779 with same topic. Prereq: grad st.

764 Supervised Practicum 1 in School Counseling. 3 cr. G.

Practical, intensive and continuous experience in school settings that utilize counseling personnel. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

765 Supervised Practicum 1 in Community Counseling. 3 cr. G.

Practical, intensive, and continuous experience in community settings working with professional counseling personnel. Retakable to 9 cr max. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and

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communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Couns 774, Nurs 774, OccThpy 774 , and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st.

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Couns 775, Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Couns 774, Nurs 774 , OccThpy 774 or Soc Wrk 774(P), or cons instr.

776 Supervised Practicum 1 in Rehabilitation Counseling. 3 cr. G.

Practical, intensive, and continuous experience in settings that utilize rehabilitation counseling personnel. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; Couns 710(P) & 714(P); cons instr; competency requirement.

779 Current Topics in Counseling: (Subtitled). 1-3 cr. G.

Specific topic and prerequisites announced in schedule of classes each time course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

790 Research or Thesis. 1-3 cr. G.

For graduate students needing to complete master's paper. Prereq: grad st (master's level in Couns/Rehab Couns); cons instr.

799 Independent Reading. 1-3 cr. G.

For the benefit of graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

800 Group Counseling Theory. 3 cr. G.

Theories of groups, group counseling strategies, group structure, latent structural analysis, and educational methodologies. Prereq: grad st; Couns 710 & 714.

803 Vocational Psychology. 3 cr. G.

Vocational theories and research; understanding of individual in relation to world of work; understanding of role of assessment in vocational counseling; multicultural vocational research and counseling. Prereq: grad st; Ed Psy 720; Couns 711 or equiv; Couns 714

805 Consultation Strategies for Counselors and School Psychologists. 3 cr. G.

Analysis of consultation models; investigation of intervention strategies; and evaluation of the consultation process. Prereq: 21 grad crs in Ed Psy &/or Couns.

807 Advanced Counseling Strategies: (Subtitled). 1-3 cr. G.

Variable content lecture-laboratory class. This course provides an in-depth view of counseling strategies based on the precepts of a particular theoretical model. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Prereq: grad st; Couns 714

810 Counseling in the Schools. 3 cr. G.

Exploration of counseling functions in schools. The rationale, scope and nature of school counseling. Theories, techniques and principles of counseling process are emphasized. Prereq: grad st; Couns 710 & 714.

812 Clinical Studies in Counseling. 3 cr. G.

Problem behaviors that clients bring to the counseling situation; typical behaviors; techniques by which counselors deal with those behaviors. Emphasis on case material. Prereq: grad st; Couns 710 & 714.

814 Professional, Ethical and Legal Issues in Counseling Psychology. 3 cr. G.

Examination of professional, legal and ethical issues affecting the practice of counseling psychology. Introduction to the scientist-practitioner model and the profession of counseling psychology. Prereq: grad st; 21 crs in Couns or equiv.

815 Advanced Multicultural Counseling. 3 cr. G.

Multicultural counseling models and related strategies for professionals working in multicultural educational and community settings. Prereq: grad st; Couns 714; Couns 715; Couns 774

816 Counseling Children and Adolescents. 3 cr. G.

This course will describe various counseling issues and strategies applicable to working with children and adolescents in both school and community settings. Prereq: grad st.

819 Group Assessment for Adults. 3 cr. G.

This course is designed to prepare students in adult group assessment. Students will become familiar with instruments used in personality, vocational, and interest assessment. Prereq: grad st; Ed Psy 624; Ed Psy 720

820 Counseling Appraisal and Clinical Decision-Making. 3 cr. G.

Course will integrate science of psychology with counseling practice in order to promote development of advanced interviewing skills and intake reporting. Prereq: grad st; Couns 710(P).

830 Proseminar 1: Introduction to Counseling Psychology; Multiculturalism. 3 cr. G.

Introduction to the profession; multicultural counseling and APA's code of ethics covered in depth. Prereq: grad st, cons instr

831 Proseminar 2: Psychotherapy Interventions. 3 cr. G.

Psychotherapy models and associated techniques. Prereq: grad st; cons instr

840 Psychological Assessment. 3 cr. G.

Use of psychological assessment in counseling psychology practice. Prereq: grad st; cons instr

841 Proseminar 4: Vocational Psychology; Social Justice. 3 cr. G.

Advanced vocational psychology including career theory, career counseling, and social justice. Prereq: grad st; cons instr

850 Proseminar 5: Supervision and Consultation. 3 cr. G.

Provides an introduction to and practice in supervision in counseling psychology. Prereq: grad st; cons instr

860 Capstone-Research in Counseling Psychology. 3 cr. G.

Analysis of research trends; examination of critical issues; reports of student research projects. Prereq: grad st; cons instr

873 Fieldwork in Student Personnel Services. 3-6 cr. G.

Prereq: grad st; major in area & cons instr

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

904 Family Systems Theory, Research, and Practice. 3 cr. G.

Introduction to systems theory, major approaches to family therapy, and the research on family systems concepts, in-session processes, and therapy outcomes. Prereq: grad st; Couns 710(P).

917 Supervision of Counseling. 3 cr. G.

An examination of research and strategies for the supervision of counseling; experience in the actual process of supervision. Prereq: grad st; Couns 970

968 Supervised Practicum 2 in School Counseling. 3 cr. G.

Supervised practice in cooperating K-12 school settings. Retakable to 9 cr max. Prereq: grad st; field placement; Couns 774(P); cons instr; Sat/Unsat grade only.

970 Supervised Practicum 2 in Community Counseling. 3 cr. G.

Practice in cooperating colleges, agencies, and other community settings. Retakable to 9 cr

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max. Prereq: grad st; field placement; Couns 775(P); cons instr; competency req.

971 Supervised Practicum in Group Counseling. 3-9 cr. G.

Controlled practicum in group counseling with cooperating schools, colleges and agencies. Prereq: master's degree in Ed Psy; acceptance by Couns area; letter of recomm from agency or school

972 Internship in Counseling I. 6 cr. G.

Practical experience in a cooperating school involving counseling procedures. Supervised by qualified staff at the employing unit and by counselor education faculty. Seminar participation required. Prereq: master's degree in Ed Psy with specialization in Couns & writ cons instr.

974 Internship in Rehabilitation Counseling. 3-6 cr. G.

Supervised experience in a public or private rehabilitation agency. Stress on case management and counseling procedures with a variety of clients. Prereq: admis to rehab couns concentration; writ cons instr & agency.

975 Doctoral Practicum in Counseling 3. 3 cr. G.

A supervised counseling experience with emphasis on the process and techniques of assessment, individual, and group counseling. Opportunity for consultation and feedback on counseling issues. Sat/Unsat grade only. Retakable to 9 cr max. Prereq: grad st; field placement; admis to PhD prog in Urban Educ, cons instr.

976 Doctoral Practicum in Counseling 4. 3 cr. G.

A supervised counseling experience with a broad range of clients within a clinical setting. Opportunity for consultation and feedback on counseling issues, and experience at providing supervision of masters' level students. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; admis to PhD prog in Urban Educ; Couns 975(P); cons instr.

977 Advanced Doctoral Practicum in Counseling-5. 3 cr. G.

Advanced supervised training in specialized areas of counseling psychology: psychological assessment; individual, family, or group therapy; and consultation in outpatient, inpatient, or community mental health settings. Retakable to 9 cr max. Sat/Unsat grade only. Prereq: grad st; field placement; admis to PhD program in Urban Ed; Couns 976(P); cons instr.

990 Research or Thesis. 1-3 cr. G.

Prereq: grad st; cons major professor.

999 Independent Reading. 1-3 cr. G.

For benefit of doctoral students unable to secure needed content in regular courses. Prereq: doctoral st & cons instr.

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497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

505 Positive Psychology: Theory and Application in Learning Contexts. 1 or 3 cr. U/G.

Introduction to positive psychology and its application in school and learning settings. Prereq: jr st; grade of C or better in English 102(P) or score at level 4 on EPT.

541 Assessment in Science and Math I. 1 cr. U/G.

First of a three part assessment series for MACSTEP students. Counts as repeat of Ed Psy 579 with topic 'Alternative Assess-Sci/Math.' Prereq: jr st.

542 Assessment in Science and Math II. 1 cr. U/G.

Second in a three part assessment series for MACSTEP students. Counts as repeat of Ed Psy 579 with topic 'Alternative Assess-Sci/Math.' Prereq: jr st.

543 Assessment in Science and Math III. 1 cr. U/G.

Third of a three part assessment series for MACSTEP students. Counts as repeat of Ed Psy 579 with topic 'Alternative Assess-Sci/Math.' Prereq: jr st.

550 Social and Affective Issues in Urban Classrooms. 3 cr. U/G.

Explore the social/emotional aspects of children's development as related to schooling and present a framework for creating conducive classroom learning environments. Prereq: jr st; admis to School of Educ.

551 Social and Affective Issues: Case-Based Problem-Solving. 1 cr. U/G.

Students will critique various strategies presented in Ed Psy 550 and engage in a problem-solving process focusing on social/emotional issues and classroom interventions. Prereq: jr st; Ed Psy 550(P).

575 Infant and Early Childhood Assessment. 3 cr. U/G.

Theoretical and applied aspects of early childhood assessment. Experience administering specific individual and group (screening) tests. Assessment of language, cognition, motor, adaptive behavior, developmental delay. Prereq: jr st or grad st.

579 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. U/G.

Specific topic and prerequisites announced in Schedule of Classes each time course is offered.

May be retaken with change in topic to max of 9 cr. Prereq: jr st.

613 Infant and Early Childhood Assessment. 3 cr. U/G.

Theoretical and applied aspects of early childhood assessment. Experience administering specific individual and group (screening) tests. Assessment of language, cognition, motor, adaptive behavior, developmental delay. Counts as repeat of Ed Psy 575. Jointly offered with and counts as repeat of ExcEduc 613. Prereq: jr st.

624 Educational Statistical Methods I. 3 cr. U/G.

Overview of common statistical techniques used in educational research, including univariate and bivariate descriptive statistics, inferential statistics, one-way analysis of variance, and linear regression. Prereq: jr st.

626 Workshop in the Computerized Analysis of Educational Data. 1 cr. U/G.

Workshop in designing, implementing and interpreting the computer analysis of survey, research or test-program type data using a popular comprehensive statistical analysis package. Prereq: jr st & prior or conc reg in applied statistics course. Additional work required for grad cr.

631 Cognition: Learning, Problem Solving and Thinking. 3 cr. U/G.

Overview of historical theories of learning and current theories of cognition. Emphasis on application to instruction, school subjects, workplace training, self-directed learning. Prereq: jr st.

637 The Psychology of Informal Learning Contexts. 3 cr. U/G.

Overview of theory and research about how people learn in informal contexts, i.e. after-school settings, online immersive environments, science centers, museums and cultural institutions. Prereq: jr st.

640 Human Development: Theory and Research. 3 cr. U/G.

Survey of theory and research in human development from conception to death, emphasizing the child and adolescent periods of growth. Prereq: jr st.

710 Child and Adolescent Mental Health Issues in Schools. 3 cr. G.

Understanding of mental health disorders and treatment among children and adolescents in school-based settings. Developmental and risk factors associated with behavioral and emotional health problems.

711 Cultural Context of Children's Mental Health. 3 cr. G.

Influence of culture on the mental health of children; topography of cultural difference in the US, culture-bound syndromes, influence of

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cultural variables on mental health. Counts as repeat of Ed Psy 779 with same topic. Prereq: grad st

712 Mentally Healthy Classroom and School Environments. 3 cr. G.

Issues pertaining to socio-emotional learning in school settings; techniques, leadership, & collaboration for fostering emotionally healthy school environments. Prereq: grad st

713 Mental Health Needs in Urban Environments. 3 cr. G.

Introduction for educators to the unique context and characteristics of urban environments, cultivation of understanding of factors that can shape the mental health of developing children. Prereq: grad st

720 Techniques of Educational and Psychological Measurement. 3 cr. G.

Overview of principles of measurement in educational and psychological testing. Topics include test reliability, test validity, test bias, test score interpretation, and standardized tests. Prereq: grad st; Ed Psy 624(P)

724 Educational Statistical Methods II. 4 cr. G.

Applications of common statistical techniques used in educational research, including two-way analysis of variance, multiple mean comparisons, and multiple regression. Prereq: grad st; Ed Psy 624(P)

725 Improving Teaching and Learning with Classroom-Based Assessments. 3 cr. G.

Development and implementation of classroom-based assessment instruments within existing large-scale state and district accountability systems. Jointly offered w/ & counts as repeat of CurrIns 725. Prereq: grad st.

728 Techniques of Educational Research. 3 cr. G.

Study of major design and analysis strategies used in educational research with emphasis upon the critique of existing studies and the planning of future studies. Prereq: grad st & Ed Psy 624(P).

731 Cognition and the Design of Instruction. 3 cr. G.

Review of theories of human learning and cognition; emphasis on research on learning from text and the design of text and learning adjuncts. Prereq: grad st; Ed Psy 631(P) or equiv.

732 Cognitive Behavioral Intervention Strategies in Education. 3 cr. G.

Theory and application of effective behavioral treatments for children with adjustment problems in school. Emphasis on principles and techniques of cognitive and multimodal behavioral therapy. Prereq: grad st; cons instr.

733 Educational Applications of Social Psychology. 3 cr. G.

Implications of theory and research in socialization, attitude development and change, group processes, social perception and role behavior for classroom practices and teacher-student interaction. Prereq: grad st.

734 Contextual Determinants of Motivation. 3 cr. G.

Review of research concerning the effects of teacher expectations, school and classroom climate, and psycho-social variables on student motivation. Focus on problem-solving. Prereq: grad st.

735 Social Cognition in Educational Psychology. 3 cr. G.

Theory and research on basic cognitive elements and processes used in understanding the self and others with emphasis on applications in educational and counseling settings. Prereq: grad st; Ed Psy 631(P) or 640(P); or cons instr.

741 Cognitive Development. 3 cr. G.

Examination of theory and research in cognitive development and applications to developmental assessment and instruction. Prereq: grad st; Ed Psy 640(P) or equiv or cons instr.

742 Personality Theories and the Educational Process. 3 cr. G.

A study of the major theories of personality growth and development. An emphasis upon the application of the theories to the educational process. Prereq: grad st.

743 Human Development: Study of Infancy and Early Childhood. 3 cr. G.

Study of physical, intellectual, social and emotional development from birth to six years. Prereq: grad st, Ed Psy 640(P) or cons instr.

745 Human Development: Study of Middle Childhood. 3 cr. G.

Study of the physical, intellectual, social, and emotional development of children from 6-12 years of age. Prereq: grad st & Ed Psy 640(P) or equiv or cons instr.

746 Human Development: Study of the Adolescent. 3 cr. G.

Study of physical, intellectual, social and emotional development during adolescents. Prereq: grad st; Ed Psy 640(P) or cons instr.

747 Human Development: Study of the Adult. 3 cr. G.

Physical, social, affective and cognitive development which characterizes the period from young adulthood through aging. Prereq: grad st & Ed Psy 640(P) or equiv or cons instr.

748 Oral Language, Cognition, and Literacy. 3 cr. G.

Psychological and linguistic bases of speaking, reading, and writing in children and adults from

diverse populations. Importance of language and cognition for literacy development. Ed Psy 748 & Linguis 748 are jointly offered; they count as repeats of one another. Prereq: grad st; college-level course in language acquisition or reading or child development or linguistics or cons instr.

751 Professional and Historical Issues in School Psychology. 3 cr. G.

Introduction to the practice of psychology in the schools. This course includes the history and systems of psychology, and professional practice issues. Prereq: grad st.

752 Developmental Psychopathology. 3 cr. G.

Study of characteristics, definitions, developmental course, correlates, causes, contexts, and outcomes of psychopathology in children and adolescents. Explores interventions within a developmental systems perspective. Prereq: Ed Psy 755 or Couns 710 or equiv.

755 Assessment and Intervention: School Age. 3 cr. G.

Introduction to school psychology practices in assessment and intervention for school age students. Includes didactic and clinical experiences. Prereq: grad st; Ed Psy 720; cons instr.

756 Assessment and Intervention: Early Childhood. 3 cr. G.

Introduction to school psychology practices in assessment and intervention for early childhood children and families. Didactic and clinical experiences are included. Prereq: grad st; Ed Psy 755; cons instr.

760 Academic Intervention and Alternative Assessment. 3 cr. G.

Reviews and critiques major educational reforms in regular and exceptional education. Alternative assessment paradigms, context variables in classrooms, teacher-child interactions, and change strategies are examined. Prereq: grad st.; Ed Psy 755 (P)

779 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. G.

Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

790 Research or Thesis. 1-3 cr. G.

Master's level course. Prereq: grad st & cons instr.

799 Independent Reading. 1-3 cr. G.

For benefit of superior graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

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801 Urban Education: Doctoral Seminar in Educational Psychology. 3 cr. G.

Overview of theory and research in educational psychology with emphasis on problems and issues in urban settings. Prereq: grad st admis to urban educ doctoral prog; Educ 701.

820 Multiple Regression. 3 cr. G.

Basic and advanced topics in linear regression analysis, including prediction, mediation and moderation effects, curvilinear relationship, categorical predictors, and other general linear models like ANCOVA. Prereq: grad st; Ed Psy 724(P) or cons instr.

821 Psychometric Theory and Practice. 3 cr. G.

Advanced topics in psychometrics, covering classical test theory, generalizability theory, and item response theory, test bias, item analysis, and test equating and linking. Prereq: grad st; Ed Psy 724(P) or equiv; Ed Psy 720(P) or equiv.

822 Item Response Theory. 3 cr. G.

A survey of IRT models and their applications in measurement issues, such as latent trait estimation, model fit, differential item functioning, and computerized adaptive testing. Prereq: grad st; Ed Psy 724(P) or cons instr.

823 Structural Equation Modeling. 3 cr. G.

Study of applied structural equation modeling including path analysis, confirmatory factor analysis and other latent variable models; exposure to computer programs used for model analysis. Prereq: grad st; Ed Psy 825 (P) or 820 (P) or equiv; cons instr.

824 Advanced Experimental Design and Analysis. 3 cr. G.

Advanced topics in the design and statistical analysis of experiments applied to educational research, including n-way analysis of variance and repeated measures analysis of variance. Prereq: grad st; Ed Psy 724(P) or equiv

825 Multivariate Methods. 3 cr. G.

Multivariate analysis methods such as MANOVA, discriminant analysis, factor analysis, and principal components analysis, and their applications in the social sciences. Prereq: grad st; Ed Psy 724(P) or cons instr; Ed Psy 820(R).

826 Analysis of Cross-Classified Categorical Data. 3 cr. G.

Use of methods that include chi-square, log linear, and logistic regression models to analyze cross-classified categorical data with applications in the social sciences. Prereq: grad st; Ed Psy 724(P).

827 Survey Research Methods in Education. 3 cr. G.

Advanced topics in survey design, administration, and analysis. Topics include sampling designs, data collection mode,

measurement error, and small- and large-scale survey data analysis techniques. Prereq: grad st; Ed Psy 724(P).

828 Program Evaluation in Education. 3 cr. G.

An examination of the issues related to educational program evaluation; application of statistical and measurement methods to evaluation strategies and designs. Prereq: grad st; Ed Psy 724(P).

829 Instrument Development. 3 cr. G.

Students will develop an instrument to measure some psychological construct of research interest. Topics include construct development, test and item specifications, item writing, conducting reliability and validity studies. Prereq: grad st; Ed Psy 724(P).

831 Cognition: Theory and Research. 3 cr. G.

A detailed look at cognitive theory and research underlying learning and instruction. Aimed at students who expect to use some aspect of cognitive theory in their research. Prereq: grad st; Ed Psy 631(P), 731(P) or course in human verbal learning.

832 Theory of Hierarchical Linear Modeling. 3 cr. G.

Theories and applications of the statistical techniques for analyzing multilevel data in which individuals are nested within clusters or repeated measures are nested within individuals. Prereq: grad st; Ed Psy 820(P) or cons instr.

833 Social Psychology of Group Differences: Race and Ethnicity. 3 cr. G.

Social psychological research and theory concerning race, ethnicity and racial and ethnic relations in American society with applications to a variety of educational situations. Prereq: grad st.

834 The Psychology of Achievement Motivation. 3 cr. G.

Review of research on personality factors that influence achievement motivation. Designed for those interested in incorporating aspects of motivation theory into their research. Prereq: grad st; Ed Psy 734(P) or cons instr.

840 Theory and Issues in Human Development. 3 cr. G.

Study of theory, experimental design, and research in human development. Prereq: grad st; Ed Psy 640(P).

844 The Multicultural Family. 3 cr. G.

Course examines theory and research for studying development in the family context as it applies to ethnic minority groups in the u.s. Prereq: grad st; Ed Psy 640(P).

845 Immigrant Child in Developmental Perspective. 3 cr. G.

Examines immigrant children and families from a developmental perspective. Focus on current issues in theory and research on the study of immigrant children. Prereq: grad st; Ed Psy 640 (P)

850 Objective Personality Assessment. 3 cr. G.

Objective diagnostic techniques used in the personality assessment of school-age populations. Prereq: grad st, Ed Psy 755 & 756. Course in behavior disorders of children or in abnormal psychology recom.

851 Assessment and Interventions: Personality, Social and Emotional Functioning. 3 cr. G. Introduction to school psychology practices of assessment and interventions for psychological, social, and emotional functioning of children and adolescents. Didactic and clinical experiences included. Prereq: Ed Psy 742 & 752; writ cons instr.

852 Social, Psychological, and Biological Basis of Learning Disorders. 3 cr. G.

Current assessment and intervention in the approaches to learning and emotional difficulties. Includes social, psychological, cultural, educational, and biological factors affecting children and adolescents. Prereq: grad st; Ed Psy 751 or Couns 710 or equiv.

853 Biological Basis of Childhood Disorders. 3 cr. G.

Current theory, research, and clinical findings in the biological basis of childhood disorders. Neurodevelopmental assessment and implications for intervention with cognitive behavioral, and psychosocial disorders. Prereq: grad st; Ed Psy 755 or cons instr.

879 Current Topics in Educational Psychology: (Subtitled). 1-3 cr. G.

Specific topic announced in schedule of classes each time course is offered; any additional prerequisites are included in announcement. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

880 Proseminar in Urban Education: Educational Psychology. 2 cr. G.

An examination of selected problems and issues in urban education. Prereq: grad st; admis to urban educ doctoral prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

922 Seminar in Measurement and Evaluation: (Subtitled). 3 cr. G.

Specific topic and any additional prerequisites are announced in Timetable each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st & cons instr.

Educational Psychology

929 Seminar in Statistics and Research Design. 3 cr. G.

Specific topic and any prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

939 Seminar in Human Learning. 3 cr. G.

Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

949 Seminar in Human Development: (Subtitled). 3 cr. G.

Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

952 Pediatric Psychology in Urban Settings. 3 cr. G.

Theory, research and clinical practice addressing the mental health needs of children in urban settings. Risk and protective factors are explored within a resiliency framework. Prereq: Ed Psy 752(R), Ed Psy 755(R) or cons instr.

955 Advanced Therapeutic Interventions. 3 cr. G.

Develop theoretical understanding and competencies related to advance-level prevention and intervention work, including group prevention and intervention and family intervention. Prereq: grad st, writ cons instr, Ed Psy 732 or equiv.

959 Seminar in School Psychology: (Subtitled). 3 cr. G.

Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

960 Evidence-Based Practices in School Psychology: Prevention & Intervention. 3 cr. G.

Evidence-based practices for school psychologists and other professionals working in school and clinic settings. Prereq: grad st.

974 Beginning Practicum in School Psychology. 1-3 cr. G.

Supervised practice in schools, clinics or institutions. Practical experience in administration and interpretation of psychological tests, preparation of case reports and staffing of cases under supervision. Prereq: grad st; enrollment in School Psych prog; cons instr.

975 Advanced Practicum in School Psychology. 3-9 cr. G.

Advanced psycho-diagnostic practice in schools, clinics or institutions under supervision

of a psychologist. Prereq: grad st; Ed Psy 974; writ cons instr.

976 MS Internship in School Psychology. 1-6 cr. G.

Provides opportunity for masters students to acquire advanced clinical skills in consultation, interventions, and psychological assessment. Supervised experiences in schools. Prereq: grad st; completion of all course requirements for School Psychology certification; writ cons instr.

977 Advanced Practicum in Intervention and Supervision. 1-3 cr. G.

Training in the design, implementation, evaluation, and supervision of therapeutic or academic assessments and interventions. Sat/Unsat grade only. Retakable to 6 cr max. Prereq: grad st; Ed Psy 732 or equiv.

986 Doctoral Internship in School Psychology. 3-6 cr. G.

Provides opportunity for doctoral students to acquire advanced clinical skills in consultation, intervention, and assessment practices. Supervised experiences in school, mental health, and medical setting. Prereq: grad st; writ cons instr; admis to Urban Educ doctoral prog & identification of specific specialization.

990 Research or Thesis. 1-3 cr. G.

Prereq: grad st; cons instr.

999 Independent Reading. 1-3 cr. G.

For doctoral students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

Engineering

Engineering

School/College: College of Engineering and Applied Science

Degrees Conferred:

- M.S. in Engineering
- Ph.D. in Engineering

Related Certificates

- [Certificate in Energy Engineering](#)
- [Certificate in Ergonomics](#)

Overview

With the exception of the Master of Science in Computer Science, the graduate programs offered by the College of Engineering and Applied Science are college-wide programs, and the responsibility for these programs is vested in the graduate faculty of the College operating via an interdepartmental committee, the Graduate Program Subcommittee (GPSC).

The engineering master's program offered by the College is the Master of Science in Engineering.

The program provides breadth by requiring a program of coursework and depth through participation in research or design synthesis. The research or design synthesis effort is documented in a thesis that is presented and defended by the student at the final degree examination. For those with prior engineering/scientific work experience which includes appropriate report writing, the program offers a non-thesis option which requires additional coursework in lieu of thesis.

Since the program does not require a rigid set of courses, each student, in consultation with faculty, has the flexibility to put together a program of study which is compatible with the student's career objectives. The flexibility of customizing the program of study makes the Master of Science in Engineering Program suitable as a terminal degree as well as a stepping stone for doctoral level study.

Master's Overview

The master's program in Engineering currently offers the following areas of concentration:

- Biomedical Engineering
- Civil Engineering
- Electrical and Computer Engineering
- Energy Engineering
- Engineering Management
- Engineering Mechanics
- Industrial and Management Engineering
- Manufacturing Engineering
- Materials Engineering

- Mechanical Engineering

The Master of Science in Computer Science is a departmental program and is offered by the Department of Electrical Engineering and Computer Science. The program is designed to provide the student with a broad background in important aspects of computer science. Areas of concentration include software engineering, computer systems, computer networks, data security, and artificial intelligence. The student may prepare for a career in the industrial, business, or government communities, or for doctoral studies.

Ph.D. Overview

The Doctor of Philosophy, the highest degree offered by the University, is conferred in recognition of marked scholarship in a broad field of knowledge as well as distinguished critical or creative achievement within a special area of the general field (the special area being the subject of the doctoral dissertation). The Doctor of Philosophy program in the College is designed to meet the traditional high standards for such programs.

There are six major areas in the Ph.D. program:

- Civil Engineering
- Computer Science
- Electrical Engineering
- Industrial Engineering
- Materials Engineering
- Mechanical Engineering

A student may be awarded the concentration designation on request at graduation if they meet the requirements. A listing of requirements is available from the Graduate School or the Graduate Programs Office of the College of Engineering & Applied Science.

In the various programs, there is enough flexibility to allow the student to develop a plan of studies tailored to meet individual needs. Evaluation of the study plan is based on its appropriateness as an engineering or computer science program, the availability within the University of appropriate course offerings, and the availability within the College of a faculty member who is qualified to serve as the student's major professor.

The Ph.D. degree requires a minimum of 66 credits beyond the baccalaureate, including a dissertation. The student must also satisfy a residence requirement.

Students who wish to gain an advanced level professional learning experience with an industrial or government organization may select the internship course (997) subject to approval of the advisor, a participating

industrial or government organization and of the GPSC and the CEAS Associate Dean. Internship registration must be for 6 credits and may be used toward fulfilling the residence requirement. Not more than 6 credits of internship registration will be counted toward the degree. Further details are included under the description of the Doctor of Philosophy degree program in this section.

Many of the courses leading toward the various master's degrees and the doctoral degree are offered in the late afternoon or evening; thus students can complete much of their coursework on a part-time basis.

M.S./MUP Program Overview

In cooperation with the Department of Urban Planning, the College of Engineering and Applied Science offers a Master of Science in Engineering/Master of Urban Planning program to prepare students for positions in transportation, public works or similar areas. Students in the program will concurrently pursue a Master of Science in Engineering degree and a Master of Urban Planning degree from the School of Architecture and Urban Planning. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. Candidates seeking admission to the M.S./MUP must apply to and be admitted to both programs. The requirements for admission to the Master of Urban Planning degree program are detailed in the Urban Planning section of the Bulletin.

Students are required to meet the College of Engineering and Applied Science requirements for the Master of Science in Engineering degree as well as the requirements for a Master of Urban Planning degree as set by the Department of Urban Planning. Students in the M.S./MUP program are required to take 6 credits in the Department of Urban Planning as well as an additional 24 credits of core courses in the Department of Urban Planning. The total credit requirement for the M.S./MUP program is 54 credits. Students in the M.S./MUP program must also take and pass a comprehensive exam in Urban Planning.

Cooperating Departments:

- Civil Engineering
- Electrical Engineering and Computer Science
- Industrial and Manufacturing Engineering
- Materials
- Mechanical Engineering

Engineering

Graduate Faculty

Civil Engineering

Professors

Bravo, Hector, Ph.D., University of Iowa, Chair
Ghorbanpoor, Al, Ph.D., University of Maryland
Helwany, Sam M.B., Ph.D., University of Colorado-Boulder
Li, Jin, Ph.D., University of Cincinnati
Sobolev, Konstantin, Ph.D., Research Institute of Concrete and Reinforced Concrete, Russia

Associate Professors

Liao, Qian, Ph.D., Cornell University
Rahman, Adeeb, Ph.D., University of Wisconsin-Madison
Tabatabai, Habibollah, Ph.D., University of Florida
Titi, Hani, Ph.D., Louisiana State University
Zhao, Jian, Ph.D., University of Minnesota
El-Hajjar, Rani, Ph.D., Georgia Institute of Technology
Liu, Yue, Ph.D., University of Maryland-College Park
Qin, Xiao, Ph.D., University of Connecticut

Assistant Professors

Wang, Yin, Ph.D., Washington University in St. Louis
Yu, Jie, Ph.D., Tongji University, China

Electrical Engineering and Computer Science

Professors

Armstrong, Brian, Ph.D., Stanford University
Boyland, John, Ph.D., University of California-Berkeley
Dumitrescu, Adrian, Ph.D., Rutgers—The State University of New Jersey
Hanson, George W., Ph.D., Michigan State University, Co-Chair
Hosseini, Seyed, Ph.D., University of Iowa
McRoy, Susan, Ph.D., University of Toronto
Misra, Devendra K., Ph.D., Michigan State University
Munson, Ethan, Ph.D., University of California-Berkeley, Co-Chair
Nasiri, Adel, Ph.D., Illinois Institute of Technology
Suzuki, Ichiro, D.E., Osaka University
Yu, David, Ph.D., University of Oklahoma
Zhang, Jun, Ph.D., Rensselaer Polytechnic Institute

Associate Professors

Cheng, Christine, Ph.D., Johns Hopkins University
Goyal, Mukul, Ph.D., Ohio State University
Hu, Yi, Ph.D., University of Texas at Dallas
Kouklin, Nikolai, Ph.D., University of Nebraska-Lincoln
Law, Chiu-Tai, Ph.D., Purdue University
Mali, Amol, Ph.D., Arizona State University
Pashaie, Ramin, Ph.D., University of Pennsylvania

Ranji, Mahsa, Ph.D., University of Pennsylvania
Wang, Lingfeng, Ph.D. Texas A&M University
Wang, Weizong, Ph.D., University of Maryland-College Park
Xu, Guangwu, Ph.D., State University of New York, Buffalo
Yu, Zeyun, Ph.D., University of Texas-Austin
Zhao, Tian, Ph.D., Purdue University

Assistant Professors

Cuzner, Robert, Ph.D. University of Wisconsin-Madison

Industrial and Manufacturing Engineering

Professor

Campbell-Kyureghyan, Naira, Ph.D., Ohio State University, Chair of IME
Peters, Bret, Ph.D., Georgia Institute of Technology, Dean of CEAS

Associate Professors

Jang, Jaejin, Ph.D., Purdue University
Seifoddini, Hamid, Ph.D., Oklahoma State University
Petering, Matthew, Ph.D., University of Michigan
Otieno, Wilkistar, Ph.D., University of South Florida

Materials

Distinguished Professor

Rohatgi, Pradeep K., D.Sc., Massachusetts Institute of Technology

Professors

Lopez, Hugo F., Ph.D., Ohio State University

Associate Professor

Abu-Zahra, Nidal, Ph.D., Cleveland State University, Chair
Chang Soo Kim, Ph.D., Carnegie Mellon University
Church, Benjamin, Ph.D., Georgia Institute of Technology
Venugopalan, Devarajan, Ph.D., McMaster University

Assistant Professors

Niu, Jun Jie, Ph.D., Zhejiang University, China

Mechanical Engineering

Professors

Amano, Ryoichi S., Ph.D., University of California-Davis
Chen, Junhong, Ph.D., University of Minnesota
Nambisan, Satish, Ph.D., Syracuse University
Qu, Deyang, Ph.D., University of Ottawa
Reisel, John R., Ph.D., Purdue University
Yuan, Yingchun (Chris), Ph.D., University of California, Berkeley

Associate Professors

Avdeev, Ilya, Ph.D., University of Pittsburgh

Dhingra, Anoop, Ph.D., Purdue University, Chair
D'Souza, Roshan, Ph.D., University of California, Berkeley
Nosonovsky, Michael, Ph.D., Northeastern University
Perez, Ronald A., Ph.D., Purdue University
Pillai, Krishna, Ph.D., University of Delaware
Renken, Kevin J., Ph.D., University of Illinois-Chicago

Assistant Professors

Chang, Woo-Jin, Ph.D., Inha University, Republic of Korea
Rahman, Mohammad H., Ph.D., University of Quebec
Rayz, Vitaliy, Ph.D., University of California, Berkeley
Salowitz, Nathan, Ph.D., Stanford University
Sung, Yongjin, Ph.D., Massachusetts Institute of Technology

Master of Science in Engineering

Admission

An applicant must meet [Graduate School requirements](#) plus these College requirements to be considered for admission to the program:

1. Undergraduate major in engineering, mathematics or a natural science.
2. Submission of official [GRE](#) scores from test taken within the last 5 years.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The Graduate School requires that the student have a major professor to advise, supervise, and approve the Program of Study before registering for courses. The College will assign the incoming student to a temporary advisor at the time of admission.

A student may change advisors with the consent of the new advisor and of the Associate Dean of Graduate Programs of CEAS, and upon notification of their current advisor.

Program of Study

During the first semester the student, in consultation with the major professor, develops a program of study, obtains the consent of the advisor and submits it to the College Graduate Programs Office for approval by the Associate Dean. To make subsequent changes, the student

must follow the same process. Graduation requires successful completion of courses from an approved program of study. Students are recommended to obtain approval for an amended program of study before taking a course not on the current program of study.

Master's Program Committee

The Program Committee is proposed by the major professor in consultation with the student. The Committee is to include at least three graduate faculty, not all of whom are in the same department.

Credits and Courses

Minimum degree requirements are 30 credits for the thesis option and 31 credits for the non-thesis option as outlined below. Of the courses offered in the College only those numbered 400 and above may be taken for graduate credit for this degree. Independent study courses (699 and 999) may be included in the minimum course credit requirements provided approval of the program of study including them has been obtained prior to registration in such courses. Typically no more than three credits of independent study are allowed in the MS Program. Guidelines on acceptable independent study courses are available in the CEAS Graduate Programs Office. A student may not use courses required for a baccalaureate degree for subsequent graduate credit.

Thesis Option

All students are encouraged to undertake the thesis option. The degree requires a minimum of 12 credits in an approved technical program of studies, 9 credits of approved electives, 3 credits in XXX 700 (CEAS Graduate Seminar Course) and 6 credits of thesis. At least 12 credits, not including thesis or the CEAS Graduate Seminar Course, must be in courses of 700 level or higher. At least 12 credits, including thesis, must be earned at UWM. The thesis may be written in absentia provided prior permission has been obtained from the major professor and the Associate Dean for Graduate Programs in the College of Engineering & Applied Science. Students in the thesis option must pass a final comprehensive examination, administered by the Master's Program Committee, partially in defense of the thesis.

Non-Thesis Option

Students will be required to specify a thesis or non-thesis option in their program of study. After 12 credits of coursework are completed, changes from thesis to non-thesis option will not be allowed, except under exceptional circumstances to be considered on a case-by-case basis. Students may always change from a non-thesis to a thesis option. Departments and faculty may make a thesis a requirement (or preference) of employment for TA's, RA's, and PA's.

Departments may offer the following options and publish appropriate guidelines.

Capstone Option

The graduation requirements for this option are completion of 28 credits of coursework plus 3 credits of a capstone project. The coursework must include a minimum 18 credits in an approved technical program of study, 1 credit in XXX 700 (CEAS Graduate Seminar Course) and 9 credits may be approved electives. At least 15 credits must be of 700 level and above. For the capstone project, the student must submit a written proposal and receive approval from the advisor. The student will register for a 3 credit course that allows flexible independent study (either independent study or a specific capstone course).

The capstone project should be designed with the intent of leading to creative work based on the student's background, and should be the equivalent of 3 credits of work to be completed over a single semester. Upon completion of the capstone, the student must submit a written report and give an oral presentation of the project to the Master's Program Committee for approval.

Comprehensive Exam Option

The graduation requirements for this option are completion of 31 credits of coursework and a demonstration of course mastery. The coursework must include a minimum 21 credits in an approved technical program of study, 1 credit in XXX 700 (CEAS Graduate Seminar Course) and 9 credits may be approved electives. At least 15 credits must be of 700 level and above. Course mastery may be demonstrated by one of the following: (1) The student submits a dossier of work, and passes an oral examination given by the Master's Program Committee. Or (2) The student passes a written master's comprehensive examination when it is offered by the department. Departments allowing an examination option will offer such exams at least once per semester, and will announce the date of the exam at least 60 days prior to the exam. The department also must provide a written description of the topics covered on the exam, including text books and chapters.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Master of Science in Computer Science

Tracks

The Master of Science in Computer Science (MSCS) degree offers a regular track and a professional track. The regular track is designed to prepare students for PhD research in

Computer Science. The professional track is designed to prepare students, possibly with undergraduate majors other than computer science, for success in their industrial careers. Students in the professional track are not eligible for financial aid from Computer Science department.

MSCS Regular Track

Admission

An applicant must meet Graduate School requirements to be considered for admission. Additionally, the applicants must meet either of the following program requirements:

- Undergraduate major in Computer Science.
- Satisfactory completion of two programming courses (such as CompSci 250 and 251); at least 6 additional credits of coursework in CS; and one course in calculus (such as Math 211 or Math 231).

Applicants without sufficient Computer Science background are encouraged to apply to the professional track. Applicants not admitted to the regular track may be offered admission to the professional track instead. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Credit and Course Requirements

The student must have taken six Computer Science courses (specified below) or their equivalents prior to completion of the M.S. Program. Appropriate courses taken by a student in another program that are considered equivalent to the courses below can be used to satisfy this requirement with the approval of the Department. The six courses are:

- CompSci 315 Introduction to Computer Organization and Assembly Language Programming
- CompSci 317 Discrete Information Structures
- CompSci 351 Data Structures and Algorithms
- CompSci 458 Computer Architecture
- CompSci 535 Algorithm Design and Analysis
- CompSci 537 Introduction to Operating Systems

Engineering

At most six credits of the courses used to satisfy this requirement (excluding 315, 317 and 351) and taken as a graduate student may be used in either option of the program. All students must submit an approved Undergraduate Requirements Assessment (which explains how the requirement will be met) prior to registering for any courses.

The students in the regular track must write a thesis or complete a capstone project.

Thesis Option

The minimum credit requirement is 30, comprising

1. 18 credits of 700 or higher level courses, including CompSci 700 (CEAS Graduate Seminar, 3 credits) and CompSci 704 (Analysis of Algorithms), and excluding CompSci 990 (Master's Thesis).
2. 6 credits of additional courses that carry graduate credit.
3. 6 credits of CompSci 990.

All courses must be approved in the Program of Study. The student must not register for more than 4 credits of CompSci 990 in any one semester. The student must write an acceptable thesis under the supervision of a faculty advisor and pass a final comprehensive examination, which will normally focus on the thesis. Once a student begins a thesis under the supervision of an advisor, the graduate program director must approve any change to a new thesis advisor.

Capstone Option

The minimum credit requirement is 31, comprising:

- 22 credits of 700 or higher level courses including CompSci 700 (CEAS Graduate Seminar 1 credit only), CompSci 704 (Analysis of Algorithms) and CompSci 995 (Master's Capstone Project 3 credits).
- 9 credits of additional courses that carry graduate credit.

The student must complete a capstone project under the supervision of a faculty advisor and pass CompSci 995 with a grade of B or better.

For both thesis and capstone options, all courses must be approved in the Program of Study. Non-CompSci courses must be approved prior to registration.

The Professional Track

Admission

An applicant must meet Graduate School requirements to be considered for admission. We expect that students admitted to the professional track will have knowledge of computer programming to the extent of CompSci 250 and CompSci 251. Applicants

can demonstrate this knowledge via academic coursework or online courses. Applicants can also explain in their Statement of Purpose if they gained this knowledge via work experience. All admitted students must take a placement test on their knowledge of computer programming. The students may be required to additionally take CompSci 250 and 251 based on their performance in this test.

Credit and Course Requirements

The student must demonstrate knowledge equivalent to the following four Computer Science courses prior to completion of the M.S. Program:

1. CompSci 317 Discrete Information Structures
2. CompSci 351 Data Structures and Algorithms
3. CompSci 535 Algorithm Design and Analysis
4. CompSci 537 Introduction to Operating Systems

This requirement can be met in one of the following ways:

- A grade B or better in these courses or equivalent CompSt courses.
- Passing the sufficiency exams offered by the course instructors.
- Prior academic coursework approved by the academic advisor.

The credits earned while taking these courses as a graduate student may be used to meet the credit requirements of the program. All students must submit an approved Undergraduate Requirements Assessment (which explains how the requirement will be met) prior to registering for any courses.

The minimum credit requirement is 31 graduate credits, comprising:

1. At least 16 credits of 700-level CompSci courses including CompSci 700 (CEAS Graduate Seminar—1 credit only) and optional CompSci 995 (Master's Capstone Project).
2. Up to 9 graduate credits of courses selected from a pre-approved list of non-CompSci courses considered useful for professionals in CompSci-related industries.
3. Remaining credits must come from graduate-level or U/G-level CompSci courses.

Up to 12 credits of prior graduate-level course work (including up to 6 credits of prior graduate-level Computer Science courses) can be used to meet the credit requirements. All

courses must be approved in the Program of Study. Any non-CompSci courses must be approved prior to registration.

Capstone Requirement

The student must demonstrate the ability to integrate the knowledge of the discipline in one of the following ways:

- A capstone project completed under faculty supervision by completing the 3-credit CompSci 995 course with a B or better grade. These credits can be applied towards the requirement regarding 700-level CompSci courses.
- An oral exam based on a prior open-source or professional project completed by the student. The student must ensure that faculty can review the actual implementation of the project.

Financial Aid

Students enrolled in the professional track are not eligible for financial aid from Computer Science department including research assistantships, teaching assistantships, project assistantships, fellowships and/or tuition waivers. However, such students are still eligible for financial aid available elsewhere on the campus.

Major Professor as Advisor

The student is assigned an initial faculty advisor at the time of admission. The student selects a faculty member as a thesis or capstone advisor, respectively, as they follow the regular or professional track, after consultation with that faculty member. Any change in faculty advisor requires the documented permission of the new faculty member and the Department. An initial Program of Study with student, advisor and Department approval should be completed prior to the completion of 9 credits in the program. The final Program of Study must be approved by the thesis or capstone advisor, as appropriate.

Industrial Internship

With faculty advisor's approval, one credit per semester of CompSci 990 or CompSci 995 may be satisfied with a supervised industrial internship for a maximum of two credits.

Switching between Tracks

A student in the regular track may switch to the professional track at any time. However, such a student will no longer be eligible for research/teaching/project assistantships or any other financial aid from Computer Science department. A student admitted under the professional track may switch to the regular track after completing at least 15 credits of the professional track with at least 3.5 cumulative GPA. Note that not all courses acceptable under the professional track may be acceptable under the regular track.

Engineering

Time Limit

All students must complete the degree requirements within five years of initial enrollment.

Integrated B.S.-M.S. Degree

Admission

An Integrated B.S.-M.S. program is available for exceptional undergraduate students. In this program, students take 6 graduate credits while completing the B.S. degree.

Minimum admission requirements:

- 3.2 GPA.
- 36 credits or less remaining for the B.S..
- Approval from their major department.

Application Process

- In consultation with their major professor, students must complete an Integrated B.S./M.S. Program of Study Form. Students must indicate on the form which 6 graduate-level credits are being taken while completing the B.S. degree. Engineering students must have the form approved by the CEAS Office of Graduate Programs and Research. Computer Science students must have the form approved by the Graduate Program Representative for the CompSci M.S. Program. Students must have their Program of Study approved prior to the start of the final undergraduate semester and before starting graduate courses.
- Students must apply to the Graduate School. The M.S. degree requirements must be completed within five years of completion of the B.S. degree. Students in the Integrated Program are not required to take the [GRE](#) exam for admission to the Graduate School.

Program of Study

Advanced standing will be granted to Integrated B.S.-M.S. students who have successfully completed six credits of pre-approved coursework at the graduate level with a grade of B or better. If a course has U/G status, the student must follow the syllabus and grading scale designated for graduate students. Once admitted to the Graduate School, students in the Integrated Program must meet the requirements listed in the following tables:

Master of Science in Engineering

Program Option	Overall M.S. Credit Requirement
Thesis	24 course credits completed after admission to graduate status. Requires 3-credit Graduate Seminar course

Non-Thesis	6 thesis credits Total 30 credits 31 course credits completed after admission to graduate status. Requires 1-credit Graduate Seminar course Total 31 credits
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Master of Science in Computer Science

Program Option	Overall M.S. Credit Requirement 18 credits of 700 or higher-level courses including CompSci 700 (CEAS Graduate Seminar — 3 credits), CompSci 704 (Analysis of Algorithms)
Thesis	6 credits of additional courses that carry graduate credit 6 credits of CompSci 990 Total 30 credits 19 credits of 700 or higher-level courses including CompSci 700 (CEAS Graduate Seminar — 1 credit), CompSci 704 (Analysis of Algorithms).
Non-Thesis	9 credits of additional courses that carry graduate credit 3 credits of CompSci 995 (Master's Capstone Project).. Total 31 credits

The following is a common requirement for both options: The students must have taken six Computer Science courses (specified below) or their equivalent prior to completion of the M.S. Program.

Appropriate courses satisfy the common requirement with the approval of the department. The six courses are:

All four of the following courses:

CompSci 315 Introduction to Computer Organization and Assembly Language Programming
CompSci 317 Discrete Information Structures
CompSci 458 Computer Architecture
CompSci 535 Algorithm Design and Analysis

AND

Any two of the following four courses:

CompSci 417 Introduction to the Theory of Computation
CompSci 431 Programming Language Concepts
CompSci 536 Software Engineering
CompSci 537 Introduction to Operating Systems

At most six credits of the above courses with UG credit may be used to satisfy the courses requirements of the two options.

In the thesis option, the student must register for thesis credits (CompSci 990) in at least two semesters.

Time Limit

The M.S. degree requirements must be completed within five years of the first enrollment in the Integrated Program.

Graduation

Students who withdraw from the Integrated Program may continue in the B.S. program and be awarded the bachelor's degree.

Doctor of Philosophy in Engineering

Admission

An applicant must meet [Graduate School requirements](#) plus these College requirements to be considered for admission to the program:

1. Bachelor's or master's degree in engineering or computer science depending on the program area selected.
2. Applicants with B.S. or M.S. degrees outside of engineering or computer science may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. The undergraduate/graduate preparation including mathematics equivalent to ElecEng 234 or Math 234, or the made-up deficiencies must be sufficient to assure the Graduate Program Subcommittee that the applicant is able to proceed with advanced work directed toward the doctoral degree.
3. A grade point average of 3.0 on the basis of 4.0 in highest degree granted. An applicant with a master's degree in engineering having a GPA of less than 3.0, but at least equal to 2.75, may be admitted if substantial evidence can be submitted demonstrating that the applicant has the capacity to perform satisfactory doctoral work.
4. All applicants are required to submit a brief (1 or 2 page) statement describing their professional goals and at least two letters of reference.
5. Applicants with a relevant master's degree who intend to complete an additional master's in engineering at UWM should announce their plans at the time of admission, and not later than the start of their second year into the Ph.D. program.

Engineering

Reapplication

A student who receives a master's degree at UWM must formally apply for admission to the Graduate School as a doctoral student before continuing studies which will be credited toward the Doctor of Philosophy in Engineering.

Credits and Courses

The minimum degree requirement is 66 graduate credits beyond the bachelor's degree. The minimum credit distribution of coursework to be undertaken must be as follows depending on the option selected.

- 21 credits in the major area of concentration
- 9 credits in an approved minor area
- 6 credits in mathematics and/or quantitative methods
- 18 credits of doctoral thesis
- 9 credits of approved electives
- 3 credits of XXX 700, CEAS Graduate Seminar (XXX can be any CEAS department)

The 6-credit requirement in mathematics and/or quantitative methods may be met by satisfactorily completing certain courses specified by the GPSC or by taking the minor in mathematics. When such courses also count for either the major or the minor area, the remaining credits may be taken as approved electives.

The student must achieve a 3.0 GPA separately in each of the following areas: the major area, the minor area, the quantitative methods area and the required ethics course.

The major area of concentration must be in one of the six areas approved for the Ph.D. degree in the College. These areas are: Civil Engineering, Computer Science, Electrical Engineering, Industrial Engineering, Materials, and Mechanical Engineering. The minor is normally in another area offered in the College or in the physical sciences or mathematics or in management sciences. Consideration of any other area as a minor requires the prior approval of the GPSC.

A minimum of 26 credits, excluding thesis and internship, if applicable, must be at the 700 level or higher.

A minimum of 33 credits, including thesis and internship, when applicable, must be completed while enrolled at UWM in the Ph.D. degree program. For students entering with a relevant master's degree who intend to complete a second master's and a PhD in Engineering at UWM, a minimum of 27 credits, including doctoral dissertation, must be completed while enrolled in the doctoral program.

Students entering the program without a prior applicable master's degree are limited to a total maximum transfer of 9 credits for courses taken elsewhere. Independent study courses (699 and 999) may be included in the minimum course credit requirements provided GPSC approval has been obtained prior to registration in such course. Typically no more than six credits of independent study are allowed in the Ph.D. Program. Guidelines on acceptable independent study courses are available in the CEAS Graduate Studies Office.

The GPSC may require candidates to complete certain courses as part of the requirement for the specific major or to meet the mathematics and/or quantitative methods requirement.

Major Professor as Advisor

The Graduate School requires that the student must have a major professor to advise, supervise, and approve the program of study before registering for courses. The GPSC will assign the incoming student to a temporary Program Advisor at the time of admission. Prior to the completion of 12 credits (9 credits for part-time students), the student must select a major professor who will be the student's thesis advisor. The student in consultation with the major professor develops a proposed program of studies which is submitted to the Graduate Program Subcommittee for approval. For subsequent changes, the student must file a revised program of study for approval.

Internship Elective

Students interested in undertaking an internship may do so by taking not more or less than 6 credits in course 997. Registration for Internship may be used toward meeting the residence requirements. Not more or less than 6 credits of internship will be counted toward the degree. The internship normally involves a cooperative effort with industry or government agencies where the student is involved actively in advanced professional engineering activities.

Registration in the internship course must be subsequent to passing the Qualifying Examination and submission of an internship proposal outlining the scope and objectives of the activity. The internship proposal must be duly approved by the advisor, the organization where the internship is proposed, the GPSC and the CEAS Associate Dean for Graduate Studies. The College does not guarantee that every student interested in an internship will be placed appropriately. In the absence of suitable placements, students should plan to take other courses to fulfill the degree requirements.

Foreign Language

There is no foreign language requirement for the degree.

Residence

The program residence requirement is satisfied either by completing 8 or more graduate credits in two consecutive semesters, exclusive of summer sessions, or by completing 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Qualifying Examination

A qualifying examination must be taken to determine whether the individual is qualified for doctoral-level work. For students entering with a bachelor's degree, this examination, which will be written, may be taken after 18 credits of graduate work have been earned and must be satisfactorily completed before 30 credits of graduate work have been completed. Students admitted after completing an appropriate master's degree must take this examination in the semester immediately after 18 credits of graduate coursework have been earned at UWM.

The examination will be for a given area, but will also include material on basic engineering principles. The examination will normally be offered twice a year during the regular academic year. A student may take the examination twice; if a passing grade is not obtained on the second attempt the applicant will not be permitted to proceed toward the Doctor of Philosophy degree.

Doctoral Program Committee

The Program Committee is proposed by the major professor in consultation with the department. The Committee is to include at least five graduate faculty (three from major area, one from minor area, and one from another area). Outside members, particularly for those with internships, are desirable. The majority of the Committee members should be from the student's major field.

Doctoral Preliminary Examination

A student is admitted to candidacy only after successful completion of the doctoral preliminary examination conducted by the Program Committee. This examination, which normally is oral, must be taken before the completion of 48 credits of graduate work toward the Doctor of Philosophy degree in Engineering and should be taken within the first seven years in the program. Prior to the examination the student must present a proposal for a doctoral dissertation project. The examination may cover both graduate course material and items related to the proposed dissertation project.

Dissertation

The student must carry out a creative effort in the major area under the supervision of the major professor and report the results in an acceptable dissertation. Registration for dissertation requires successful completion of the doctoral preliminary (Candidacy)

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examination and prior approval of the student's advisor, the doctoral committee, and the GPSC of a dissertation proposal which outlines the scope of the project, the method of approach, and the goals to be achieved. Any proposal that may involve a financial commitment by the University also must be approved by the Office of the Dean. Total dissertation project registration is for a minimum of 18 credits and any student registering for thesis must continue to register for 3 credits per semester during the academic year until the dissertation is completed.

Dissertation Defense

The final examination, which is oral, consists of a defense of the thesis project. It can only be taken after all coursework and other requirements have been completed.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information see the [Graduate School Ph.D. requirements](#).

Civil and Environmental Engineering

Courses

401 Intermediate Strength of Materials. 3 cr. U/G.

Area moment, conjugate beam, deflection due to shear, bending of unsymmetrical beams, curved beams, shear flow, shear center, stresses in open sections, theories of failure, plastic stress-strain relations, plastic deformation, limit analysis, energy methods, laboratory investigation. Prereq: jr st, Civ Eng 303(P).

411 Engineering Principles of Water Resources Design. 3 cr. U/G.

Principles of hydraulics; steady and non-steady flow in closed conduits and open channels; hydraulic design of structures, surge tanks; hydraulic model studies. Prereq: jr st & admis to an Eng major or grad st; MechEng 320(P).

412 Applied Hydrology. 3 cr. U/G.

Applied hydrology with emphasis on analysis of rainfall, runoff and streamflow processes, hydrologic forecasting and simulation, urban hydrology, hydrologic design and modelling. Prereq: jr st; Math 233(P) & MechEng 320(P).

413 Environmental Engineering. 3 cr. U/G.

Water pollution and control; hazardous substances and risk assessment; water and wastewater treatment systems; air-pollution and emission control; solid wastes; design of treatment facilities. Prereq: jr st & admis to an Eng major or grad st; MechEng 320(P).

431 Materials of Construction. 3 cr. U/G.

Investigation covering engineering properties of metals, timber, concrete, masonry, plain and

reinforced plastics, glues; thermal effects. Prereq: jr st; Civ Eng 303(P).

456 Foundation Engineering. 3 cr. U/G.

Site investigation; foundation bearing capacity and settlement; design of spread and combined footings; lateral earth pressures; retaining wall design; slope stability analysis; pile foundations. Prereq: jr st; Civ Eng 335(P).

463 Introduction to Finite Elements. 3 cr. U/G.

Generation and assembly of finite element matrices in one- and two-dimensional problems. Modeling and practical applications in solid mechanics, heat transfer and fluid flow. Not open to students with cr in MechEng 463, which is identical to Civ Eng 463. Prereq: jr st; ElecEng 234(P), Civ Eng 303(P), MechEng 320(C), 311(C) or 321(C).

466 Mechanics of Composite Materials. 3 cr. U/G.

Basic concepts, materials, and characteristics of composites. Micromechanics and Macromechanics of Elastic Response. Failure, design and optimization of composite structures. Civ Eng 466 & MechEng 466 are jointly offered; they count as repeats of one another. Prereq: jr st & Civ Eng 303(P)

469 Introduction to Biomechanical Engineering. 3 cr. U/G.

Mathematical modeling of human body; dynamics of human motion; neuromuscular control human movement; stress analysis of bones and joints; concurrent mechanical problems in medicine. MechEng 469 & Civ Eng 469 are jointly offered and count as repeats of one another. Prereq: Civ Eng 202(P) & 303 (P); or cons instr.

490 Transportation Engineering. 3 cr. U/G.

Technological and common elements of all modes of transportation; their effect on performance, demand, and outputs of a transportation system. Development of new transportation systems. Prereq: jr st & admis to an Eng major; Civ Eng 280(P); or grad st.

492 Environmental Impact Assessment. 3 cr. U/G.

Study and evaluation of the impacts of large scale projects on the quality of the environment with emphasis on the assessment of physical and community impacts. Impact statement preparation. Prereq: sr st.

502 Experimental Stress Analysis. 3 cr. U/G.

Basic stress strain relations; demonstration of experimental methods of determining stresses and strains; use of mechanical strain, electric strain, and strain gages, optical photoelastic equipment, brittle lacquers, models. Prereq: jr st & Civ Eng 303(P).

511 Water Supply and Sewerage. 3 cr. U/G.

Resources of water supply quality and quantity requirements. Principles of hydraulic design of water supply and sewerage systems; pumping stations. Principles of sewage disposal. Problems of management involving hydrological, engineering, institutional, legal and economic aspects. Design project. Prereq: jr st; Civ Eng 411(P).

521 Water Quality Assessment. 3 cr. U/G.

Laboratory techniques for detecting and measuring physical, chemical and biological characteristics of water and wastewater. Water quality requirements. Design of sampling programs. Prereq: sr st; Civ Eng 411(P).

555 Sustainable Construction Materials and Technologies. 3 cr. U/G.

Sustainable construction materials and methodologies related to commercial construction, LEED/Green certifications, material selection. Prereq: jr st.

560 Intermediate Structural Analysis. 3 cr. U/G.

Topics in traditional analysis methods; indeterminate structures, load & load paths, moment distribution, approximate methods, elementary plate analysis. Prereq: jr st; Civ Eng 360(P), 372(P).

571 Design of Concrete Structures. 3 cr. U/G.

Topics in reinforced concrete design; indeterminate reinforced concrete beams and frames; length effect in columns; torsion; two way floor systems; yield line theory. Prereq: jr st; Civ Eng 360(C), 372(P).

572 Design of Steel Structures. 3 cr. U/G.

Topics in design of steel structures; tension, compression, and beam members; combined axial and bending; connections; frames; serviceability. Prereq: jr st; Civ Eng 360(C), 372(P).

573 Design of Masonry Structures. 3 cr. U/G.

Topics in design of masonry structures; materials, loads, design codes, reinforced & unreinforced axial & flexural members, composite & cavity walls, shear walls, seismic requirements. Prereq: jr st; Civ Eng 360(C), 372(P).

574 Design of Prestressed Concrete Structures. 3 cr. U/G.

Design of prestressed concrete structures; methods of prestressing; loss of prestress; design for flexure, shear, torsion; camber and deflections; continuity; connections; fire rating; circular prestressing. Prereq: jr st; Civ Eng 360(C), 372(P).

579 Earthquake Engineering. 3 cr. U/G.

Earthquake mechanics and effects, structural dynamics, seismic hazard analysis, design guidelines, design of steel and concrete buildings for earthquake loads. Counts as repeat

Engineering

of Civ Eng 891 w/same subtitle. Prereq: sr st; Civ Eng 571(P) or 572(P); or cons instr; or grad st.

580 Engineering Analysis in Applied Mechanics. 3 cr. U/G.

Engineering analysis of initial and boundary value problems in applied mechanics. Application of various methods to investigate a variety of engineering situations. Not open to students with cr in MechEng 580, which is identical to Civ Eng 580. Prereq: jr st; ElecEng 234(P).

590 Urban Transportation Planning. 3 cr. U/G.

Techniques used to plan urban transportation systems; data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, modeling and evaluation techniques. Prereq: sr st.

592 Traffic Control. 3 cr. U/G.

Control of transportation systems with emphasis on traffic engineering principles. Data collection, capacity analysis, traffic improvements, signalization, signs and markings, channelization, intersection, speeds and safety considerations. Prereq: sr st.

594 Physical Planning and Municipal Engineering. 3 cr. U/G.

Organization and structure of local government, zoning and planning, subdivision layout, street design, transit service, urban drainage, storm and sanitary sewer, water supply and other public works activities. Prereq: sr st.

596 Transportation Facilities Design. 3 cr. U/G.

Physical design of transportation facilities including geometric design and terminals for highway, rail, air and water transportation. Student project work will be required. Prereq: jr st; Civ Eng 490(P).

598 Pavement Analysis and Design. 3 cr. U/G.

Pavement types, design factors, traffic loading and volume, materials characterization, drainage design, flexible and rigid pavements design, stresses and deflections, overlay design, pavement rehabilitation. Prereq: jr st & Civ Eng 335(P); or grad st.

610 Introduction to Water and Sewage Treatment. 3 cr. U/G.

Characteristics of water and sewage. Principles of physical, chemical and biological processes for water and sewage treatment. Design project. Prereq: sr st; Civ Eng 413(P).

614 Hazardous Waste Management. 3 cr. U/G.

Hazardous waste; regulatory process; fate and transport of contaminants; treatment and disposal methods; site remediation; quantitative

risk assessment; design project. Prereq: jr st; Civ Eng 413(P).

616 Computational Hydraulics and Environmental Flows. 3 cr. U/G.

Numerical analysis applied to fluid flows and transport phenomena. Applications in environmental flows, water quality models, transport of pollutant, long wave propagation, etc. Counts as repeat of Civ Eng 691 w/same topic. Prereq: jr sr, Civ Eng 411(P).

691 Topics in Civil Engineering: (Subtitled). 1-3 cr. U/G.

Topics vary. Study of topics in theory and practice of civil engineering. Specific topics and any additional prerequisites will be announced in Schedule of Classes each time the course is offered. Retakeable for max of 6 cr. Prereq: jr st.

699 Independent Study. 1-3 cr. U/G.

May be retaken to max of 6 cr toward the undergraduate degree. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.

Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatlEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

701 Advanced Strength of Materials. 3 cr. G.

Beams of elastic foundations; advanced energy methods; thick walled cylinders; torsion of non-circular sections; approximate methods for stresses in plates, stress concentrations, contact stresses, interaction curves, elastic and inelastic buckling, introduction to elasticity. Some laboratory, matrix, and tensor applications. Prereq: grad st; Civ eng 303(P) & 401(C) or cons instr.

702 Elastic Stability. 3 cr. G.

Sending of bars under simultaneous action of axial and lateral loads; buckling of compressed bars, rings, and tubes; lateral buckling of beams; torsion of i-beams; buckling of thin plates. Prereq: grad st. Civ Eng 401(P) ElecEng 234(P).

708 Fate and Transport of Micro and Nano Particles in the Environment. 3 cr. G.

Fundamentals governing fate and transport of micro and nano particles, e.g. inorganic particles, bacteria, viruses and protozoan in aquatic environment and porous media including soil, sand and filtration system. Prereq: grad st; Civ Eng 411(P) or 413(P) or cons instr

710 Industrial Waste Treatment. 3 cr. G.

Principles and theories of treating industrial wastes. Characterization of industries and their wastes. Treatment processes including tertiary and advanced wastewater separation

techniques. Hazardous wastes management. Administration of industrial waste control. Programs. Prereq: grad st; Civ Eng 521(P) & 610(P) or cons instr.

712 Ground Water Flow and Seepage. 3 cr. G.

Linear and non-linear seepage laws; theoretical models; electro-osmosis in soils; analytical solution to steady state problems; numerical solutions to transient problems; analytical solutions to transient problems; experimental methods and models; design of dewatering systems. Prereq: grad st; Civ Eng 411.

714 Unit Operations in Environmental Engineering. 3 cr. G.

Unit operations of physicochemical and biological aspects employed in water and wastewater treatments. In-situ treatment of contaminated groundwater. Theory and development of design criteria. Prereq: grad st; Civ Eng 610(P); cons instr.

716 Sediment Transport. 3 cr. G.

Physical properties of sediment; incipient motion, bed forms, suspended load, bed load, total load, natural river processes. Prereq: grad st; Civ Eng 411(P).

717 Open Channel Flow. 3 cr. G.

Basic equations of continuity, mechanical energy and momentum; uniform, gradually varied, and spatially varied flows; hydraulic structures; governing equations of unsteady flow and numerical solutions. Prereq: grad st; Civ Eng 411(P) or equiv.

718 Biological Processes for Water and Wastewater Treatment. 3 cr. G.

Biological and engineering principles related to trickling filters, activated sludge plants, lagoons, rotating biological contactors, aerobic and anaerobic digesters, nutrient removal and bioremediation. Prereq: grad st; Civ Eng 413(R) or 610(R)

719 Pollutant Dispersion Process. 3 cr. G.

Classical diffusion theories; longitudinal dispersion, vertical and transverse mixing in free-surface turbulent flow, application to natural channels. Prereq: grad st; Civ Eng 411(P).

721 Advanced Water Analysis. 3 cr. G.

Advanced analytical methods for evaluating sources, distribution patterns, concentrations, and biological effects of pollutants in natural waters. Tracers, nuclear techniques, organics, metals, bioassays. Lecture and laboratory. Prereq: grad st; Civ Eng 521(P) or cons instr.

725 Finite Element Methods in Engineering. 3 cr. G.

Formulation and assembly of finite elements. Tools in numerical analysis, interpolation, integration. Trusses, beams, plates, two-dimensional problems. Generalized field

Engineering

problems: heat transfer, fluid flow. Emphasis on practical application. Prereq: grad st.

726 Mechanical Vibrations. 3 cr. G.

Free and forced vibrations of multiple degree of freedom systems using modern matrix methods. Not open to students who have cr in MechEng 726, which is identical to Civ Eng 726. Prereq: grad st; MechEng 475 or equiv.

731 Properties of Concrete. 3 cr. G.

Advanced course in portland cement concrete; proportioning methods, theories of hardening and setting, properties, prefabricated concrete, precast concrete, construction methods, lightweight aggregates and concrete, causes of disintegration, protective treatments, specifications, cost estimates. Prereq: grad st; cons instr.

732 Fatigue in Engineering Materials. 3 cr. G.

Influence of repeated stress in engineering design, fatigue testing machines, and procedures, factors influencing fatigue properties, theories of fatigue failure. Prereq: Civ Eng 401(P) or cons instr.

735 Advanced Soil Mechanics. 3 cr. G.

Advanced treatment and application of theories and principles of soil mechanics; permeability and seepage; elastic theories of stress distribution; consolidation theories; shearing strength and failure criteria; plastic equilibrium. Prereq: grad st; Civ Eng 335(P).

756 Advanced Foundation Engineering. 3 cr. G.

Critical study of actual engineering projects; introduction to existing design procedures and the basis for foundation recommendations. Prereq: grad st; Civ Eng 456(P).

761 Advanced Structural Analysis. 3 cr. G.

Analysis of structures utilizing matrix stiffness techniques; material and geometric nonlinearities, volume changes, extreme loadings. Prereq: grad st; Civ Eng 360(P); Civ Eng 463(P).

771 Advanced Concrete Design. 3 cr. G.

Advanced topics in design of concrete structures; structural systems & bracing, two-way slab, walls, construction phase assessment, joints & ductility, design for fire, seismic design. Prereq: grad st; Civ Eng 571(P).

772 Advanced Steel Design. 3 cr. G.

Advanced topics in design of steel structures; plate girders, moment resisting frames, stability & bracing, connections, torsion, seismic design, fatigue & fracture. Prereq: grad st; Civ Eng 572(P).

773 Advanced Dynamics. 3 cr. G.

General theory of dynamic behavior from the viewpoint of Lagrangian and Hamiltonian mechanics. Application of energy principles to

dynamical analysis of mechanical systems. Not open to students who have cr in MechEng 773, which is identical. Prereq: grad st; MechEng(580) or Civ Eng 580(P); or cons instr.

774 Shock and Vibration Analysis. 3 cr. G.

Dynamic response of mechanical systems to complex shock and vibration conditions; application of the eigenvalue and transform methods of analysis to the solution of engineering problems. Not open to students who have cr in MechEng 774, which is identical to Civ Eng 774. Prereq: grad st; MechEng 475(P) & 580(P).

775 Analysis and Design of Bridges. 3 cr. G.

Bridge types; loads and AASHTO specifications; analysis and design of superstructures; substructure design; computer applications. Prereq: grad st; Civ Eng 463(P); 571(P); 572(P) or cons instr.

777 Design of Multistory Buildings. 3 cr. G.

Topics in design of multistory building systems; planning & environmental criteria, loading, analysis, design, construction, lateral systems, foundation, cladding, building service & management. Prereq: grad st; Civ Eng 463(P), 571(P), 572(P).

785 Dynamics of Structures. 3 cr. G.

Analysis and design of structures subjected to dynamic loads; effects of damping and inelastic action; multi-degree of freedom and continuous systems; numerical techniques; seismic design. Prereq: grad st; Civ Eng 463(P) or cons instr.

790 Transportation Systems Design. 3 cr. G.

Principles of systems analysis as they relate to the planning, design and operation of transportation systems. Model building, evaluation, systems management. Prereq: grad st; Civ Eng 590(P).

792 Methods of Transportation Analysis. 3 cr. G.

Mathematical tools useful in analysis of transportation systems. Process of modeling and simulation, matrix techniques, network analysis, statistical analysis, etc. As related to transportation. Use of standard packaged computer programs. Class project may be utilized to develop these skills. Prereq: grad st; CompSci 151(P) or equiv. Civ Eng 590(P).

794 Traffic Planning and Operations. 3 cr. G.

Planning and design of traffic systems, delay and capacity of signalized intersections, freeway controls, traffic system management and optimization, queues, traffic assignment and simulation. Prereq: grad st; Civ Eng 592(C).

804 Theory of Plasticity. 3 cr. G.

Yield conditions, stress strain relations; plastic potential, hardening theories, torsion, bending,

thick walled spherical and cylindrical shells under internal pressure; plane strain of perfectly plastic material. Prereq: Civ Eng 805(P).

880 Bioengineering Seminar. 1 cr. G.

Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatlEng 880, IndEng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

891 Advanced Topics in Civil Engineering: (Subtitled). 1-3 cr. G.

Topics vary. Study of advanced topics of theory and practice of structural engineering. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

940 Topics in Transportation: (Subtitled). 1-3 cr. G.

Topics vary. Topics and problems of current interest in transportation; readings and review of recent literature and development of a critical analysis or paper. Subject matter may be student initiated. Specific topic and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakeable with change in topic to max of 9 cr. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.

Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.

Prereq: grad st; cons instr & grad prog Comm.

999 Advanced Independent Study. 1-3 cr. G.

Prereq: grad st; cons instr & grad prog committee.

Computer Science

417 Introduction to the Theory of Computation. 3 cr. U/G.

Introduction to formal languages, grammars and automata. Finite state automata, pushdown automata, turing machines. Regular, context-free recursive and recursively enumerable languages. Decidability. Prereq: jr st; grade of C or better in CompSci 317(P) or grade of C or better in Math 341(P).

422 Introduction to Artificial Intelligence. 3 cr. U/G.

Introduction to core techniques and broad survey of AI. Topics include: Lisp, heuristic search, knowledge representation, planning, vision, learning. Prereq: jr st; C or better in CompSci 317(217)(P); & CompSci351(252)(P).

Engineering

423 Introduction to Natural Language Processing. 3 cr. U/G.

Introduction to natural language processing programs and an overview of the field. Topics include syntactic frameworks, parsing, semantics, interpretation, and applications. Prereq: jr st; C or better in CompSci 351(P).

425 Introduction to Data Mining. 3 cr. U/G.

Algorithms for uncovering useful information from data. Topics include data exploration, association rules, clustering, supervised learning, and mining structured data (e.g., sequences or graphs) Counts as repeat of CompSci 657 with same topic. Prereq: jr st; CompSci 251(P), Math 221(P) or Math 232(P)

431 Programming Languages Concepts. 3 cr. U/G.

Examination of abstract features of languages. Study of syntactic and semantic models; design and programming in procedural, object-oriented, functional and logical languages. Implementation methods. Prereq: jr st; grade of C or better in CompSci 351(252)(P).

444 Introduction to Text Retrieval and Its Applications in Biomedicine. 3 cr. U/G.

Introduction to text retrieval, text classification and their biomedical applications; topics include: indexing, query processing, and document retrieval methods. Jointly offered with & counts as repeat of HCA 444, CompSci 744, & HCA 744. Prereq: jr st; CompSci 351(P) or HCA 442(P).

458 Computer Architecture. 3 cr. U/G.

Processor organization and design; memory organization; microprogramming and control unit design; I-O organization; case studies of selected machine architectures. Jointly offered with & counts as repeat of ElecEng 458. Prereq: jr st; ElecEng 354(P), CompSci 315(215)(P) or ElecEng 367(P).

459 Fundamentals of Computer Graphics. 3 cr. U/G.

Scan-line algorithms, object representation, homogeneous coordinates, geometric transformations, viewing curves, illumination models, interactive input methods, texture mapping. Prereq: jr st; Math 232(P); CompSci 251(P).

469 Introduction to Computer Security. 3 cr. U/G.

Privacy and authenticity of data and programs, communication, operating systems, network and database security, computer viruses, cryptography, private and public key cryptosystems, protocols. Prereq: jr st; C or better in both CompSci 317(217)(P) & 251(P).

481 Server-side Internet Programming. 3 cr. U/G.

Introduces students to the concept of server-side programming and web applications development. Topics include dynamic web site

development, session management, security, and relational databases. Prereq: jr st; one of CompSci 113(C), InfoSt 240(C), Art 324(C), or CompSt 702(P).

482 Rich Internet Applications. 3 cr. U/G.

Create standard-compliant web applications using client-side JavaScript and the Document Object Model. Prereq: jr st; CompSci 361(P) or 481(P).

511 Symbolic Logic. 3 cr. U/G.

First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. CompSci 511, Math 511, & Philos 511 are jointly offered & count as repeat of each other. Prereq: jr st & either Philos 212(P) or 6 cr Math at the 300-level or above; or grad st.

520 Computer Networks. 3 cr. U/G.

Layered network architecture, protocols, data transmission, local area networks, multiplexing and switching, routing flow and congestion control, internetworking, wireless networking, network reliability and security. Prereq: jr. st; CompSci 315(215)(P) or CompSci 458(P) or ElecEng 367(P).

522 Computer Game Design. 3 cr. U/G.

Design of rules, environments, rewards, and punishments, Game metrics, Including artificial intelligence in games, Puzzle generation, Automatic design, Humanness test, Influence maps, Diversity, Unpredictability. Counts as repeat of CompSci 657 with similar topic. Prereq: jr st; grade of C or better in CompSci 317(P).

530 Computer Networks Laboratory. 3 cr. U/G.

Experimentation with Wired and Wireless Computer Networks Design. Data Link and MAC Protocols, LANs, WANs, Routing, Transport Layer Protocols, Congestion Control, Network Security, Network Management. Prereq: jr st; CompSci 520(P).

535 Algorithm Design and Analysis. 3 cr. U/G.

Introduction to abstract data structures, analysis of time and space requirements of numerical and non-numerical algorithms methods for data manipulation. Prereq: jr st; Math 211(P), 213(P), 221(P) or 231(P); C or better in both CompSci 317(P) & 351(P).

536 Software Engineering. 3 cr. U/G.

Software engineering, the software life cycle, qualities of software; design, specification and verification of software, programming environments and tools, object oriented programming. Prereq: jr st; grade of C or better in CompSci 251(P).

537 Introduction to Operating Systems. 3 cr. U/G.

Process management including scheduling, concurrency, synchronization, and deadlock; memory management, I/O management and disk scheduling, file systems. Systems programming. Prereq: jr st; CompSci 458(P) or ElecEng 458(P); CompSci 337(P).

545 FPGA Embedded CPUs & Firmware Development. 3 cr. U/G.

Use of modern embedded system central processor units (CPUs) with integrated field-programmable gate arrays (FPGAs). Design and implementation of firmware for these devices. Jointly offered with & counts as repeat of ElecEng 545. Prereq: jr st; ElecEng 367(P) & 457(P).

547 (effective 09/05/2017) User-Centered Interaction Design. 3 cr. U/G.

Introduction of human-computer interaction theories and design processes. Emphasis is on applied user experience (UX) design. Jointly offered with & counts as repeat of InfoSt 547. Prereq: sr st.

552 Advanced Object-Oriented Programming. 3 cr. U/G.

An advanced course in object-oriented programming. Abstraction; single and multiple inheritance; dynamic binding of functions; polymorphic types and operators; survey of object-oriented techniques. Prereq: jr st; C or better in both CompSci 351(P) & 361(P).

557 Introduction to Database Systems. 3 cr. U/G.

General database system concepts. Physical data organization. Data models and database systems. Database design theory. Query optimization. Transaction management. Logic and database. Prereq: jr st; CompSci 315(215)(P) & 251(P) or equiv.

655 Compiler Implementation Laboratory. 3 cr. U/G.

Implementation of compiler phases: scanner, parser, semantic analysis; code generation and optimization. Prereq. jr st, CompSci 431(P); 654(C) or 754(C).

657 Topics in Computer Science: (Subtitled). 1-4 cr. U/G.

Lectures on recent advances in computer science. Specific credits and any additional prerequisites will be announced in Schedule of Classes whenever course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

699 Independent Study. 1-3 cr. U/G.

May be repeated to max of 6 cr by undergraduates. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.

Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and

Engineering

laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

704 Analysis of Algorithms. 3 cr. G.

Introduction to concrete complexity theory and efficient algorithms. Fast data structure and graph algorithms, matrix multiplication, algebraic and numeric algorithms, reducibilities and np-completeness. Exponential and non-elementary lower bounds. Prereq: grad st; CompSci 217(P) & 535(P).

708 Scientific Computing. 3 cr. G.

Fundamental algorithms and practical issues of scientific computing, including Monte Carlo simulations, data fitting, fast Fourier transform, optimization, numerical integration & differentiation, parallel computing, selected biomedical applications. Prereq: grad st

710 Artificial Intelligence. 3 cr. G.

AI programming, search techniques game playing, knowledge representation, knowledge acquisition, expert systems, selected topics from learning. Natural language understanding, vision and robotics. Not open to students who have cr in ElecEng 710, which is identical to CompSci 710. Prereq: grad st; CompSci 252(P) & 535(P).

711 Pattern Recognition - Statistical, Neural, and Fuzzy Approaches. 3 cr. G.

Theoretical analysis of statistical, neural, and fuzzy techniques for pattern classification and clustering. Study of learning algorithms; and applications. Not open to students who have cr in Eleceng 711 which is identical to CompSci 711. Prereq: grad st

712 Image Processing. 3 cr. G.

This course covers the materials required to process and enhance photographic images, remote sensor multispectral scanner data and others. Topics include transform techniques, recorders, discriminate function, and associated hardware. Prereq: grad st

713 Computer Vision. 3 cr. G.

Fundamental issues and current research in computer vision. Topics in early or low-level vision, intermediate vision or perceptual organization, and high-level vision or object recognition. Jointly offered w/ and counts as a repeat of ElecEng 713. Prereq: grad st; ElecEng 410(P) or cons instr.

714 Computational Geometry. 3 cr. G.

Special data structures and algorithmic techniques for representing and manipulating geometric objects, such as points, lines and polygons. Applications to vlsi design and robotics. Prereq: grad st; CompSci 535(P).

718 Advanced Computer Graphics: Modeling and Animation. 3 cr. G.

Advanced graphics topics on mesh processing, illumination models, ray-tracing, and volumetric data visualization; popular animation approaches such as keyframes, particles, fluids and rigid bodies. Prereq: grad st.

720 Computational Models of Decision Making. 3 cr. G.

Theoretical foundations and practical problems of formulating and constructing computational models of decision making. Prereq: basic course in Probability or Statistics.

722 Artificial Intelligence Planning Techniques. 3 cr. G.

Algorithms and representations for classical and more expressive planning, search control techniques, study and comparison of a variety of planners, applications of planning. Prereq: grad st; Comp Sci 535(P).

723 Natural Language Processing. 3 cr. G.

Principles and problems of natural language processing with emphasis on recent advances and open problems. Topics: lexicons, parsing, interpretation, discourse structure, generation, and collaborative interfaces. Not open to students with cr in CompSci 423. Prereq: grad st; CompSci 422(P) or 710(P).

724 Distributed Algorithms. 3 cr. G.

Identification of canonical problems in distributed computing, design and analysis of algorithms to solve these problems. Formal proof techniques and impossibility results. Prereq: grad st; CompSci 517(P), 535(P), or 523(P).

725 Robot Motion Planning. 3 cr. G.

Configuration space, C-obstacles, sampling-based algorithms, potential fields, coverage, hierarchical motion planning, human control, relaxation, moving or deformable obstacles, multirobot motion planning, metrics, outdoor planning. Prereq: grad st

729 Real-Time Operating Systems. 3 cr. G.

Fundamentals of real-time operating systems with emphasis on scheduling and resource management. Prereq: grad st

730 Advanced Computer Networks. 3 cr. G.

Network architecture, protocols, routing, congestion control, traffic management, ATM, optical networks, TCP/IP, LANs, WANs, QOS, wireless and mobile networks, mobility management, security, multimedia, network management. Prereq: CompSci 520 (P).

732 Type Systems for Programming Languages. 3 cr. G.

Lambda calculus, simple types, record types, subtypes, polymorphic types, type reconstruction, universal types, bounded

quantification, higher-order types. Prereq: grad st; CompSci 431(P) & 654(P).

737 Software Project Management. 3 cr. G.

Concepts and techniques for management of large software projects. Life cycle models; team organization; cost estimation and budgeting; schedule and risk management; software metrics. Prereq: grad st; CompSci 361(P) or equivalent

738 (838) Program Analysis for Software Engineering. 3 cr. G.

Static techniques for determining run-time properties of a program: data-flow analysis, abstract interpretation. Prereq: grad st.

743 Intelligent User Interfaces. 3 cr. G.

Principles, methods, and current research in intelligent user interfaces including applications, architectures, knowledge representation, and evaluation. Prereq: grad st.

744 Text Retrieval and Its Applications in Biomedicine. 3 cr. G.

Fundamental issues and current research in text retrieval, text classification and their biomedical applications; Programming and use of indexing, query processing, and document retrieval methods. Not open to students who have cr in HCA 744, COMPSCI 444, or HCA 444. Prereq: grad st; COMPSCI 351(P) or HCA 442 (P)

747 Principles & Practices of User Interface Design. 3 cr. G.

Principles and practices of user interface design for desktop, web, and mobile applications: interaction principles; UI design elements; user-centered design process and practices. Prereq: grad st.

754 Compiler Construction and Theory. 3 cr. G.

Fundamentals of compiler construction for modern programming languages. Syntax analysis, table organization, storage administration, semantic routines and code generation. Not open to those who have cr in CompSci 654. Prereq: grad st.

755 Information and Coding Theory. 3 cr. G.

Information measures, entropy, source coding, Shannon's theorems, channel capacity, error correcting codes, linear codes, convolutional codes, arithmetic codes, encoding and decoding algorithms. Prereq: grad st.

757 Data Base Organization and File Structure. 3 cr. G.

Introduction to automatic information organization and retrieval. Dictionary construction and operation, statistical and syntactic operations, performance evaluation of retrieval systems, design of query languages, models of database systems, database security. Prereq: grad st; CompSci 217(P) & 535(P).

Engineering

758 Advanced Computer Architecture. 3 cr. G.

Advanced topics in computer architecture including pipeline processing, multiple and parallel processing systems, performance enhancement issues and vlsi computing structures. Not open to students who have cr in ElecEng 758, which is identical to CompSci 758. Prereq: grad st; CompSci 458(NP) or ElecEng 458(NP).

759 Data Security. 3 cr. G.

Protection of data in computer and communication systems, cryptography, classical one key and public key cryptosystems, database protection, operating system security. Prereq: grad st; CompSci 217(P) & 536(P).

760 Computer Systems Performance Evaluation. 3 cr. G.

Performance measurement and tools, workload characterization, markov models, queueing theory, simulation, benchmarks, data analysis, parallel systems performance analysis. Not open to students who have cr in ElecEng 760, which is the same as CompSci 760. Prereq: grad st; CompSci 458(P) or ElecEng 458(P).

761 Software Testing and Verification. 3 cr. G.

Software testing techniques: test case generation, test oracles, regression testing, structural testing, test coverage, mutation testing, and model-based testing. Testing for object-oriented and distributed software. Security testing. Prereq: grad st; CompSci 361(P) or equivalent

762 Fault-Tolerant Computing. 3 cr. G.

Faults in digital circuits, fault detection, fault location, system reconfiguration or repair, system recovery, design for testability, self-checking circuits, fault-tolerant interconnection networks, systems level fault-diagnosis, fault-tolerant software. Not open to students with cr for ElecEng 762. Prereq: grad st; ElecEng 354(P).

780 Multimedia Systems. 3 cr. G.

Survey of principles and applications of multimedia computer systems. Media fundamentals. Networking, architecture, software engineering, and user interface issues. Prereq: CompSci 537(P).

790 Advanced Topics in Computer Science: (Subtitled). 3 cr. G.

Discussion of special advanced topics in theoretical as well as applied areas in computer science. Retakable w/chg in topic to 9 cr max. Specific topics may be jointly-offered w/Philos. Prereq: grad st; add'l prereqs depending on topic.

805 Randomized Algorithms; Pseudorandom Numbers. 3 cr. G.

Probabilistic algorithms in number theory, combinatorics, graph theory, and computational

geometry. Sorting and searching. Applications to parallel computation. Interactive proofs. Derandomization of algorithms. Prereq: CompSci 704(P) CompSci 523(R).

810 Knowledge Representation. 3 cr. G.

Study of the design and properties of formalisms for representing knowledge in computational systems. Topics include: first-order logic, nonmonotonic logic, uncertainty, time, space, beliefs, plans. Prereq: grad st; CompSci 710(P).

854 Advanced Compiler Techniques. 3 cr. G.

Details of compiler construction: syntax theory, attribute grammars, implementing advanced language features, optimization Prereq: grad st; CompSci 654(P) or 754(P)

859 Advanced Cryptography and Security Protocols. 3 cr. G.

Elliptic curve cryptography, AES, cryptanalysis, secret sharing, zero knowledge proofs, provable security. Prereq: grad st; CompSci 469(P) & CompSci 535(P), or CompSci 759(P)

870 Medical Informatics Seminar. 1 cr. G.

Presentations by medical informatics affiliated faculty and invited speakers. Graduate students may present their work or published research from recent medical informatics journals or conferences. Meets once every two weeks for 100 minutes. Prereq: grad st.

880 Bioengineering Seminar. 1 cr. G.

Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatlEng 880, IndEng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.

Prereq: grad st; cons instr.

995 Master's Capstone Project. 1-3 cr. G.

Independent project supervised by student's adviser Prereq: grad st; cons instr & grad prog comm.

998 Doctoral Thesis. 1-12 cr. G.

Prereq: grad st; cons instr & grad prog committee.

999 Advanced Independent Study. 1-3 cr. G.

Prereq: grad st; cons instr & grad prog comm.

Computer Studies

701 Mathematical & Computing

Fundamentals for IT Professionals. 3 cr. G.

Introductory discussion of logic and reasoning techniques, discrete structures, combinatorics, probability, and their applications to IT. Prereq: grad st.

702 Software Development in Python. 3 cr. G.

Programming in Python. Basic control structures including recursion. Basic and library data types. Problem solving with objects. Writing classes. Basic software development skills. Prereq: grad st.

703 Software Engineering Principles. 3 cr. G.

Introduction to core topics of software engineering including requirements analysis, object-oriented design, testing, and project management. Overview of ethical and social issues in computing. Prereq: CompSt 702 or equiv.

751 (effective 09/05/2017) Data Structures and Algorithms. 3 cr. G.

Programming in a structured, high-level, object-oriented language. Implementation of data structures and algorithms and their application. Prereq: CompST 750 or CompSci 251 (recommended)

790 Advanced Topics in Computer Studies: (Subtitled). 3-9 cr. G.

Discussion of special advanced topics in the study of computing. Retakable with change in topic to 9 cr max. Prereq: grad st; add'l prereqs depending on topic.

Electrical Engineering

410 Digital Signal Processing. 3 cr. U/G.

Spectral computation including DFT and FFT, sampling of continuous signals, digital filter design including FIR and IIR filters. Prereq: jr st; ElecEng 310(P).

420 Random Signals and Systems. 3 cr. U/G.

Fundamental probability and random process theory, power spectral density. Linear systems and random signals, auto- and cross-correlation, optimum MSE filter design. Prereq: jr st; ElecEng 310(P); or grad st.

421 Communication Systems. 3 cr. U/G.

Basic concepts of information; modulation, transmission and demodulation; presentation of information; practical communication systems. Prereq: jr st; ElecEng 335(C).

430 Energy Modeling. 3 cr. U/G.

Electrical/thermal energy modeling through lectures and hands-on classroom work along with use of energy modeling software. Jointly offered with and counts are repeat of MechEng 430. Prereq: jr st; or cons instr.

Engineering

436 Introduction to Medical Instrumentation. 3 cr. U/G.

Biopotential signals and electrodes; Biopotential Amplifiers and Signal Processing; Sensors, Detectors, and Sources; Electrical Safety; Specifications; Error Analysis; Device Approval Process. Prereq: jr st; ElecEng 305(P) or equiv.

437 Introduction to Biomedical Imaging. 3 cr. U/G.

Biomedical imaging modalities and underlying principles: X-radiography, computerized tomography, Radon transforms; image reconstruction techniques; ultrasonic imaging; nuclear medicine; magnetic resonance imaging; experimental techniques. Prereq: sr st; ElecEng 310(P) or equiv.

439 Introduction to Biomedical Optics. 3 cr. U/G.

Tissue Optical Properties, Light Transport, Fourier Transforms in Spatial Domain, Wave theory, Spectroscopy, Optical imaging, Laser-Tissue interaction, Photoconversion, Photodynamic Therapy, Microscopy, Fluorescence imaging, and OCT. Prereq: jr st; ElecEng 310(P) & 361(P).

451 Introduction to VLSI Design. 3 cr. U/G.

Introduction to design of VLSI circuits. Ic fundamentals including: energy band diagrams, transistor optimization, design approaches including both custom and semi-custom. Prereq: jr st; ElecEng 330(P), 354(P).

457 Digital Logic Laboratory. 3 cr. U/G.

Experimentation with digital logic systems. Synthesis of digital systems, such as adders, shift registers. Analog/digital and digital/analog converters from basic logic modules. Prereq: jr st, ElecEng 354(P).

457 (effective 09/05/2017) Digital Logic Laboratory. 3 cr. U/G.

Digital design using a hardware description language and FPGAs. Topics include VHDL, Design Methodologies, Finite State Machines, Multiple clock domains, Timing Analysis, Simulation and Verification. Prereq: jr st, ElecEng 354(P).

458 Computer Architecture. 3 cr. U/G.

Processor organization and design; memory organization; microprogramming and control unit design; I-O organization; case studies of selected machine architectures. Jointly offered with & counts as repeat of CompSci 458. Prereq: jr st; ElecEng 354(P), CompSci 315(215)(P) or ElecEng 367(P).

461 Microwave Engineering. 3 cr. U/G.

Review from electromagnetics, transmission lines and waveguides; impedance matching, passive components, stripline and microstrip line circuits, dielectric waveguide, laboratory experiments, industrial and biomedical

applications. Prereq: jr st; ElecEng 361(P) or equiv.

462 Antenna Theory. 3 cr. U/G.

Analysis and design of antennas: antenna fundamentals; wire antennas; dipole, monopole, and loop antennas; antenna arrays; aperture antennas; horn, slot, and parabolic dish antennas. Prereq: jr st; ElecEng 361(P).

464 Fundamentals of Photonics. 3 cr. U/G.

Fundamentals of ray, electromagnetic, and beam optics; polarization and polarization-based devices; optics of layered media; and guided-wave optics, including optical fibers. Prereq: jr st & ElecEng 361(P); or grad st.

465 Broadband Optical Networks. 3 cr. U/G.

Multichannel lightwave systems based on wavelength-division, time-division, and subcarrier multiplexing; optical devices and coding techniques for implementing optical networks. Counts as repeat of ElecEng 490(690) w/same topic. Prereq: jr st; ElecEng 305(P) & 361(P); or grad st.

471 Electric Power Systems. 3 cr. U/G.

Elements of a typical power system. Per-unit quantities; load flow study; economic dispatch; symmetrical components; fault study; system protection; stability. Prereq: jr st; ElecEng 362(C).

472 Introduction to Wind Energy. 3 cr. U/G.

Principles of wind turbines; wind characteristics; rotor dynamics of wind turbines; turbine design and integration; controls and electrical systems; grid connection. MechEng 472 & ElecEng 472 are jointly offered; they count as repeats of one another. Prereq: jr st; or cons instr.

474 Introduction to Control Systems. 4 cr. U/G.

Modeling of continuous systems; stability considerations, analysis and design of feedback control systems in time and frequency domains. Prereq: jr st; ElecEng 310(P), CompSci 240 (P), Civ Eng 202(P) or cons instr; or grad st.

482 Introduction to Nanoelectronics. 3 cr. U/G.

Wave properties of electrons, diffraction, Schrödinger's equation, quantum confinement, band theory, tunnel junctions, Coulomb blockade, quantum dots and wires, quantum conductance and ballistic transport. Prereq: jr st; ElecEng 330(C), ElecEng 361(C).

490 Topics in Electrical Engineering: (Subtitled). 1-3 cr. U/G.

Specific topics, credits, and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st.

541 Integrated Circuits and Systems. 3 cr. U/G.

Differential and operational amplifier circuits. Linear integrated circuits: comparators, regulators, amplifiers and phase locked loops. Digital integrated circuits: mos shift registers, ram, a-to-d converters. Prereq: jr st; ElecEng 330(P).

545 FPGA Embedded CPUs & Firmware Development. 3 cr. U/G.

Use of modern embedded system central processor units (CPUs) with integrated field-programmable gate arrays (FPGAs). Design and implementation of firmware for these devices. Jointly offered with & counts as repeat of ElecEng 545. Prereq: jr st; ElecEng 367(P) & 457(P).

562 Telecommunication Circuits. 3 cr. U/G.

Radio frequency communication systems, terrestrial and satellite communication systems, mixers, oscillators, filters, design considerations for receivers and transmitters. Prereq: sr st; ElecEng 330(P).

565 Optical Communication. 3 cr. U/G.

Overview of communication systems, light and electromagnetic waves, optical fibers, lasers, led, photodetectors, receivers, optical fiber communication systems. Prereq: sr st; ElecEng 361(P), & 330(P) or 465(P).

568 Applications of Digital Signal Processing. 3 cr. U/G.

Introduction to the use of modern digital signal processor (DSP) units in DSP applications such as digital filtering and speech signal processing. Counts as repeat of ElecEng 490 and 890 w/similar topic; Prereq: ElecEng 310(P), 367(P).

572 Power Electronics. 3 cr. U/G.

Power diodes and transistors; static converters; D.C. power supplies; power transistor circuits; SCR's; classical and modern forced-commutation inverters; choppers; cycloconverters, applications in power. Prereq: sr st; ElecEng 335(C).

574 Intermediate Control Systems. 3 cr. U/G.

State space; frequency domain methods of modelling, analysis and design of control systems; digital control; and multivariate systems. ElecEng 574(503) & MechEng 574(478) are jointly offered & count as repeats of each other. Not open for cr to students who have cr in ElecEng 503(ER) or MechEng 478(ER). Prereq: sr st; MechEng 474(P) or ElecEng 474(402(P)); or grad st.

575 Analysis of Electric Machines and Motor Drives. 3 cr. U/G.

Reference frame analysis, computer simulation, permanent magnet synchronous machines, induction machines, power electronic inverters, pulsewidth modulation, vector control. Prereq: jr st, ElecEng 330(P) & 362(P).

Engineering

588 Fundamentals of Nanotechnology. 3 cr. U/G.

Nanofabrication, self-assembly, principles of scanning tunneling/atomic force microscopy, operators, energy quantization; density of states, quantum dots, nanowires, carbon nanotubes: electronic properties and applications. Prereq: jr st; non-ElecEng majors; ElecEng 361(P) or equiv.

699 Independent Study. 1-3 cr. U/G.

May be retaken to max of 6 cr toward the undergraduate degree. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.

Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatlEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

701 Advanced Linear System Analysis. 3 cr. G.

Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix, numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another. Prereq: grad st.

710 Artificial Intelligence. 3 cr. G.

Programming, search techniques game playing, knowledge representation, knowledge acquisition, expert systems. Selected topics from learning. Natural language understanding, vision and robotics. Not open to students who have cr in CompSci 710. Prereq: grad st; CompSci 252 & 535.

711 Pattern Recognition - Statistical, Neural, and Fuzzy Approaches. 3 cr. G.

Theoretical analysis of statistical, neural, and fuzzy techniques for pattern classification and clustering. Study of learning algorithms; and applications. Not open to students who have cr in CompSci 711 which is identical to Eleceng 711. Prereq: grad st

712 Image Processing. 3 cr. G.

This course covers the materials required to process and enhance photographic images, remote sensor multispectral scanner data and others. Topics include transform techniques, recorders, discriminate function, and associated hardware. Prereq: grad st

713 Computer Vision. 3 cr. G.

Fundamental issues and current research in computer vision. Topics in early or low-level vision, intermediate vision or perceptual organization, and high-level vision or object recognition. Jointly offered w/ and counts as a repeat of CompSci 713. Prereq: grad st; ElecEng 410(P) or cons instr.

716 Tomography: Imaging and Image Reconstruction. 3 cr. G.

In-depth examination of the fundamentals of tomographic imaging and tomographic image reconstruction algorithms. Prereq: grad st; ElecEng 410 (P) & ElecEng 420 (P)

717 Tomography: Image Quality and Artifact Correction. 3 cr. G.

In depth study of the factors affecting tomographic image quality. State-of-the-art techniques and practices for artifact correction. Prereq: grad st; ElecEng 716 (P)

718 Nonlinear Control Systems. 3 cr. G.

Advanced concepts and methodologies in modeling and design of nonlinear control systems. Lyapunov theory; describing functions; variable structure control. ElecEng 718 & MechEng718 are jointly offered and count as repeats of one another. Not open for credit to students w/ cr in MechEng 778. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

721 Digital Communications. 3 cr. G.

Fundamentals of design and analysis of digital communication systems in the presence of noise; application of satellite, phone, and computer communication systems. Prereq: grad st, ElecEng 421 or cons instr.

733 Sensors and Systems. 3 cr. G.

Physical principles and working of sensors, interfacing, and sensor networks. Prereq: grad st; ElecEng 305 or cons. instr.; Jointly offered with & counts as repeat of BME 733 & MechEng 733.

737 Medical Imaging Signals and Systems. 3 cr. G.

Medical imaging physics; physical parameters of imaging systems; imaging system models; physical measurements; image reconstruction; image characteristics; biomedical applications. Prereq: grad st; ElecEng 310(P) and Physics 210(P), or cons instr.

741 Electromagnetic Fields and Waves. 3 cr. G.

Propagation, radiation and scattering of electromagnetic waves and their applications in electrical engineering. Prereq: grad st; Eleceng 361 or equiv.

742 Electromagnetic Wave Theory. 3 cr. G.

Electromagnetics of layered media and open waveguides; surface waves, radiation modes, and plasmons; asymptotic methods; Dyadic green's functions; integral equation methods Prereq: Grad st; ElecEng 361(P).

755 Information and Coding Theory. 3 cr. G.

Information measures, entropy, source coding, shannon's theorems, channel capacity, error correcting codes, linear codes, convolutional

codes, arithmetic codes, encoding and decoding algorithms. Prereq: grad st.

758 Advanced Computer Architecture. 3 cr. G.

Advanced topics in computer architecture including pipeline processing, multiple and parallel processing systems, performance enhancement issues and vlsi computing structures. Not open for cr to students with cr in CompSci 758, which is identical to ElecEng 758. Prereq: grad st; CompSci 458 or ElecEng 458.

760 Computer Systems Performance Evaluation. 3 cr. G.

Performance measurement and tools, workload characterization, markov models, queueing theory, simulation, benchmarks, data analysis, parallel systems performance analysis. Not open to students who have cr in CompSci 760, which is the same as ElecEng 760. Prereq: grad st; & CompSci 458(P) or ElecEng 458(P).

762 Fault-Tolerant Computing. 3 cr. G.

Faults in digital circuits, fault detection, fault location, system reconfiguration or repair, system recovery, design for testability, self-checking circuits, fault-tolerant interconnection networks, systems level fault-diagnosis, fault-tolerant software. Not open to students with cr in CompSci 762, which is identical to ElecEng 762. Prereq: grad st; ElecEng 354.

765 Introduction to Fourier Optics and Optical Signal Processing. 3 cr. G.

Two dimensional linear systems, scalar diffraction theory, imaging properties of lenses, optical imaging systems, spatial filtering, wavefront reconstruction. Prereq: grad st; ElecEng 310(P) & 361(P)

766 Introduction to Nonlinear Optics. 3 cr. G.

Characteristics and efficiency of various nonlinear optical processes that find applications in communications, signal processing and computing. Topics include optical switching devices, mixers and solitons. Prereq: grad st; ElecEng 361(P).

781 Advanced Synchronous Machinery. 3 cr. G.

Machine construction, direct and quadrature axis reactances, steady state performance, unbalanced operating conditions, transient performance, motor starting, standards. Prereq: ElecEng 362.

810 Advanced Digital Signal Processing. 3 cr. G.

Prediction and optimum filters; lattice structures; adaptive filters; deconvolution techniques, spectrum estimation, applications. Prereq: grad st; ElecEng 410(P).

Engineering

816 Optimal Control Theory. 3 cr. G.

Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

819 Adaptive Control Theory. 3 cr. G.

Adaptive control systems including mathematical foundations, estimation, model reference adaptive control, self tuning regulators, numerical methods, applications. ElecEng 819 & MechEng 819 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

872 Computer Analysis of Electric Power Systems. 3 cr. G.

Graph theory, matrix algebra and numerical analysis applied to computer solution of power system problems; mathematical models; algorithms and solution techniques for load flow and fault studies. Prereq: grad st & ElecEng 471.

880 Bioengineering Seminar. 1 cr. G.

Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatEng 880, IndEng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Special Topics: (Subtitled). 3 cr. G.

Lectures on special topics in electrical engineering. Variable content course. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.

Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.

Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.

Prereq: grad st & cons instr.

Engineering and Applied Science

497 Study Abroad: (Subtitled). 1-5 cr. U/G.

Designed to enroll students in UWM sponsored program. Course work, level, content, and credits determined at the time of offering. Retakeable with change in topic to 12 cr max for undergrad & 9 cr max for grad. Prereq:

acceptance to Study Abroad Prog; cons CEAS assoc dean for academic prog.

Industrial and Manufacturing Engineering 405 Product Realization. 3 cr. U/G.

This interdisciplinary course (engineering and art students) considers the diverse aspects of the product realization process. Art 405, MechEng 405, & Ind Eng 405 are jointly offered; they count as repeats of one another. Counts as repeat of Art 402/Ind Eng 590/MechEng 490 with same topic. Prereq: jr st & admis to Art & Design prog or IAT prog; or Ind Eng 350(P), 360(P), 370(P); or MechEng 321(P), 360(P), 366(P), 370(P); or grad st & cons instr.

455 Operations Research I. 3 cr. U/G.

Fundamental optimization methods; linear programming, integer programming, network models, and dynamic programming methods of operations research. Modeling and applications of these methods in practical situations. Prereq: jr st; Math 233(P).

465 Operations Research II. 3 cr. U/G.

Concepts and methods of probabilistic modeling in queueing, forecasting, and inventory problems for design and analysis of manufacturing and service operations. Prereq: jr st; Ind Eng 467(P) or MthStat 467(P) or equiv course in statistics.

470 Methods Engineering. 3 cr. U/G.

Use of production machine for producing a simple product. Study of production sequence, material flow, plant layout; time and motion; and the economics of materials and methods of fabrication. Redesign of the product and the methods of production to minimize total costs within physical, social and aesthetic constraints. Prereq: jr st; Ind Eng 467(P).

475 Simulation Methodology. 3 cr. U/G.

Fundamentals of discrete simulation. Random number and random variable generation for simulation modeling and analysis using simulation software. Prereq: Ind Eng 467(P), CompSci 201(C).

550 Control of Automated Manufacturing Systems. 3 cr. U/G.

Concepts of manufacturing control systems, manufacturing process control, shop floor control, measuring devices in manufacturing systems, automated inspection, and manufacturing automation protocol. Prereq: jr st; Ind Eng 450(R).

571 Quality Control. 3 cr. U/G.

Statistical process quality design and control. Process control charts, six sigma and process capability assessment. Prereq: jr st & Ind Eng 467(P) or equiv course in statistics; or grad st.

572 Reliability Engineering. 3 cr. U/G.

Concepts and methods for the design, testing, and estimation of component and system reliabilities. Failures and failure rates; life tests;

series-parallel, and standby systems; stress levels; redundancy and reliability apportionment; maintainability, availability, and safety; reliability design and implementation. Prereq: jr st; Ind Eng 467(P) or equiv.

575 Design of Experiments. 3 cr. U/G.

Statistical principles, designs and analyses for planned experimentation; factorial and fractional factorial designs, inner-outer designs, robustness, confounding and blocking, and response surface methodology. Prereq: Ind Eng 467(P) or equiv.

577 Dimensional Measurement and Tolerancing. 3 cr. U/G.

Measurement techniques; implementation and integration of precision measuring equipment and gages in manufacturing systems; geometric dimensioning and tolerancing; and devices for statistical process control. Prereq: sr st & Ind Eng 467(P).

580 Ergonomics. 3 cr. U/G.

Broad study of ergonomics principles and stresses in design and analysis of workplaces and physical environment; 2 hrs lec & 2 hrs lab/week. Prereq: jr st.

582 Ergonomic Job Evaluation Techniques. 3 cr. U/G.

Review of popular, contemporary methods of job evaluation for risk of low back pain and distal upper extremity. Prereq: sr st & Ind Eng 580(P).

583 Facility Layout and Material Handling. 3 cr. U/G.

Basics in facility planning; design and integration of plant layout, material handling, and warehousing; quantitative models for facility location problems. Prereq: sr st, Ind Eng 370(P), Ind Eng 455(C)

584 Biodynamics of Human Motion. 3 cr. U/G.

Techniques for collecting, analyzing and interpreting human motion data. Special emphasis will be placed on performing data analysis using the software package, Matlab. Prereq: jr st; ElecEng 234(P); Civ Eng202(C).

587 Lean Production Systems. 3 cr. U/G.

An integrated approach to efficient manufacturing of products with high quality, low cost, and timely delivery including one-piece flow, pull system, and visual factory. Prereq: Ind Eng 350(P).

590 Topics in Industrial and Systems Engineering: (Subtitled). 1-3 cr. U/G.

Selected topics of current interest in an area of systems design. May be repeated with change in topic to max of 9 cr. Prereq: sr st.

Engineering

699 Independent Study. 1-3 cr. U/G.

Limited to max of 6 cr applied toward undergraduate degree. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.

Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatlEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

716 Engineering Statistical Analysis. 3 cr. G.

Statistical methods and their applications to solve engineering decision-making problems, integrating computer usage. Inference, probability and probability distributions, data analysis, regression analysis, and anova. Prereq: grad st.

717 Operations Research in Engineering Management. 3 cr. G.

Various operations research techniques for engineering management decision-making. Linear programming, integer programming, network models, multi-objective decision-making, decision analysis, and queuing models. Prereq: grad st; Ind Eng 716(P).

750 Group Technology and Process Planning. 3 cr. G.

Group technology and computer-aided process planning; classification and coding schemes, machine loading, production planning/scheduling models, process planning, expert systems in capp. Prereq: grad st; Ind Eng 450 & 455.

751 Flexible Manufacturing Systems. 3 cr. G.

Hierarchy of manufacturing control, process control, advanced concepts in fms, optimal design planning and production scheduling in fms. Prereq: grad st; Ind Eng 450 & 455.

765 Operations Research Methods. 3 cr. G.

Formulation and application of mathematical models for the design of industrial systems. Mathematical programming, network flow, decision theory and simulation techniques are used for solving single and multi-stage production, inventory and service problems. Prereq: grad st; Ind Eng 465 & 767.

772 Facilities Planning. 3 cr. G.

Modern techniques in facilities planning, location of the facility; systems approach, factors and evaluation. Systematic layout planning, computerized methods. Assembly line balancing, simulation techniques. Cpm and pert. Projects and laboratory work. Prereq: grad st; Ind Eng 455 & 470.

777 Scheduling and realtime resource management. 3 cr. G.

Scheduling (allocation of resources over time) and realtime resource management techniques in highly informative production and service

systems. Prereq: grad st; Ind Eng 370(P), 475(P), 455(P), 465(P) or cons instr

780 Advanced Ergonomics - Low Back Pain. 3 cr. G.

An in-depth study of lbp causes, risk factors, preventive approaches, job evaluation/design techniques. 2 hr lec & 2 hr lab/week. Prereq: grad st; Ind Eng 580(P); a course in anatomy & physiology or cons instr.

783 Advanced Ergonomics - Upper Extremity. 3 cr. G.

In depth study of musculoskeletal disorders of upper extremity, personal and job risk factors, job analysis, design and prevention. 2 hr lec & 2 hr lab/week. Prereq: grad st; Ind Eng 580(P); a course in Anatomy & Physiology or cons instr.

786 Applied Biostatistics in Ergonomics. 3 cr. G.

Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of OccThpy 786. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

790 Design Project. 2-3 cr. G.

Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of OccThpy 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P); or cons instr.

880 Bioengineering Seminar. 1 cr. G.

Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatlEng 880, IndEng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Advanced Topics in Industrial and Systems Engineering: (Subtitled). 1-3 cr. G.

Topics vary. Advanced topics of current interest in an area of systems-design; review of recent literature. Subject matter may be student initiated. Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st.

990 Masters Thesis. 1-9 cr. G.

Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.

Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.

Prereq: grad st; cons instr & grad prog committee.

Materials

402 Physical Metallurgy. 3 cr. U/G.

Crystal binding and electron theory of solids, phase diagrams, diffusion, nucleation and growth, recrystallization, precipitation hardening, solidification, austenite decomposition. Prereq: jr st; MatlEng 201(P).

410 Mechanical Behavior of Materials. 3 cr. U/G.

An introduction to the mechanical behavior of metals, ceramics, polymers and composite materials. Topics include elastic, plastic and viscoelastic deformation, fracture, fatigue, and creep. Prereq: jr st; MatlEng 201(P); or grad st; or cons instr.

431 Welding Engineering. 3 cr. U/G.

An engineering course on joining processes; reaction of materials to welding, brazing and soldering; distortion; process and material selection and structural engineering considerations. Prereq: jr st; MatlEng 201(P).

442 Thermodynamics of Materials. 3 cr. U/G.

Third law of thermodynamics; application of thermodynamics to materials processes and systems; behavior of solutions; reaction equilibria. Prereq: jr st, admis to MatlEng major, MatlEng 201(P); or grad st; or cons instr.

443 Transport Phenomena in Materials Processing. 3 cr. U/G.

A study of phenomena related to transport of mass, energy, and momentum with applications to materials processing. Prereq: jr st, MatlEng 442(P), & ElecEng 234 (P); or grad st.

452 Ceramic Materials. 3 cr. U/G.

Ceramic bonding, crystallography and structure, defects and Brouwer diagram, mass and electrical transport of ceramics, phase equilibria, mechanical properties, and processing of ceramics including sintering. Not open for cr to students with cr in MatlEng 451(ER). Prereq: jr st, MatlEng 201(P); or grad st.

453 Polymeric Materials. 3 cr. U/G.

Structure, crystallinity of polymers, amorphous polymers and elastomers, synthesis method, polymerization, copolymerization, polymer characterization, polymer solutions, and viscoelasticity, deformation mechanics of polymers. Not open for cr to students with cr in MatlEng 451(ER). Prereq: jr st, MatlEng 201(P); or grad st.

456 Metal Casting Engineering. 3 cr. U/G.

Pattern and core design; molding technology; pouring and feeding castings; metallurgy of cast engineering alloys and their foundry practice; casting design. MatlEng 456(421) and

Engineering

MechEng 456 are jointly offered; they count as repeats of one another. Prereq: jr st; MatlEng 201(P).

457 Engineering Composites. 3 cr. U/G.
Study of the structure-property relationships in composite materials. Properties of fibers and other reinforcements. Metal, polymer and ceramic matrix composites. MatlEng 457(455) & MechEng 457 are jointly offered; they count as repeats of each other. Prereq: jr st; MatlEng 201(P).

460 Nanomaterials and Nanomanufacturing. 3 cr. U/G.
Structure, properties, processing and manufacture of nanoparticles, nanotubes, nanofibers, bulk nanomaterials, nanocomposites including polymer, metal, ceramic, natural and biocomposites; nanofluidics, nanorheology, nanomachines, and nanotribology. MatlEng 460 & MechEng 460 are jointly offered; they count as repeats of each other. Prereq: jr st; MatlEng 201(P).

461 Environmental Degradation of Materials. 3 cr. U/G.
Technical and economic aspects of material degradation including corrosion and corrosion control. Forms of corrosion, other degradation mechanisms, thermodynamics, kinetics, materials, design, protection strategies. Prereq: jr st; MatlEng 201(P).

465 Friction and Wear. 3 cr. U/G.
Friction and wear of engineering materials. Effect of environment, surface interactions, lubrication, and material properties. Techniques of analysis and measurement. Not open to students who have cr in MechEng 465, which is identical to MatlEng 465. Prereq: jr st; MatlEng 201(P).

471 Heat Treatment of Materials. 3 cr. U/G.
Study of the heat treatment processes and their effect on the microstructure and properties of metals. Emphasis is on steels, but all alloy systems of importance are covered. Prereq: jr st; MatlEng 201(P).

481 Electronic Materials. 3 cr. U/G.
Electronic conduction in materials. Electronic phenomena in metals, semiconductors, and insulators. Materials production, characterization, and application to micro-electronic devices, with particular emphasis on thin film technology. Prereq: jr st; MatlEng 201(P) or cons instr.

483 Materials for Energy Systems. 3 cr. U/G.
Processing, structure, and properties of materials used in energy systems. Focus on materials applied to solid oxide fuel cells, photovoltaics, and advanced secondary batteries. Prereq: jr st, MatlEng 201(P).

511 Advanced Materials Characterization. 3 cr. U/G.

Theory and operation of advanced materials characterization instrumentation including thermal analysis (TGA, DSC, DMA), XRD, SEM/EDS, FTIR/Raman, 3D confocal microscopy. Prereq: jr st & MatlEng 411(P).

690 Topics in Materials: (Subtitled). 3 cr. U/G.

Lectures on special topics in materials engineering and science. May be repeated with change in topic to max of 9 cr. Prereq: jr st; cons instr.

699 Independent Study. 1-3 cr. U/G.
Retakeable to max of 6 cr applied toward undergraduate degree. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.
Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatlEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

701 Properties of Solids. 3 cr. G.
The applications of physics to the understanding of the properties of solids, including lattice mechanics, band theory, electrical, thermal, magnetic, and defect properties. Prereq: Matleng 402(P).

702 Advanced Materials Thermodynamics. 3 cr. G.
Thermodynamics of materials including solutions, mixtures, and interfaces. Topics including statistical interpretation of entropy, chemical reactions, Ellingham diagrams, phase diagrams, and intermediate phases. Prereq: grad st; MatlEng 442(P)

710 Advanced Mechanical Behavior of Materials. 3 cr. G.
Advanced topics on the mechanical properties of materials including plasticity, anelasticity, fracture, creep, fatigue, and the effects of temperature, rates, and processing history. Prereq: grad st; MatlEng 410(P).

720 Kinetic Processes in Materials. 3 cr. G.
Absolute reaction rate theory, defects in materials, diffusion, phase transformation in metals. Prereq: grad st; MatlEng 442(P).

731 Deformation Processing. 3 cr. G.
Application of engineering principles to shape generation by deformation processing. Analysis of forging, stamping, drawing. Effect of deformation material properties and behavior. Prereq: grad st; MatlEng 410(P).

732 Solidification Processing. 3 cr. G.
Solidification phenomena and its engineering application to metals, semiconductors, ceramics, properties of cast products. Foundry

processes. MatlEng 732 and MechEng 732 are jointly offered; they count as repeats of each other. Prereq: grad st; Matleng 330(P).

740 Heterogeneous Equilibria. 3 cr. G.
Quantitative description of heterogeneous equilibria for unary, binary, and ternary systems from the thermodynamic point of view; composite systems and current experimental techniques in high temperature materials. Prereq: grad st; MechEng 301(P); MatlEng 201(P).

750 Thin Solid Films. 3 cr. G.
Application of materials science to thin films. Nucleation, growth, and characterization. Discussion of optical, electrical, and mechanical behavior in terms of atomic order and chemistry. Consideration of specific deposition methods and applications. Prereq: grad st; MatlEng 201(P) & Physics 210(P).

760 Surface Analysis of Solids. 3 cr. G.
Introduction to thermodynamics, structure and quantum theory of surfaces. Fundamentals of spectroscopic methods for analysis of surfaces. Applications to practical surface analysis problems: catalysis, thin films, polymers, ceramics, metallurgy and corrosion, coatings, glasses and composites. Prereq: grad st or cons instr.

880 Bioengineering Seminar. 1 cr. G.
Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatlEng 880, Ind Eng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

890 Advanced Topics in Materials: (Subtitled). 3 cr. G.
Lectures on special topics in materials engineering and science. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

990 Masters Thesis. 1-9 cr. G.
Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.
Prereq: grad st; cons instr.

999 Advanced Independent Study. 1-3 cr. G.
Prereq: grad st; cons instr & grad prog committee.

Mechanical Engineering

405 Product Realization. 3 cr. U/G.

This interdisciplinary course (engineering and art students) considers the diverse aspects of the product realization process. Art 405, MechEng

Engineering

405, & Ind Eng 405 are jointly offered; they count as repeats of one another. Prereq: jr st & admis to Art & Design prog or IAT prog; or Ind Eng 350(P), 360(P), 370(P); or MechEng 321(P), 360(P), 366(P), 370(P); or grad st & cons instr.

411 Heat Transfer. 3 cr. U/G.

Concepts of heat transfer including conduction, convection, and radiation; steady-state and transient conduction; laminar and turbulent convection; phase changes; black-body and real surface radiation; heat exchangers. Prereq: jr st; MechEng 321(P).

415 Modern Thermomanufacturing Processes. 3 cr. U/G.

An introduction to thermal management and techniques applied to chemical vapor deposition, welding, thermal spraying, and machining (cutting and grinding). Prereq: jr st; Civ Eng 303(P), MechEng 321(P) or equiv, or cons instr.

420 Intermediate Fluid Mechanics. 3 cr. U/G.

Navier-Stokes Equations; CFD package training; Potential Flows; Boundary-Layer Approximation; Turbulent Flows; Porous-Media Flows, Turbomachinery Flows. Prereq: jr st; MechEng 320(P).

423 Applied Fluid Mechanics. 3 cr. U/G.

Principles of fluid mechanics as applied to elements of fluid machinery, power transmission devices and control systems. Prereq: jr st; MechEng 320(P).

425 Aerodynamics of Wind Turbines. 3 cr. U/G.

Introductory and intermediate wind turbine aerodynamics; wind and wind turbine interaction in energy transmission. Prereq: jr st; MechEng 320(P) or cons instr.

430 Energy Modeling. 3 cr. U/G.

Electrical/thermal energy modeling through lectures and hands-on classroom work along with use of energy modeling software. Jointly offered with and counts as repeat of ElecEng 430. Prereq: jr st; or cons instr.

432 Internal Combustion Engines. 3 cr. U/G.

Thermodynamic principles of internal combustion engines; cycles, combustion, engine operation; carburation, ignition, performance analysis; engine balancing; super charging. Prereq: jr st; MechEng 301(P).

434 Air Conditioning System Design. 3 cr. U/G.

The design of systems for heating and cooling spaces. Selection and design of central heating, cooling and energy distribution systems. Prereq: jr st; MechEng 321(P), Ind Eng 210(P).

435 Power Plant Theory and Design. 3 cr. U/G.

Application of engineering principles to design and analysis of power-production systems. Fossil fuel, nuclear, and gas-turbine power plants. Alternative power generation. Environmental aspects. Prereq: jr st; MechEng 301(P).

436 Solar Engineering. 3 cr. U/G.

Estimation of energy needs for solar heating and cooling systems for buildings; insolation; solar collector/energy storage design; applications to space heating/cooling, water heating. Prereq: jr st; MechEng 301(P).

451 Applied Optics in Engineering. 3 cr. U/G.

Principles of geometric and physical optics. Introduction to lasers. Topics from current engineering uses of optics, including measurement systems and laser machining. Prereq: sr st; Physics 210(P) or cons instr.

455 Processing of Plastics. 3 cr. U/G.

Description of plastics as polymers and polymer composites. Study of various technologies to manufacture plastics. Analytical description of flow and heat transfer in polymers. Prereq: MechEng 320(P) & 321(P).

456 Metal Casting Engineering. 3 cr. U/G.

Pattern and core design; molding technology; pouring and feeding castings; metallurgy of cast engineering alloys and their foundry practice; casting design. MechEng 456 and MatlEng 456(421) are jointly offered; they count as repeats of one another. Prereq: jr st; MatlEng 201(P).

457 Engineering Composites. 3 cr. U/G.

Study of the structure-property relationships in composite materials. Properties of fibers and other reinforcements. Metal, polymer and ceramic matrix composites. MechEng 457 and MatlEng 457(455) are jointly offered; they count as repeats of one another. Prereq: jr st; MatlEng 201(P).

460 Nanomaterials and Nanomanufacturing. 3 cr. U/G.

Structure, properties, processing and manufacture of nanoparticles, nanotubes, nanofibers, bulk nanomaterials, nanocomposites including polymer, metal, ceramic, natural and biocomposites; nanofluidics, nanorheology, nanomachines, and nanotribology. MechEng 460 & MatlEng 460 are jointly offered; they count as repeats of each other. Prereq: jr st; MatlEng 201(P).

462 Intermediate Design of Machinery. 3 cr. U/G.

Consideration of complicated loadings and combined stresses. Design against fatigue. Design and analysis of machine systems. Consideration of special topics in machine element design. Prereq: jr st; MechEng 366(P).

463 Introduction to Finite Elements. 3 cr. U/G.

Generation and assembly of finite element matrices in one and two-dimensional problems. Modeling and practical applications in solid mechanics, heat transfer and fluid flow. Not open to students with cr in Civ Eng 463(ER). Prereq: jr st; ElecEng 234(P), Civ Eng 303(P); MechEng 320(C), 311(C) or 321(C).

465 Friction and Wear. 3 cr. U/G.

Friction and wear of engineering materials. Effect of environment, surface interactions, lubrication, and material properties. Techniques of analysis and measurement. Not open to students who have cr in MatlEng 465, which is identical to MechEng 465. Prereq: jr st; MatlEng 201(P).

466 Mechanics of Composite Materials. 3 cr. U/G.

Basic concepts, materials, and characteristics of composites. Micromechanics and Macromechanics of Elastic Response. Failure, design and optimization of composite structures. MechEng 466 & Civ Eng 466 are jointly offered; they count as repeats of one another. Prereq: jr st & Civ Eng 303(P)

469 Introduction to Biomechanical Engineering. 3 cr. U/G.

Mathematical modeling of human body; dynamics of human motion; neuromuscular control human movement; stress analysis of bones and joints; concurrent mechanical problems in medicine. MechEng 469 & Civ Eng 469 are jointly offered and count as repeats of one another. Prereq: Civ Eng 202(P) & 303(P); or cons instr.

472 Introduction to Wind Energy. 3 cr. U/G.

Principles of wind turbines; wind characteristics; rotor dynamics of wind turbines; turbine design and integration; controls and electrical systems; grid connection. MechEng 472 & ElecEng 472 are jointly offered; they count as repeats of one another. Prereq: jr st; or cons instr.

473 Applied Dynamics. 3 cr. U/G.

Application of dynamic principles to a variety of engineering situations. Behavior of particle systems and rigid body motion in space. Analysis of traffic accidents, shock machines, rockets and satellites, missiles and projectiles, dynamic balancing, gyroscopes and inertial navigation. Prereq: jr st & Civ Eng 202(P).

474 Introduction to Control Systems. 4 cr. U/G.

Modeling of continuous systems; stability considerations, analysis and design of feedback control systems in time and frequency domains. Prereq: sr st; ElecEng 301(P); a grade of C or better in ElecEng 234(P) & Civ Eng 202(P).

Engineering

475 Vibrations in Mechanical Design. 3 cr. U/G.

Integrated treatment of mathematical modeling and analysis of mechanical systems, analysis of vibrations and performance under different loading conditions. Prereq: sr st; Civ Eng 202(P), ElecEng 234(P).

476 Introduction to Robotics. 3 cr. U/G.

Fundamentals of manipulators, sensors, actuators, end-effectors and product design for automation, computer vision and pattern recognition. Prereq: ElecEng 234(P), MechEng 360(P).

479 Control and Design of Mechatronic Systems. 3 cr. U/G.

Understanding interfacing of mechanical systems using electro-mechanical components; conceptual design and analysis of high performance computer controlled mechanical systems; prototyping of mechatronic systems. Prereq: sr st or cons instr; ElecEng 474(402)(P) or MechEng 474(P).

490 Topics in Mechanical Engineering: (Subtitled). 1-3 cr. U/G.

Recent theoretical and applied topics in mechanical engineering. May be retaken with change in topic to max of 9 cr. Prereq: jr st & cons instr.

544 New Product Development. 3 cr. U/G.

Concepts related to product development including product concept development and testing, and product design. Prepares students to work in cross-functional product development teams. Counts as repeat of Bus Adm 795 with same topic; Jointly offered with & counts as repeat of Bus Adm 544. Prereq: jr st & admis to Tech Entrep Cert program or Bus Adm major or CEAS major; or grad st. & admis to business or engineering program or admis to Tech Entrep Cert program.

546 Global Innovation Management. 3 cr. U/G.

Concepts related to collaborative innovation in global networks including diverse collaboration models, innovation processes, and capabilities. Prepares students to manage global collaborative innovation projects. Counts as repeat of Bus Adm 795 with same topic. Jointly offered with & counts as repeat of Bus Adm 546. Prereq: jr st & admis to Tech Entrep Cert program or Bus Adm major or CEAS major; or grad st. & admis to business or engineering program or admis to Tech Entrep Cert program.

574 Intermediate Control Systems. 3 cr. U/G.

State space; frequency domain methods of modeling, analysis and design of control systems; digital control; and multivariate systems. ElecEng 574(503) & MechEng 574(478) are jointly offered & count as repeats of each other. Not open for cr to students who have cr in ElecEng 503(ER) or MechEng

503(ER). Prereq: sr st; MechEng 474(P) or ElecEng 474(402)(P); or grad st.

584 Biodynamics of Human Motion. 3 cr. U/G.

Techniques for collecting, analyzing and interpreting human motion data. Special emphasis will be placed on performing data analysis using the software package, Matlab. Prereq: jr st; ElecEng 234(P); Civ Eng 202(C).

699 Independent Study. 1-3 cr. U/G.

Limited to max of 6 cr applied toward undergrad degree. Prereq: jr st; cons instr.

700 CEAS Graduate Seminar. 1-3 cr. G.

Seminar in professional ethics, oral and written communication, contemporary social issues, career development, time management, and laboratory safety. Civ Eng 700, CompSci 700, ElecEng 700, Ind Eng 700, MatEng 700 & MechEng 700 are jointly offered and count as repeats of one another Prereq: grad st

701 Advanced Linear System Analysis. 3 cr. G.

Theory and analysis of linear dynamic systems; discrete and continuous state models; linear algebra for dynamic systems; state transition matrix, numerical methods; and applications. ElecEng 701 & MechEng 701 are jointly offered and count as repeats of one another. Prereq: grad st.

702 Advanced Engineering Thermodynamics. 3 cr. G.

Laws of thermodynamics, property relations, equations of state; introduction to statistical and irreversible thermodynamics; applications to perfect gases, perfect crystals, and homogeneous solutions. Prereq: grad st; MechEng 301(P) & 321(P) or equiv.

703 Principles of Combustion. 3 cr. G.

Chemical kinetics and thermodynamics, conservation equations for multicomponent reacting systems, detonation, premix, diffusion and turbulent flames. Prereq: grad st; MechEng 302(P) & 321(P) or equiv.

706 Continuum Mechanics. 3 cr. G.

Basic concepts of the continuum models used in the various fields of mechanics including fluid mechanics, rheology, elasticity, fracture mechanics, and plasticity. Prereq: grad st.

707 Transport in Porous Media. 3 cr. G.

Introduction to fluid mechanics in porous media, single- and multi-phase flows, volume averaged transport equations, convection heat transfer, consolidating porous media, volume averaging theory, applications. Prereq: grad st.

710 Advanced Transport Processes. 2 cr. G.

Vector and tensor analysis of practical engineering problems; basic laws of mass, momentum and energy transport; transport phenomena in porous media reacting and non-

reaction media. Prereq: MechEng 321(P) or equiv.

711 Thermal Radiation and Conduction. 3 cr. G.

Radiative properties of and radiative transfer in absorbing, emitting and scattering media; transient and steady state heat conduction; multi-mode heat transfer applications. Prereq: grad st; MechEng 311(P) or 321(P).

712 Convection Heat and Mass Transfer. 3 cr. G.

Conservation equations; laminar developed and developing flows; laminar boundary layers; high speed flows; turbulent flow and heat transfer; natural convection; mass transfer; special engineering applications. Prereq: grad st; MechEng 311(P) or 321(P).

714 Energy Transport in Microscale Systems. 3 cr. G.

Introducing thermophysics of microscale systems including statistical, non-equilibrium thermodynamics, particle transport theory, energy carriers in different materials and phases, and applications including mems and nanotechnology. Prereq: grad st; MechEng 320(P) & 321(P).

715 Numerical Methods in Engineering. 3 cr. G.

Differential equation solutions with finite difference and finite volume methods; grid generation technique; finite element methods; applications to solid mechanics, heat transfer, and fluid mechanics. Prereq: grad st; Math 413(P) or cons instr.

718 Nonlinear Control Systems. 3 cr. G.

Advanced concepts and methodologies in modeling and design of nonlinear control systems. Lyapunov theory; describing functions; variable structure control. ElecEng 718 & MechEng 718 are jointly offered and count as repeats of one another. Not open for credit to students w/ cr in MechEng 778. Prereq: grad st; ElecEng or MechEng 474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

721 Fundamentals of Fluid Flow. 3 cr. G.

Inviscid, viscous and compressible flow; potential flow in aerodynamics; analytical solutions of navier-stokes equation; laminar and turbulent boundary layers, jets, wakes, and separating flows; applications. Prereq: grad st; MechEng 320(P).

722 Advanced Fluid Mechanics. 3 cr. G.

Formulations of navier-stokes and energy equations; turbulence models; solutions to wall, free shear layer, and recirculating flows; turbulence energy spectrum; applications to industrial problems. Prereq: grad st; MechEng 320(P).

Engineering

723 Computational Fluid Dynamics and Heat Transfer. 3 cr. G.

Finite difference methods for solving boundary layer equations, navier-stokes equations, etc. Laminar and turbulent flows. Prereq: grad st; cons instr.

725 Fluid Power and Turbomachinery. 2 cr. G.

Concept of hydraulic systems; hydraulic motors; valves; hydraulic circuits; pneumatic systems; axial and radial gas turbines, pumps, compressors; steam turbines; hydraulic turbines; wind turbines. Prereq: grad st; MechEng 320(P).

726 Mechanical Vibrations. 3 cr. G.

Free and forced vibrations of multiple degree of freedom systems using modern matrix methods. Not open to students who have cr in Civ Eng 726 which is identical to MechEng 726. Prereq: grad st; MechEng 475(R) or equiv.

732 Solidification Processing. 3 cr. G.

Solidification phenomena and its engineering application to metals, semiconductors, ceramics, properties of cast products. Foundry processes. MechEng 732 and MatlEng 732 are jointly offered; they count as repeats of each other. Prereq: grad st; MatlEng 330(P).

733 Sensors and Systems. 3 cr. G.

Physical principles and working of sensors, interfacing, and sensor networks. Prereq: grad st; ElecEng 305 or cons. instr.; Jointly offered with & Counts as repeat of BME 733 & ElecEng 733.

760 Dynamic Problems in Design. 3 cr. G.

Analytical methods for solution of typical vibrating and balancing problems encountered in mechanical systems. Special emphasis on methods of suppression and control. Prereq: grad st; MechEng 360(P).

762 Mechanical Systems Analysis. 3 cr. G.

An integrated treatment of mathematical modeling and analysis of mechanical systems. Modeling of machine elements and systems; performance under transient, periodic and random loads. Prereq: grad st; MechEng 365(P).

765 Mechanical Reliability and Probabilistic Design. 3 cr. G.

Advanced design theory and methodology incorporating probabilistic and statistical concepts. Design of mechanical and structural members for specific reliability and confidence level. Case histories and applications. Prereq: grad st; MechEng 360(P) & 365(P); or cons instr.

773 Advanced Dynamics. 3 cr. G.

General theory of dynamic behavior from the viewpoint of Lagrangian and Hamiltonian mechanics. Application of energy principles to dynamical analysis of mechanical systems. Not

open to students who have cr in Civ Eng 773, which is identical. Prereq: grad st; MechEng 580(P) or Civ Eng 580(P); or cons instr.

785 Optimization Methods in Engineering. 3 cr. G.

Optimization as engineering design tool; nonlinear programming; computational techniques for unconstrained and constrained problems; conjugate gradient, sumt, reduced gradient, feasible directions methods; design applications. Not open to students who have cr in Ind Eng 785 which is identical to MechEng 785. Prereq: grad st; ElecEng 234(P), CompSci 151(P) or equiv.

816 Optimal Control Theory. 3 cr. G.

Analysis and synthesis of discrete and continuous optimal control systems; linear quadratic regulators; dynamic programming and variational methods; applications. ElecEng 816 & MechEng 816 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

819 Adaptive Control Theory. 3 cr. G.

Adaptive control systems including mathematical foundations, estimation, model reference adaptive control, self tuning regulators, numerical methods, applications. ElecEng 819 & MechEng 819 are jointly offered and count as repeats of one another. Prereq: grad st; ElecEng or MechEng474(P) or equiv; ElecEng or MechEng 701(P); or cons instr.

880 Bioengineering Seminar. 1 cr. G.

Presentations by bioengineering affiliated faculty, invited speakers, and graduate students. MechEng 880, ElecEng 880, CompSci 880, MatlEng 880, Ind Eng 880 & Civ Eng 880 are jointly offered and count as repeats of one another. May be repeated to 3 cr. max. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Advanced Topics in Mechanical Engineering: (Subtitled). 1-3 cr. G.

Recent theoretical and applied developments in mechanical engineering. Topics selected from areas in thermal-fluid engineering, machine design and controls, and chemical process engineering. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

990 Masters Thesis. 1-9 cr. G.

Prereq: grad st; cons instr.

998 Doctoral Thesis. 1-12 cr. G.

Prereq: grad st; cons instr & grad prog comm.

999 Advanced Independent Study. 1-3 cr. G.

Prereq: grad st; cons instr & grad prog committee.

English

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in English
- Ph.D in English

Related Certificates:

- [Graduate Certificate in Professional Writing and Communication](#)

Overview

The Department of English offers master's and doctoral degrees in several areas of specialization: Literature and Cultural Theory; Rhetoric and Composition; Creative Writing; Professional and Technical Writing; and Media, Cinema, and Digital Studies. Students apply for admission to a specific area or concentration, but are encouraged to take classes in others. The Department also offers graduate certificates in International Technical Communication and Professional Writing and Communication.

M.A./MLIS Coordinated Degree Program

In cooperation with the School of Library and Information Science, the Department of English offers a M.A. /MLIS program to prepare students for positions as humanities librarians. Students enrolled in this program concurrently pursue a M.A. degree in English and a MLIS degree. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Students interested in the English M.A./MLIS program are expected to follow all the requirements and standards as described in this section of the Bulletin with the following exceptions: the 21 credits required for the M.A. in English in the coordinated degree program are to be taken within the Department. Courses in related areas must be approved by the Director of Graduate Studies in English. For more information on this program, see the [Library and Information Science](#) page.

Graduate Faculty

Distinguished Professor

Gallop, Jane, Ph.D., Cornell University

Professors

Blaeser, Kimberly, Ph.D., University of Notre Dame
 Buley-Meissner, Mary Louise, Ph.D., University of Washington
 Clark, George M., Ph.D., Florida State University
 Dunham, Rebecca, Ph.D., University of Missouri
 Grayson, Sandra, Ph.D., University of California – Riverside
 Grusin, Richard, Ph.D., University of California-Berkeley

Guevara, Maurice Kilwein, Ph.D., University of Wisconsin-Milwaukee
 Hall, Lane, MFA, University of Wisconsin-Madison
 Jay, Gregory S., Ph.D., State University of New York-Buffalo
 Keith, William, Ph.D., University of Texas-Austin
 Lanters, Josepha, Ph.D., University of Leiden, the Netherlands
 Moulthrop, Stuart, Ph.D., Yale University
 Sangari, Kumkum, Ph.D., University of Leeds, United Kingdom

Associate Professors

Banerjee, Sukanya, Ph.D, University of California-Riverside
 Blasini, Gilberto, Ph.D, University of California-Los Angeles
 Callanan, Liam, MFA, George Mason University
 Cardenas, Brenda, MFA, University of Michigan
 Clark, David P., Ph.D., Iowa State University
 Graham, S. Scott, Ph.D., Iowa State University
 Hamilton, Kristie, Ph.D., University of Texas-Austin
 Kalter, Barrett, Ph.D., Rutgers University
 Kennedy, Gwynne, Ph.D., University of Pennsylvania
 Kincaid, Andrew, Ph.D., University of Minnesota
 Laken Valerie, MFA, University of Michigan
 Mayes, Patricia, Ph.D. University of California-Santa Barbara
 Netzloff, Mark, Ph.D., University of Delaware, Chair
 Noodin, Margaret, Ph.D., University of Minnesota
 Oren, Tasha, Ph.D., University of Wisconsin Madison
 Paik, Peter, Ph.D., Cornell University
 Puskar, Jason, Ph.D., Harvard University, Director of Graduate Studies
 Sands, Peter, Ph.D., State University of New York-Binghamton
 Spilka, Rachel, Ph.D., Carnegie Mellon University
 Van Pelt, William, Ph.D., University of California-Santa Cruz
 Williams, Tami, Ph.D., University of California-Los Angeles
 Wilson, Michael, Ph.D., Cornell University

Assistant Professors

Szczepaniak-Gillece, Jocelyn, Ph.D., Northwestern University

Non-Faculty

Professors Emeritus

Schuster, Charles, I., Ph.D., University of Iowa
 Gillam, Alice, Ph.D., Ball State University
 Lynch, Dennis, Ph.D., University of California-Berkeley
 Martin, Andrew, Ph.D., University of Iowa
 Wysocki, Anne, Ph.D., Michigan Technological University

Master of Arts in English

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Undergraduate major in English or related field, with appropriate background for proposed concentration of study: Plan A, broad background in English and American literature; Plan B, literature, linguistics, and/or composition; Plan C, literature and creative writing; Plan G, professional writing; Plan H, background in media studies, film studies, or digital and/or popular culture.
2. Undergraduate grade point average of 3.0 (4.0 scale).
3. Submission of scores on the [Graduate Record Examination](#) General Test.
4. Three letters of recommendation to the Department's Director of Graduate Studies from persons familiar with applicant's academic ability and achievement.
5. A sample of academic writing.
6. For Plan C admission, an applicant must also submit samples of original fiction or poetry.

For more specific information about departmental requirements for admission and instructions for submitting, letters of recommendation, please visit the English Department's Graduate Admissions Web page.

Major Professor as Advisor

The student must have a Major Professor to advise and supervise the student's work as specified in Graduate School regulations. The coordinator of the student's concentration serves as an initial advisor.

Credits and Courses

Students admitted to the master's program earn the degree by completing a minimum of 30 credits of graduate coursework in English, writing a final project, and passing an oral examination at the conclusion of their coursework.

Although students must enroll initially in one of the five plans of study described below, students who demonstrate a capacity for doctoral work, and wish to earn a Ph.D. at UWM, are advised to proceed as rapidly as possible to the PhD program. Ordinarily students are not allowed to proceed beyond 30 credits without having been admitted to the doctoral program. No more than 27 credits earned at the master's level may be included in the 54 credits required for the Ph.D.

English

Plan A (Literature and Cultural Theory)

A minimum of 30 credits, including:

- 9 credits in literature courses (at least 3 credits pre-1800)
- 3 credits in 800-level seminar in literature or cultural theory
- 6 credits in cultural theory
- 3 credits English 720 (Modern Literary Theory)
- 9 credits electives, which may include up to 6 credits of English 790 Master's Project.
- A final project, which shall be a paper of at least 30 pages which grows out of and significantly expands some aspect of the student's literary studies.
- An oral examination, usually lasting an hour and a half, which covers the final project and a separate 30-book reading list.

All credits must be 600-level or above, with no more than 6 credits at the 600 level. (English 701 must be counted as an elective.)

Plan B (Rhetoric and Composition)

A minimum of 30 credits, including:

- Teaching Seminar (English 701) 4 cr
- Rhetoric (English 750, 751, or 753) 3 cr
- Composition Theory (English 755) 3 cr
- Issues in Rhetoric and Composition Pedagogy (English 812, 850, 853, 854, or 856) 3 cr
- 18 credits of electives, which may include up to 6 credits of English 790 Master's Project.
- A final project, which shall be a research paper appropriate to the student's professional goals.
- An oral examination, usually lasting an hour and a half, which covers the final project and a reading list of at least 30 texts not listed in the project bibliography or works cited list.
- One course is strongly recommended in each of the following areas: Computers and Pedagogy (English at the 700 level); Research Methods

Note: Students who plan to apply to the Ph.D. program are advised to select 6 credits in literature or language courses as part of their electives.

Plan C (Creative Writing)

A minimum of 30 credits, including:

- 6 credits in 600- or 700-level literature courses (at least 3 credits at the 700 level).
- 6 credits in either 715/815 or 716/816
- 6 credits in writing courses at the 600 or 700 level.
- 12 credits electives, which may include up to 6 credits of English 790 Master's Project.
- No more than 12 credits may be earned in 600-level courses.
- A final project, which shall be a collection of fiction and/or poetry, a novel, or other substantial work of imaginative writing.
- An oral examination, usually lasting an hour and a half, which covers the final project and a reading list of at least 30 texts representative of the student's literary background and interests.

Plan G (Professional Writing)

A minimum of 30 credits, selected in consultation with the student's advisor, including:

Core Courses in Theory and Research, 6 cr.
705 Professional Writing Research
712 Professional Writing Theory

800-Level Seminar in Professional Writing or a related topic area approved by the advisor, 3 cr.
(855 Seminar in Theories of Business and Technical Writing recommended)

Professional Writing Practice or Pedagogy at the 700 level, or at the 400 level with the approval of a Plan G faculty advisor, 12, cr.
Students can take no more than 6 cr in any combination of 400-level U/G courses and interdisciplinary courses. The following courses are especially recommended:

English 431 Topics in Advanced Writing: (Subtitle)
English 433 Creative Nonfiction for Publication
English 434 Editing and Publishing
English 439 Document Design
English 443 Grant Writing
English 444 Technical Editing
English 701 The Teaching of College Composition
English 706 Seminar in Professional Writing Theory and Pedagogy
English 707 Writing for Business Management
English 708 Advanced Professional Writing
English 709 Rhetoric, Writing, and Information Technology
English 710 Advanced Project Management for Professional Writers
English 711 Topics in Professional Writing: (Subtitle)

Internship or 700-level elective in Professional Writing that could lead to a final project, 3 cr.

(Students should consult with their advisor about which option would best suit their background and career goals. In general, students with little workplace experience will take the internship and those with substantial workplace experience will take a 700-level elective.)

Note: Students who elect to complete a workplace project should expect to prepare a 30-page report justifying the project development and decisions in relationship to the relevant scholarly literature and/or in terms of empirical methods or studies conducted by the student.

Plan H (Media, Cinema, and Digital Studies)

1. 3 credits of English 742 Media Culture
2. 9 credits in 700-level seminars in digital studies (theory, criticism, or writing) film and/or media
3. 6 credits selected from the following courses:
 - English 705 Professional Writing Research
 - English 709 Rhetoric, Writing, and Information Technology
 - English 711 Topics in Professional Writing: (Subtitle)
 - English 714 Usability Studies
 - English 715 Narrative Craft and Theory: (Subtitle)
 - English 720 Modern Literary Theory
 - English 737 Literature and Aesthetics
 - English/Hist/MALLT 740 Approaches to the Modern I
 - English/Hist/MALLT 741 Approaches to the Modern II
 - English 743 Film Studies: (Subtitle)
 - English 744 Feminist Critical Theory
 - English 745 Postmodernism
 - English 753 Contemporary Rhetorical Theory
 - English 775 Modern English Literature: (Subtitle)
 - FilmStd 669 Screening Sexuality: (Subtitle)
 - FilmStd 700 Teaching Film Studies: (Subtitle)
4. 12 credits of electives in courses numbered 700 and above, which may include up to 6 credits of English 790 Master's Project.

Final Project

A research paper or other project appropriate to the student's professional goals.

Oral Examination

Usually lasting an hour and a half, the oral exam covers the final project and a reading list

English

of at least 30 texts not listed in the project bibliography or works cited list.

Regulations concerning final projects and oral examinations

1. Students should consult with their advisors before completing 24 credits to determine a final project. Ordinarily, it is a revised and expanded course or seminar paper of at least 30 pages. The project should demonstrate the student's skills in research, critical analysis, argumentation, and prose style. For students in Plan C (Creative Writing), the project is a substantial portfolio, the exact character of which is determined in consultation with the student's M.A. Committee. The project serves both as a concluding effort at the master's level and also as an indication of a student's potential for doctoral study.
2. In consultation with the student, the Director of Graduate Studies appoints an M.A. Examining Committee. At least two of the three members must be English Graduate Faculty. The M.A. Examining Committee administers the final Oral Examination, covering the project and a separate reading list of at least 30 texts, to be selected by the student and approved by the Committee.
3. The project must be submitted and the oral examination completed within one year after the completion of 24 credits. Students should remember that a maximum of 27 credits at the master's level is applicable to the Ph.D. 54 credit requirement.
4. The Examining Committee offers a recommendation regarding the student's qualifications for further graduate study at the doctoral level. The Committee Chair puts this recommendation in writing and places it in the student's academic file.
5. Students who fail the oral examination may be required to revise their final project, retake the examination, or both. The oral examination may be retaken only once. No additional credits may be earned for the revision of the project after a failed examination. For further information regarding the M.A. project and examination, see the English Graduate Program Handbook.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in English

Admission

Students in the UWM Master of Arts degree program in English must pass an M.A. exam and be recommended for admission into the Ph.D. program by their M.A. committee. An

application for the Ph.D. program also must be submitted to the Graduate School.

Applicants with master's degrees from other institutions are evaluated on the basis of standard application materials: GPA, [GRE](#) scores, statement of purpose, three supporting letters, and a sample of academic writing. Such applicants are admitted to doctoral study provisionally and are required to complete an Academic Review within six weeks of finishing 12 credits.

For more specific information about departmental requirements for admission, please visit the English Department's [Graduate Admissions Web page](#).

The Academic Review is a one- to two-hour meeting with three faculty members of the English Graduate Faculty. At least two members come from the student's concentration. The Review covers the student's academic progress in doctoral coursework, two unrevised course papers, and a list of 20-25 books chosen by the student in consultation with the reviewers. See the English Graduate Program Handbook for further details regarding the Academic Review. Applicants should contact the Graduate Program Office for additional information and deadlines.

Credits and Courses

The Ph.D. program requires 54 credits beyond the B.A. (55 for Rhetoric and Composition, 56 for Literature and Cultural Theory), including no more than 27 credits earned at the master's level. Course distribution requirements vary according to the doctoral concentration a student enters.

Doctoral Concentration

Students applying to the English doctoral program must indicate their preference for one of the following doctoral concentrations: Literature and Cultural Theory; Rhetoric and Composition; Creative Writing; Professional and Technical Writing; Media, Cinema, and Digital Studies. The Director of Graduate Studies and a Program Coordinator for each concentration provide initial advising for the student in course enrollment and in selecting a Major Professor for long-term advising. Although a continuing doctoral student can change concentrations, such changes require approval by the Coordinator of the new concentration and the Director of Graduate Studies, and may require a substantial amount of additional coursework.

Because course requirements change frequently, students should regularly consult with Program Coordinators or the Director of Graduate Studies regarding doctoral concentration requirements. The following listings reflect current curricular requirements:

Literature and Cultural Theory

- 9 credits in literature courses outside the field of emphasis (at least 3 credits pre-1800)
- 9 credits in cultural theory
- 9 credits in field of emphasis*
- 3 credits English 740 or 741 (also offered as Hist and MALLT 740 and 741)
- 24 credits electives
- 1 credit of English 703 (Introduction to Graduate Studies in Literature), taken during the first semester
- 1 credit of English 820 (Seminar in Advanced Topics in Literary Criticism and Research)

All credits must be 600-level or above, with no more than 9 credits at the 600 level. Doctoral students may not accumulate more than 6 credits of independent study. (English 701 must be counted as elective.)

*Primary field of emphasis must be declared prior to submitting the prelim proposal and field lists to the Graduate Program Committee. Field of emphasis will be selected from among those designated by Plan A to be available on the Literature and Cultural Theory Web page.

Rhetoric and Composition

- 16 credits in 700-level rhetoric and composition courses, 10 credits of which must include the following: English 701 (Teaching Seminar); one of English 750, 751, or 753 (Rhetoric); and English 755 (Composition Theory.)
- 15 credits in 800-level seminars, 12 of which must be in rhetoric and composition.
- 24 credits electives
- Two terms (as defined by the employing institution) of demonstrated teaching experience in first-year college composition.
- Minimum of one term (as defined by the employing institution) of teaching experience in basic, intermediate, or advanced composition.
- Portfolio of teaching materials for at least two composition courses, plus a teaching statement to be submitted and approved by the Graduate Rhetoric and Composition Advisory Committee at least two semesters before the expected graduation date.
- One course is strongly recommended in each of the following areas: Computers and Pedagogy (English at the 700 level); Research Methods

English

Creative Writing

- 6 credits in 715/815 and/or 716/816.
- 21 credits at the graduate level in literature and cultural theory, rhetoric and composition, professional writing, and/or media, cinema, and digital studies.
- 15 credits in creative writing 700-level or above courses.
- 12 credits electives.

All credits must be 600-level or above, with no more than 6 credits at the 600 level.

Doctoral students may not accumulate more than 6 credits of English 999.

Professional Writing

9 credits in required core courses in theory, research, and teaching:

- 706 Professional Writing Theory and Pedagogy
- 712 Professional Writing Theory
- 713 Qualitative Research in Writing and Literacy

21 credits in professional writing courses:

- 6 credits in English 700-level or 400-level U/G courses
- 15 credits in English 800-level courses (with the advisor's approval, a student may take credits in related areas)

24 credits electives

Media, Cinema, and Digital Studies

1. English 742 Media Culture
2. English 876 Seminar in Media Culture: (Subtitle)
3. Twelve credits in 800-level digital culture (theory, criticism or writing), film and/or media
4. Six credits selected from the following courses:
 - English 705 Professional Writing Research
 - English 709 Rhetoric, Writing, and Information Technology
 - English 711 Topics in Professional Writing: (Subtitle)
 - English 714 Usability Studies
 - English 715 Narrative Craft and Theory: (Subtitle)
 - English 720 Modern Literary Theory
 - English 737 Literature and Aesthetics
 - English/Hist/MALLT 740 Approaches to the Modern I
 - English/Hist/MALLT 741 Approaches to the Modern II

- English 743 Film Studies: (Subtitle)
 - English 744 Feminist Critical Theory
 - English 745 Postmodernism
 - English 753 Contemporary Rhetorical Theory
 - English 775 Modern English Literature: (Subtitle)
 - FilmStd 669 Screening Sexuality: (Subtitle)
 - FilmStd 700 Teaching Film Studies: (Subtitle)
5. Thirty credits in electives numbered 700 and above

General Restrictions

Doctoral students may not accumulate more than 12 credits in U/G courses and not more than 6 credits in independent study without the approval of the Director of Graduate Studies. No more than 18 credits may be taken in courses outside the Department.

Advising

Students are required to consult periodically with their Major Professor. The Major Professor helps the student to define an area of special interest within the concentration for the preliminary examination. The Major Professor also assists the student in the selection of appropriate coursework and may chair the Preliminary Examination Committee.

Foreign Language Requirement

All Ph.D. candidates are required to demonstrate proficiency (reading knowledge) in a foreign language. The choice of a language must be approved by the student's advisor. If a student has not met this requirement in other ways (see English Graduate Program Handbook), a student must pass a two-hour written examination in the translation of a piece of literature or criticism. A student may use a dictionary and/or grammar book. The exam must be arranged in advance with the Director of Graduate Studies and must be taken before the preliminary examination. If a student's Major Professor considers proficiency in more than one language necessary to the student's specific plan of study, exams in more than one language may be required. The exam may be retaken until proficiency is attained.

Residence

The student must meet minimum [Graduate School residence requirements](#).

Doctoral Preliminary Examination

The doctoral preliminary examination consists of a written examination and an oral examination designed to demonstrate the breadth of a student's knowledge and the ability to conduct advanced research in one or more areas of study. The written and oral examinations draw from field bibliographies with rationale (500 word maximum) prepared by the student and approved by the student's

preliminary examination committee and the advisory committee of the student's plan.

The written examination must be at least eight hours long, and it is frequently taken as a three-day, take-home, open book exam. It may be taken at the University or at home, if the committee agrees on the location. An oral exam of two hours covering issues raised during the written exam and/or focusing on the proposed dissertation must follow the written exam within 7-10 days.

Students take the preliminary exam after completing all doctoral coursework or with no more than three credits of doctoral coursework remaining. Students cannot take the exam if they have any incomplete or unreported grades or a GPA less than 3.0. The exam must be finished within one semester after all coursework is completed, excluding summer session. Students may receive a one semester extension for additional coursework from the Director of Graduate Studies. Students who fail the preliminary examination may not proceed to the dissertation. The exam may be retaken only once. See the [English Graduate Program Handbook](#) or the Director of Graduate Studies for specific guidelines for governing the preliminary examination process.

Dissertation

The dissertation topic, together with a brief prospectus, must be approved by the Graduate Policy Committee. The student's major professor or a member of the dissertation committee must present the topic and prospectus to the Graduate Policy Committee. See the Director of Graduate Studies and the [English Graduate Program Handbook](#) for specific guidelines for selecting a doctoral committee and preparing the dissertation proposal. The Department considers 200 pages a reasonable length for the dissertation.

Dissertation Defense

The completed dissertation is subject to an oral defense, to be arranged by the Coordinator according to Graduate School regulations. A copy of the dissertation is kept in the Department office.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information see the [Graduate School Ph.D. requirements](#).

Courses

325 The Art of Fiction: (Subtitled), 3 cr. U/G. Study of novels or short stories through a unifying theme, set of technical problems, or critical concepts. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

English

326 The Development of the Novel: (Subtitled). 3 cr. U/G.

Major artistic, social and intellectual events in the history of the novel from its origins to the present. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

327 The Development of the Short Story. 3 cr. U/G.

Major artistic, social and intellectual events in the history of the short story from the nineteenth century to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

328 Forms of Experimental Literature: (Subtitled). 3 cr. U/G.

Approaches to forms of literature that stress experimentation, innovation and the radical alteration of existing forms. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER Composition competency req.

329 Film and Literature. 3 cr. U/G.

Capabilities and limitations of narrative film and literature, emphasizing the distinctiveness of each artistic mode. English 329 & FilmStd 329 are jointly offered; they count as repeats of one another. Prereq: jr st, English 290(P), satisfaction of GER English Composition competency req; or cons instr.

341 The Development of Drama: (Subtitled). 3 cr. U/G.

A historical approach, with emphasis on new ideas in the theatre, new techniques, and the evolution of genres. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

342 Comedy: (Subtitled). 3 cr. U/G.

Works from the comic tradition with focus on theme, genre, region, or historical development. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

343 Tragedy: (Subtitled). 3 cr. U/G.

Works from the tragic tradition with focus on theme, genre, region, or historical development. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

344 Modern Drama: (Subtitled). 3 cr. U/G.

Topics vary. American and English dramatists since 1920, with emphasis on their stage approach, their use of language; and themes of illusion, communication, and identity. Retakable w/chg in topic to 6 cr max. Prereq: jr st, satisfaction of GER English Competency req; 6 cr in courses approved for hum distr cr.

360 The Art of Poetry: (Subtitled). 3 cr. U/G.

Inquiry into the art of poetry, with readings from a variety of poets. Retakable w/chg in

topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

361 The Development of Poetry: (Subtitled). 3 cr. U/G.

A study of significant intellectual, artistic, or social events in the history of poetry. Retakable w/chg in topic to 6 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

363 Medieval Epic and Romance. 3 cr. U/G.

Study of the traditions of medieval English epic and romance through an examination of representative medieval works. Prereq: jr st; satisfaction of GER English Composition competency req.

370 Folk Literature: (Subtitled). 3 cr. U/G.

A study of a particular form or forms of folk literature or the folk literature of a designated region or ethnic group. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

380 Media and Society: (Subtitled). 3 cr. U/G.

An examination of film and/or television, with attention to the representation of class, gender, race, and nation. Subtitles vary. Retakable w/chg in topic to 9 cr max. English 380 & FilmStd 380 are jointly offered; w/same topic, they count as repeats of one another. Prereq: jr st; English 290(P) or 291(P) or 6 cr in courses approved for hum breadth cr.

383 Cinema and Genre: (Subtitled). 3 cr. U/G.

Stylistic and thematic analyses of literary and film genres (e.g., melodrama, film noir). Consideration of writers, directors, producers and stars whose works represent forms of a genre. Retakable w/chg in topic to 9 cr max. English 383 & FilmStd 383 are jointly offered; w/same topic, they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; English 290(P) or 6 cr in courses approved for hum breadth cr.

390 Classical Film Criticism and Theory. 3 cr. U/G.

Survey of the history of film theory, with particular attention to developing critical skills in film theoretical writing. English 390 & FilmStd 390 are jointly offered; they count as repeats of one another. Prereq: jr st, satisfaction of GER English Composition competency req, English 290(P), & ArtHist 205(P); or cons instr.

391 Television Criticism and Theory. 3 cr. U/G.

Study of the forms and representational strategies of television narrative, and the various modes of analysis that may be applied to television viewers and texts. English 391 & FilmStd 391 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction

of GER English Composition competency req; English 291(P) or cons instr.

394 Theories of Mass Culture: (Subtitled). 3 cr. U/G.

A survey of theories of mass culture relative to film from the late 19th century to the present. Retakable w/chg in topic to 9 cr max. English 394 & FilmStd 394 are jointly offered; w/same topic, they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; English 290(P) or 291(P) or cons instr.

400 Introduction to English Linguistics. 3 cr. U/G.

Application of linguistic theory and techniques to modern English. English/Linguis 400 required of all English majors and minors in School of Education. Jointly-offered with & counts as repeat of Linguis 400. Prereq: jr st; satisfaction of GER English Composition competency req.

401 History of the English Language. 3 cr. U/G.

The origins of the English language and its changing structure. Prereq: jr st; satisfaction of GER English Composition Competency req.

402 Theories of Language and Literature: (Subtitled). 3 cr. U/G.

Various topics involving some theoretical aspect(s) of language and literature. Retakable w/chg in topic to 6 cr max. Prereq: jr st, satisfaction of GER English Composition competency req; an intro course in linguistics (e.g. English/Linguis 400, English 401, or Linguis 350).

403 Survey of Modern English Grammar. 3 cr. U/G.

Studies in elements of grammar, noun and verb phrase, clause and sentence connection, and complex noun phrase. Prereq: jr st; satisfaction of GER English Composition competency req.

404 Language, Power, and Identity. 3 cr. U/G.

The use of distinctive language varieties to construct identity and maintain power relations within a society. Prereq: jr st; satisfaction of GER English Composition competency req.

406 Advanced English Grammar. 3 cr. U/G.

Continuation of English 403 with emphasis on the analysis of complex sentences and discourse syntax. English 406 & Linguis 406 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; English 403(P).

414 Special Topics in Creative Writing: (Subtitled). 3 cr. U/G.

Readings, discussion and assigned writing in specialized areas of creative writing. Retakable w/chg in topic to 9 cr max. Not retakable for major cr. Students may not enroll concurrently

English

in a second section of English 414 or in English 415, 416, 615, or 616. Prereq: jr st; satisfaction of GER English Composition competency req; English 233(P), 234(P), 235(P), or 236(P); or grad st.

427 Writing for Nonprofits. 3 cr. U/G.

Persuasive writing of advocacy genres, such as reports, letters, websites, and social media, produced by nonprofit organizations. Focus on theory, practice, collaboration, and service learning. No cr for students w/cr in English 431 w/same topic. Prereq: jr st.

430 Advanced Writing Workshop. 3 cr. U/G.

A tutorial course in advanced exposition. Individual assignments and conferences. Enrollment limited to 12 students. Prereq: jr st; satisfaction of GER English Composition competency req.

431 Topics in Advanced Communications: (Subtitled). 3 cr. U/G.

Seminar in the history, theory, or practice of professional, technical, medical, or science communications. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

433 Creative Nonfiction for Publication. 3 cr. U/G.

Writing in a variety of creative nonfiction formats, using literary techniques. Preparation of articles for submission to magazines, newspapers, newsletters, and educational publications. Prereq: jr st; satisfaction of GER English Composition competency req.

434 Editing and Publishing. 3 cr. U/G.

Training and practice in editorial procedures; preparation of fiction/nonfiction manuscripts for book or journal publication; editorial rewriting; editing; copyediting; proofreading; fundamentals of layout/design. Prereq: jr st; satisfaction of GER English Composition competency req; 6 cr in English 201(P), 202(P), 205(P), 206(P), 207(P), 208(P), 230(P), 233(P), 234(P), 235(P), 236(P), 240(P), 414(P), 415(P), 416(P), 430(P), 431(P), 432(P), 433(P), 435(P), 436(P), 437(P), 615(P), or 616(P).

435 Professional and Technical Communications. 3 cr. U/G.

The process of communications development in business, industry, and government, with intensive practice and analysis of professional writing and publishing techniques and products. Prereq: jr st; English 205(P), 206(P), or 207(P), or cons instr.

436 Technical Documentation. 3 cr. U/G.

Theory, methods, and practice in writing clear, concise technical instructions; audience analysis, customer requirements, information architecture, training materials, web projects, and emerging technology discussion topics. Prereq: jr st; English 206(P) & 435(P) or cons instr.

437 Project Management for Professional Writers. 3 cr. U/G.

Major stages of the writing process in workplace contexts: research, analysis, project planning and management, document design, usability testing, and revision. Counts as repeat of English 437X. Prereq: jr st; satisfaction of GER English Composition competency req; English 205(P), 206(P), or cons instr.

438 Advanced Research Writing. 3 cr. U/G.

Intensive instructions in methods and writing for research papers: audience analysis, bibliographic methods, computer searches, interpretation of data, style guides, abstracts and summaries and the publication process. Prereq: jr st; English 208(P) or cons instr.

439 Information Design. 3 cr. U/G.

Development of technical communication projects for external clients, applying theories from graphic design, usability, cognitive psychology, and technical communication. Prereq: jr st; English 205(P), 206(P), or 207(P), or cons instr.

440 Introduction to Peer Tutoring and Practice. 3 cr. U/G.

Students explore their own writing practices in light of rhetorical theory and learn to tutor others. Prereq: jr st; satisfaction of English Composition competency req, & English 201(P), 202(P), 205(P), 206(P), 207(P), or 233(P) w/grade of B- or better or cons instr; or grad st.

441 Advanced Peer Tutoring Theory and Practice. 3 cr. U/G.

Students will examine various theories of literacy and learning, applying these theories to peer tutoring practice and testing their sufficiency through case-study research. Prereq: English 440(P) or cons instr.

442 Writing Center Tutoring Practicum. 1 cr. U/G.

For prospective tutors, a foundation of concentrated study and practice to begin tutoring in UWM's Writing Center. Prereq: jr st; cons instr.

443 Grant Writing. 3 cr. U/G.

Theory, methods, and practice in writing clear, concise grant proposals and related documents; audience analysis, rhetorical approaches, research methods, and online grantseeking. Counts as repeat of English 431 w/same topic. Req'd service learning component. Prereq: jr st; satisfaction of GER English Composition competency req.

444 Technical Editing. 3 cr. U/G.

Theories, methods, and practice in editing professional and technical documents; grammar and usage; copyediting and comprehensive editing; editor-writer relationship; rhetorical, social, and audience analysis. Counts as repeat of English 431 w/same topic. Prereq: jr st;

satisfaction of GER English Composition competency req.

445 The Composing Process: (Subtitled). 3 cr. U/G.

Issues in composition studies, such as the theory and practice of writing, evaluation and assessment, and collaborative learning. Retakable w/chg in topic to 9 cr max for undergrads or 6 cr max for grads. Prereq: jr st; satisfaction of GER English Composition competency req, or cons instr; or grad st.

451 Chaucer. 3 cr. U/G.

Linguistic and intellectual traditions exemplified in Chaucer's poetry. Prereq: jr st; satisfaction of GER English Composition competency req.

452 Shakespeare. 3 cr. U/G.

Works representing Shakespeare's career, selected from comedies, tragedies, histories, and poems. May be used as a repeat of 453 for students who have not taken English 452 previously. Prereq: jr st; satisfaction of GER English Composition competency req.

454 Milton. 3 cr. U/G.

Milton's English poetry and selections from his prose. Prereq: jr st; satisfaction of GER English Composition competency req.

455 Writers in Drama: (Subtitled). 3 cr. U/G.

A significant dramatist or a combination of playwrights. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

456 Writers in English Literature, 1500-1660: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

457 Writers in English Literature, 1660-1798: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

458 Writers in English Literature, 1798-1900: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

459 Writers in English Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

English

460 Writers in American Literature, 1500-1900: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

461 Writers in American Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.

A significant literary figure or figures in the context of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

463 Writers in African-American Literature: (Subtitled). 3 cr. U/G.

A significant figure or figures in African-American literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

465 Women Writers: (Subtitled). 3 cr. U/G.

One or more significant women writers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

500 Studies in Medieval and Early Modern Literature: (Subtitled). 3 cr. U/G.

Major genres, themes, and figures of the Middle Ages through a reading of representative works. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

501 Studies in Literature, 1500-1660: (Subtitled). 3 cr. U/G.

Critical study of major genres, themes, figures, tenets, aspects, influences and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

504 Studies in Literature, 1660-1800: (Subtitled). 3 cr. U/G.

Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

505 Studies in Literature, 1800-1900: (Subtitled). 3 cr. U/G.

Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

507 Studies in Literature, 1900 to the Present: (Subtitled). 3 cr. U/G.

Major genres, themes, figures and trends in the literature of the period. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

515 Literature and the Other Arts: (Subtitled). 3 cr. U/G.

Critical study of literary works in combination with works from the other arts. Retakable w/chg

of topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

517 Studies in African-American Literature: (Subtitled). 3 cr. U/G.

Major genres, themes, figures and trends in African-American literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

518 Studies in Irish Literature: (Subtitled). 3 cr. U/G.

Major genres, themes, figures and trends in Irish literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

525 American Indian Literature, Culture, and Creative Arts. 3 cr. U/G.

Critical methods in understanding indigenous literature, cultures, and creative arts; uses of arts in indigenous cultures; how arts influence people's views of indigenous peoples. AIS 525 & English 525 are jointly offered; they count as repeats of one another. Prereq: jr st; completion of GER English Composition competency req.

547 Studies in Theory and Criticism: (Subtitled). 3 cr. U/G.

Topics, trends, or approaches in theory and criticism. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

565 Introduction to Adult/University Level TESOL. 3 cr. U/G.

Overview of the various approaches to teaching English as a second language (ESL) to adult/university-level learners. Jointly-offered w/& counts as repeat of Linguis 565(426). Does not satisfy requirements in School of Educ. Prereq: jr st; satisfaction of GER English Composition competency req.

567 Materials for ESL Instruction. 3 cr. U/G.

Designed for prospective ESL/EFL teachers. Focus on planning and designing courses to meet the needs of specific populations of language learners. English 567 & Linguis 567 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

569 Practicum in Adult/University TESOL. 3 cr. U/G.

A structured, supervised practicum in language teaching to students in the adult/university TESOL certificate program. English 569 & Linguis 569 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

611 The Writer and the Current Literary Scene. 3 cr. U/G.

Recent developments in the theory and techniques of contemporary fiction or

nonfiction. Especially designed for creative writing students. Prereq: sr st, satisfaction of GER English Composition competency req, & 3 cr in English 415(P), 416(P), 615(P), or 616(P); or grad st.

612 Poetry and the Creative Process. 3 cr. U/G.

The origin and development of poetic ideas and techniques. Designed especially for creative writing students. Prereq: sr st, satisfaction of GER English Composition competency req, & 3 cr in English 415(P), 416(P), 615(P), or 616(P); or grad st.

615 Advanced Workshop in Fiction. 3 cr. U/G.

Intensive workshop critiques of student writing. Content varies. Retakable to 6 cr max. Prereq: sr st, English 415(P), one of second section of English 415(P) or English 414(P) or 416(P), satisfaction of English composition competency; or grad st.

616 Advanced Workshop in Poetry: (Subtitled). 3 cr. U/G.

Intensive workshop critiques of student writing. Content varies. Retakable to 6 cr max. Prereq: sr st, 3 cr in English 416(P), one of second section of English 416(P) or English 414(P) or 415(P), & cons instr based on writing sample; or grad st.

620 Seminar in the Art of Literature: (Subtitled). 3 cr. U/G.

Intensive study of a literary form or genre, or selected works from varying genres, with emphasis on elements of invention, innovation and craft. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

621 Seminar in the Literature of England: (Subtitled). 3 cr. U/G.

Focus upon specific themes, critical or aesthetic issues, or generic development, in one or more periods of English literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

622 Seminar in Irish Literature: (Subtitled). 3 cr. U/G.

Specific themes, critical or aesthetic issues, or generic development, in one or more periods of Irish literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

623 Seminar in American Literature: (Subtitled). 3 cr. U/G.

Focus upon specific themes, critical or aesthetic issues, or generic development, in one or more

English

periods of American literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req; 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

624 Seminar in Modern Literature: (Subtitled). 3 cr. U/G.

Focus upon specific themes, critical or aesthetic issues, or significant innovations in modern literature, viewed in a cross-cultural or contemporary context. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

625 Seminar in Literary History: (Subtitled). 3 cr. U/G.

An intensive study of literature within its historical dimension, stressing the goals and methods of historical criticism and research in connection with specific periods, topics or traditions. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

626 Seminar in Critical Theory: (Subtitled). 3 cr. U/G.

An investigation into one or more critical theories and their contribution to the study of literature. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

627 Seminar in Literature and Culture: (Subtitled). 3 cr. U/G.

Intensive study of literature within its cultural context, stressing goals and methods of cultural criticism and research in connection with specific issues or topics. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

628 Seminar in Literature by Women: (Subtitled). 3 cr. U/G.

Focus on major writers or themes, or on a body of work that represents a variety of perspectives on gender issues. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

629 Seminar in Literature and Sexuality: (Subtitled). 3 cr. U/G.

Intensive study of the relationship between literature and human sexuality, focusing on particular periods, topics, or critical and aesthetic issues. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER

English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

630 Seminar in Literature and the Other Arts: (Subtitled). 3 cr. U/G.

Selections from literature in connection with works from the other arts ranging from the Middle Ages to the present, stressing the importance of an inter-arts perspective. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

631 Seminar in African-American Literature: (Subtitled). 3 cr. U/G.

Focus upon major writers or themes, or on a body of work that represents a variety of perspectives on African-American experience. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English &/or CompLit at the 300-level or above; or grad st.

632 Seminar in American Indian Literature: (Subtitled). 3 cr. U/G.

Focus on major forms, prominent themes, or tribal traditions in the literature of the American Indian. AIS 632 & English 632 are jointly offered; w/same topic, they count as repeats of one another. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit at the 300-level or above; or grad st.

633 Seminar in Rhetoric and Writing: (Subtitled). 3 cr. U/G.

Examination of a topic in rhetorical theory and its intersections with related fields such as cultural studies, literary criticism, literacy theory, or composition studies. Retakable w/chg in topic to 6 cr max. Satisfies L&S Seminar req. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

634 Seminar in English Language Studies: (Subtitled). 3 cr. U/G.

Examination of a topic in the study of the English language, providing an opportunity to investigate an issue in language studies in depth. Retakable w/chg in topic to 6 cr max. Prereq: sr st, satisfaction of GER English Composition competency req, 9 cr English and/or CompLit courses at the 300-level or above; or grad st.

701 The Teaching of College Composition. 4 cr. G.

Theories and practices of college composition pedagogy. Prereq: grad st; cons instr.

702 English Graduate Institute: 3 cr. G.

A multisection modular summer course in three tracks: literature, english language, and

composition. Six three-week sections are offered. Students may enrol for a max of 2 sections each summer. Retakable w/chg in topic to 12 cr max. Prereq: grad st.

703 Introduction to Graduate Studies in Literature. 1 cr. G.

Orientation to best practices, scholarly work, and current debates in primary fields of research in the discipline of literature and cultural theory. Prereq: grad st.

704 Teaching Creative Writing. 3 cr. G.

Approaches to the teaching of creative writing at elementary, high school or college levels. Consult instr to determine emphasis & range. Prereq: grad st.

705 Professional Writing Research. 3 cr. G.

Seminar on theories, methods, and practice in professional writing practitioner research. Observations, interviews, surveys, storyboarding, focus groups, usability testing; research design, IRB proposals; data analysis and reporting. Prereq: grad st or cons instr.

706 Seminar in Professional Writing Theory and Pedagogy. 3 cr. G.

Theory and application of various approaches to teaching technical and business writing on the college and university level. Prereq: grad st.

707 Writing for Business Management. 2-3 cr. G.

Theory and practice of business writing: advanced techniques of audience analysis, organization, persuasion, and revision for clarity, in writing reports, memos, letters, and journal articles. Prereq: grad st in school of business administration or cons instr.

708 Advanced Professional Writing. 3 cr. G.

Seminar on the theory and development of students' professional approaches to writing, research on professional writing genres, and intensive analysis and editorial revisions of documents. Not open to students with grad cr in English 435(ER). Prereq: grad st.

709 Rhetoric, Writing, and Information Technology. 3 cr. G.

Seminar on theory and research concerning audiences and information architecture for on-line discourse, instructional design, e-learning, documentation systems, hypertext, mark-up languages, cultural factors, and Web site development. Not open to students with grad cr in English 436(ER). Prereq: grad st.

710 Advanced Project Management for Professional Writers. 3 cr. G.

Seminar on the theoretical issues, empirical findings, and advanced strategies for project management; research, task analysis, planning, collaboration, problem solving, document design, usability testing and quality evaluation. Not open to students w/ grad cr in English 437(ER). Prereq: grad st.

English

711 Topics in Professional Writing: (Subtitled). 3 cr. G.

Special topics seminar in the history, theory, pedagogy, or practice of professional writing. Special focus on public and workplace literacy. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

712 Professional Writing Theory. 3 cr. G.

Seminar on the major theoretical perspectives influencing the field of professional writing. Prereq: grad st.

713 Qualitative Research in Writing and Literacy. 3 cr. G.

Seminar on the issues and practice of qualitative research as it applies to areas of inquiry related to writing and literacy. Prereq: grad st.

714 Usability Studies. 3 cr. G.

Seminar on history and theory of usability studies and advanced practice in usability assessment and testing. Prereq: grad st.

715 Narrative Craft and Theory: (Subtitled). 3 cr. G.

Analysis of selected prose narratives with emphasis on technical, generic, and aesthetic features. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons coord of Creative Writing.

716 Poetic Craft and Theory: (Subtitled). 3 cr. G.

Analysis of selected poems with emphasis on technical, generic, and aesthetic features. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons coord of creative writing.

718 Directed Writing in Poetry. 3 cr. G.

Advanced tutorials with seminar component. Content varies. Register with listed instructor(s) only. May be retaken up to 6 cr. Prereq: grad st & cons instr.

720 Modern Literary Theory. 3 cr. G.

A graduate-level introduction to the major critical and theoretical perspectives of the 20th century. Prereq: grad st.

737 Literature and Aesthetics. 3 cr. G.

A graduate-level introduction to the major aesthetic philosophies and theories of the western tradition, with emphasis on their relevance to modern criticism and theory. Prereq: grad st.

738 Theories of Language, Literature, or Composition: (Subtitled). 3 cr. G.

Introduction to scholarship in theoretical or methodological approaches to language, literature, or composition. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

740 Approaches to the Modern I. 3 cr. G.

Seminar on major figures and intellectual forces that have shaped multiple approaches to the

modern across the academy. English 740, Hist 740, & MALLT 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G.

Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MALLT 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

742 Media Culture. 3 cr. G.

A graduate level introduction to media culture, with an emphasis on forms and theories of media culture from the mid-19th century to the present. English 742 & FilmStd 742 are jointly offered; they count as repeats of one another. Prereq: grad st.

743 Film Studies: (Subtitled). 3 cr. G.

A graduate-level introduction to film studies, including methods of film analysis and approaches to the history of film. Retakable w/chg in topic to 9 cr max. English 743 & FilmStd 743 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st.

749 Advanced Writing Internship in English. 1-4 cr. G.

Practicum in writing enabling students to develop new skills and credentials while learning how best to test theory through practice and apply theory to practice.

750 History of Rhetoric I: Classical Rhetoric. 3 cr. G.

Background in Greco-Roman rhetorical traditions and critical commentary on those traditions. Prereq: grad st.

751 History of Rhetoric II: 3 cr. G.

Study of central themes, concepts, and issues after the classical period. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 750(P).

752 Essay as Genre. 3 cr. G.

A study of the tradition of the essay in England and America and its relation to rhetoric and composition. Prereq: grad st.

753 Contemporary Rhetorical Theory. 3 cr. G.

Survey of rhetorical theory in contemporary scholarship, criticism, and research, with special emphasis on the development of rhetorical concepts and composition studies. Prereq: grad st; English 750(P) or cons instr.

754 Post-Secondary Composition-Topics in Pedagogical Theory: (Subtitled). 3 cr. G.

Topics in pedagogical theory applicable to teaching post-secondary composition, such as the composing process, discourse, analysis, literacy, or writing assessment. Retakable w/chg in topic to 6 cr max. Prereq: grad st &

English 701(P), or equiv post-secondary teaching experience, or cons instr.

755 Issues in Composition Studies. 3 cr. G.

Analysis of major issues in rhetoric and composition within historical and theoretical contexts. Prereq: grad st.

758 Writing Workshop in Rhetoric and Composition. 3 cr. G.

Graduate-level course on writing and the critique of writing practice. Prereq: grad st.

761 Discourse Analysis. 3 cr. G.

A graduate-level introduction to the formal analysis of discourse. Prereq: grad st; English 403(P) or Linguis 464(P) or equiv.

764 Sociolinguistics. 3 cr. G.

A graduate-level investigation of selected topics in sociolinguistic theory and method. Prereq: grad st.

768 Linguistic Perspectives on Literature. 3 cr. G.

A survey of linguistic theory and technique relevant to the study of literature. The relation between linguistic theory, semiotics, and literary theory. Prereq: grad st.

769 Topics in Linguistics: (Subtitled). 3 cr. G.

Advanced-level study of a topic relevant to linguistics; may be contemporary or historical. Retakable w/chg in topic to 9 cr max. English 769 & Linguis 769 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; cons instr.

771 Literature of the English Renaissance: (Subtitled). 3 cr. G.

Introduction to the literature of the english renaissance, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

772 Restoration and Eighteenth-Century Literature: (Subtitled). 3 cr. G.

Introduction to English literature, 1660-1800, and related scholarship, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

774 Literature in Victorian England: (Subtitled). 3 cr. G.

Introduction to English literature, 1837-1901, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

775 Modern English Literature: (Subtitled). 3 cr. G.

Introduction to English literature of the 20th century, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

English

776 Women Writers: (Subtitled). 3 cr. G.

A course focusing on the major women writers of a period or genre, or in relation to specified themes. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

777 American Literature to 1830: (Subtitled). 3 cr. G.

Introduction to American literature to 1830, with related scholarship, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

778 Native American Literature: (Subtitled). 3 cr. G.

Introduction to the literature of the American Indian, emphasizing critical approaches and relevant scholarship. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

779 American Literature, 1830-1900: (Subtitled). 3 cr. G.

Introduction to American literature from 1830-1900, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

780 African American Literature: (Subtitled). 3 cr. G.

Introduction to the major writers and themes in African American literature, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Modern American Literature: (Subtitled). 3 cr. G.

Introduction to American literature of the 20th century, emphasizing current critical issues. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Contemporary Literature: (Subtitled). 3 cr. G.

Introduction to recent developments in English and American literature, emphasizing new writers and significant literary innovations. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

783 World Literature in English: (Subtitled). 3 cr. G.

A course focusing on the major writers, themes and traditions of national/ethnic groups outside England and the United States. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

784 Topics in Transnational Literature. (Subtitled). 3 cr. G.

Texts, concepts, topics, and/or theoretical issues in literature from a transnational perspective. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

789 Internship in Teaching ESL to Adult Learners. 1-6 cr. G.

Field experience in teaching English as a second language to adult learners. Open only to grad students in Linguistics specializing in ESL.

Retakable to max of 6 cr. English 789 & Linguistics 789 are jointly offered; they count as repeats of one another. Prereq: grad st; English/Linguistics 567(P); cons instr.

790 Master's Project. 1-6 cr. G.

Research towards the MA final project.; schedule and requirements developed in consultation with program advisor. Retakable to 6 cr max. Prereq: 12 cr in English MA Prog; cons advisor.

798 Graduate-Level Service Learning. 1 cr. G.

Faculty-supervised placement of students as community service volunteers. Retakable to 3 cr max. Prereq: grad st or cons instr; conc reg in English 700-level or above service learning course.

799 Independent Reading for Master's Candidates. 1-4 cr. G.

Prereq: grad st; cons instr.

805 Seminar in English Language: (Subtitled). 3 cr. G.

Advanced-level seminar addressing specific topics in English language, both contemporary and historical. Retakable w/chg in topic to 9 cr max. English 805 & Linguistics 805 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; English/Linguistics 400(P).

806 Seminar in Linguistics: (Subtitled). 3 cr. G.

Advanced-level seminar in which students do in-depth research on a particular area of linguistics through readings, class discussion, and writing a research paper. Retakable w/chg in topic to 9 cr max. English 806 & Linguistics 806 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; cons instr.

812 Seminar in Theories of Composition and Rhetoric: (Subtitled). 3 cr. G.

A graduate-level introduction to the history and current development of rhetoric and composition theory, and to their applications in research in written composition. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

813 Special Topics in Creative Writing: (Subtitled). 3 cr. G.

Readings, writing, and discussion in a designated genre, form, or literary tradition. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

814 Seminar in Irish Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

815 Seminar in Fiction Writing: (Subtitled). 3 cr. G.

Content varies. A workshop for graduate students. Retakable to 6 cr max. Prereq: grad st & English 715(P).

816 Seminar in Poetry Writing: (Subtitled). 3 cr. G.

Content varies. A workshop for advanced graduate students. Retakable to 6 cr max. Prereq: grad st; English 716(P).

817 Seminar in Critical Writing. 3 cr. G.

An advanced workshop in the writing and revising of critical essays. Prereq: grad st.

819 Project in Creative Writing. 1-6 cr. G.

Content varies. Retakable w/chg in topic to 6 cr max. Open only to MA candidates in Plan C, creative writing. Prereq: grad st.

820 Seminar in Advanced Topics in Literary Criticism and Research: (Subtitled). 1-3 cr. G. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

822 Seminar in Poetry: (Subtitled). 3 cr. G.

An intensive examination of some aspect of the genre, including questions of history, theory, theme, or technique, or the study of major figures. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

824 Seminar in Special Topics in Literature: (Subtitled). 3 cr. G.

Advanced study of a topic in literary history, criticism or theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

825 Seminar in Major Figures: (Subtitled). 3 cr. G.

Topics vary. Poetry, fiction, drama, and non-fiction prose writers, with attention to biography, culture and literary background. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

827 Seminar in Contemporary Literature: 3 cr. G.

Advanced study of a specialized topic or critical issue in the recent work of contemporary writers in English. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

828 Seminar in Comparative Literature: 3 cr. G.

Advanced study of a specialized topic or critical issue in the literatures of two or more languages and/or national traditions. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

843 Seminar in Renaissance Prose and Poetry: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

English

845 Seminar in Shakespeare: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

853 Seminar in Contemporary Rhetorical Theory: (Subtitled). 1-3 cr. G.

Issues, topics, and major figures in contemporary rhetoric, philosophies of composition, critical discourse, and theories of writing. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 750(P); English 753(P) or 755(P).

854 Seminar in College Composition, Theory and Pedagogy: (Subtitled). 3 cr. G.

Professional concerns in teaching college composition; develops various topics in-depth, such as cultural literacy or large-scale assessment. Retakable w/chg in topic to 6 cr max. Prereq: grad st; 6 cr at 700-level, including English 706(P), 754(P), or 755(P).

855 Seminar in Theories of Business and Technical Writing: (Subtitled). 3 cr. G.

Theories of writing processes and products in the workplace. The effects of institutional structures and corporate cultures on writers and writing. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 706(P); English 753(P) or 756(P).

858 Seminar in Professional and Literary Nonfiction: (Subtitled). 3 cr. G.

Advanced study of publications and audiences in nonfiction; intensive writing and research in scholarship, education, the arts, human services, business, and government. Retakable w/chg in topic to 6 cr max. Prereq: grad st; English 758(p).

861 Seminar in Romantic Literature: (Subtitled). 3 cr. G.

This seminar will examine one or more aspects of English Romanticism as expressed in the poetry and essays of the age. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

862 Seminar in Victorian Literature: (Subtitled). 3 cr. G.

Advanced studies in Victorian poetry, fiction, drama, and non-fiction prose, with attention to culture and critical theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

871 Seminar in African American Literature: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics in the literature of African Americans. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

872 Seminar in Women Writers: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

874 Seminar in World Literature in English: (Subtitled). 3 cr. G.

Advanced study of one or more major writers or special topics in the literature outside England and the United States. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

875 Seminar in Modern Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

876 Seminar in Media Culture: (Subtitled). 3 cr. G.

Seminar focused on a broad issue related to media culture or specific forms of media, including alternative textual production, cinema, and digital culture. Retakable w/chg in topic to 6 cr max. English 876 & FilmStd 876 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st.

877 Seminar in Film Theory: (Subtitled). 3 cr. G.

A graduate-level seminar in film theory. Retakable w/chg in topic to 6 cr max. English 877 & FilmStd 877 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st.

878 Seminar in Feminist Critical Theory: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

879 Seminar in Native American Literature: (Subtitled). 3 cr. G.

Intensive examination of one or more major writers, themes, or critical topics in the literature of Native Americans. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

881 Seminar in Colonial American Literature: 3 cr. G.

Advanced studies in the literature of colonial America with special attention to cultural and literary backgrounds and critical theory. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

882 Seminar in Nineteenth-Century American Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st Retakable w/chg in topic to 6 cr max. Prereq: grad st.

883 Seminar in Twentieth-Century American Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

885 Seminar in Critical Theory: (Subtitled). 3 cr. G.

A graduate-level seminar in one or more major theoretical models, methods, or approaches. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

887 Understanding Participatory Media. 3 cr. G.

Theory and critical approaches to creative use of computational, networked media. Counts as repeat of English 876 w/same topic. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for students who must meet minimum credit requirement. Fee for 1 cr assessed. Prereq: grad st.

890 (ENGLISH 901) Science, Communications, & Public Engagement. 3 cr. G.

Theory and practice of science communication and public engagement for a variety of audiences, including interdisciplinary researchers, public policy professionals, the press, and public stakeholders. Prereq: grad st

902 STEM and Public Debate. 1 cr. G.

How to engage in public debates about science, with special attention paid to responding to scientific detractors and manufactured controversies. Prereq: grad st; English 901(R)

903 Presenting STEM. 1 cr. G.

Development of facility with oral presentations of research results to a wide variety of venues including conferences, public lectures, and job talks. Prereq: grad st, English 901(R)

990 Research in English. 1-3 cr. G.

Reserved for research in connection with doctoral thesis. Retakable as necessary to fulfill thesis requirements. Consult coord grad studies. Prereq: admis to Ph.D. prog & completion of 45 grad cr.

999 Independent Reading for Ph.D. Candidates. 1-3 cr. G.

Consult graduate advisor. Prereq: admis to Ph.D. candidacy.

Environmental and Occupational Health

School/College: Joseph J. Zilber School of Public Health

Degrees Conferred:

- Ph.D. in Environmental and Occupational Health (pre-Fall 2015)

Other Degrees Conferred by the Joseph J. Zilber School of Public Health:

- [Master of Public Health](#)
- [Ph.D. in Environmental Health Sciences](#)
- [Ph.D. in Public Health with a Concentration in Community and Behavioral Health Promotion](#)

Overview

The program in Environmental and Occupational Health offers graduate study leading to the doctoral degree. Program tracks include Environmental Health, Occupational Health and Safety, and Ecosystems, Cities, and Health. The faculty for this program are drawn from a number of departments and research units at UWM, affording the student an unparalleled opportunity for cross-disciplinary training and the performance of novel research projects. Laboratories and equipment are available across campus to promote innovative concepts in issues of environmental and occupational health.

When applying for admission, students should describe their interest in the field and any research preferences. Applicants are encouraged to review the research interests of the faculty and contact those faculty who are of interest.

Graduate Faculty

(Professors' home departments, programs, or schools appear in parentheses)

Professors

Carvan, Michael III Ph.D., Texas A&M University (School of Freshwater Sciences)
 Cisler, Ron, Ph.D., University of Wisconsin Milwaukee (College of Health Sciences)
 Etzel, Ruth, MD, Ph.D., University of North Carolina at Chapel Hill
 Florsheim, Paul, Ph.D., Northwestern University
 McLellan, Sandra, Ph.D., University of Cincinnati Medical Center (School of Freshwater Sciences)
 McRoy, Susan, Ph.D., University of Toronto (College of Engineering and Applied Science)
 Schutz, Aaron, Ph.D., M.P.P., M.A., University of Michigan (School of Education)

Strath, Scott, Ph.D. University of Tennessee (College of Health Sciences)
 Swartz, Ann, Ph.D., University of Tennessee (College of Health Sciences)
 Tonellato, Peter, Ph.D., University of Arizona
 Velie, Ellen, Ph.D., University of California at Berkeley
 Weinhardt, Lance, Ph.D., Syracuse University

Associate Professors

Cho, Young, Ph.D., University of Illinois at Chicago
 Do, D. Phuong (Phoenix), Ph.D., M.Phil, The RAND Graduate School
 Harley, Amy, Ph.D., M.P.H., Ohio State University
 Huang, Chiang-Ching Spencer, Ph.D., University of Michigan
 Klos, Lori, Ph.D., Cornell University (College of Health Sciences)
 Laiosa, Michael, Ph.D., State University of New York, Upstate Medical University
 Malcoe, Lorraine Halinka, M.P.H., Ph.D., University of California at Berkeley
 Miller, Todd, Ph.D., University of Maryland
 Ngui, Emmanuel, Dr.P.H., M.Sc, University of North Carolina at Chapel Hill
 Svoboda, Kurt, Ph.D., S.U.N.Y at Stony Brook
 Yan, Alice, Ph.D., University of Maryland

Assistant Professors

Auer, Paul, Ph.D., Purdue University
 Carnegie, Nicole Bohme, Ph.D., University of Washington
 Hussein, Mustafa, Ph.D., The University of Tennessee
 Kalkbrenner, Amy, Ph.D., M.P.H., University of North Carolina at Chapel Hill
 Laestadius, Linnea, Ph.D., M.P.P., Johns Hopkins University
 Loyd, Jenna, Ph.D., University of California at Berkeley
 Ma, Hongbo, Ph.D., University of Georgia
 Meier, Helen, Ph.D., M.P.H., University of Michigan
 Simanek, Amanda, Ph.D., University of Michigan
 Walker, Renee, Dr.P.H., M.P.H., University of Pittsburgh
 Wang, Yang, Ph.D., University of Nebraska
 Zheng, Cheng, M.S, Ph.D., University of Washington

Adjunct Associate Professor

Swain, Geoffrey R. MD, MPH, Medical College of Wisconsin (University of Wisconsin-Madison School of Medicine & Public Health)

Doctor of Philosophy in Environmental and Occupational Health

Admission

Applicants must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

1. A baccalaureate degree in a science discipline, including at least four laboratory courses and one statistics course.
2. Submission of scores on the General Test portion of the [Graduate Record Examination](#); test taken within last five years.
3. Submission of at least three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

For students entering with an advanced degree, credit may be given for relevant coursework at the discretion of the Admissions Committee.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned a temporary advisor; a permanent advisor must be selected by the end of the first year of study. The major professor serves as the student's research mentor and guides the student in an individual course of study and research design.

Course of Study

The Ph.D. in Environmental and Occupational Health requires 60 credits beyond the Bachelor's degree. Coursework includes core courses as outlined below (20 credits), at least 12 credits of electives taken from the approved list or approved by the student's advisor, and the remaining credits taken as research. As mentioned above, credit for relevant coursework at other institutions may be applied against this total. Initially the student's advisor will approve course of study; this task will be performed by the student's doctoral advisory committee after it is formed.

Core Courses (20 credits)

PH 801 Seminar in Public Health Research (3 credits)
 PH 819 Social and Environmental Justice in Public Health (3 credits)
 EOH 821 Advanced Survey of Environmental Health (3 credits)
 EOH 822 Molecular and Cellular Basis of Environmental Disease (3 credits)
 PH 841 Epidemiology (3 credits) or MCW EPI 11272 Environmental Epidemiology
 PH 842 Biostatistics (3 credits) or MCW BIOST 04200 Biostatistics I
 EOH 939 Seminar in Environmental and Occupational Health (1 credit); two semesters required

Electives

Electives are divided into three categories (molecular, organismal, population/environment). It is recommended that the student take courses in each category in order to obtain a comprehensive and integrated

knowledge of the area of interest. At least 12 credits of electives must be completed that compose a coherent plan of study and provide a strong foundation in the student's area of research. See the EOH Ph.D. Graduate Student Handbook for a list of approved electives.

Residence

The student must complete at least 30 credits required for the Ph.D. [in residence](#) at UWM in doctoral status. In addition, the student must complete at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Ph.D. Advisory Committee

The student, in consultation with the Major Professor, will select four additional members to form a Ph.D. Advisory Committee. A minimum of three committee members must be EOH program faculty. See the Graduate School [Doctoral Requirements](#) page for more information on the doctoral committee.

Doctoral Preliminary Examination

The purpose of the doctoral preliminary examination is to assess the student's preparation for independent research. The student must pass the preliminary examination within five years of initial enrollment to continue in the program.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for dissertator status are described on the Graduate School [Doctoral Requirements](#) page.

Dissertation

Students must prepare and successfully defend a dissertation reporting the results of their research. The original research findings embodied in this dissertation should be acceptable for publication in refereed journals.

Time Limit

The student must complete all requirements for the degree within 10 years of the date of initial enrollment in the program.

Courses

**Environmental and Occupational Health
821 Advanced Survey of Environmental Health. 3 cr. G.**

The role of environmental factors in determining human health, and human processes that degrade this interaction. Prereq: grad st

822 Molecular & Cellular Basis of Environmental Disease. 3 cr. G.

Examines how environmental agents cause changes in gene expression, structure, and activity leading to human disease; and resulting alterations in normal cellular processes and physiological consequences. Prereq: grad st

840 Special Topics in Environmental and Occupational Health. (Subtitled). 1-4 cr. G.

Topics of current interest in the field of environmental and occupational health. Specific topics and any additional prerequisites announced in the Schedule of Classes each time course is offered. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

939 Seminar in Environmental and Occupational Health. 1 cr. G.

Presentation of topics of current interest in environmental and occupational health. May be repeated to 4 cr max. Prereq: grad st

940 Research in Environmental and Occupational Health. 1-6 cr. G.

Research under supervision of mentor Prereq: grad st; cons instr

990 Research and Dissertation. 1-8 cr. G.

Original research in the field of environmental and occupational health Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Public Health

700 Structures of Inequality and Population Health. 3 cr. G.

Foundations of public health, critical social theory, and social justice praxis, which provide essential interdisciplinary tools for analyzing sociostructural processes and advancing social and health equity. Prereq: grad st

701 Public Health Principles and Practice. 3 cr. G.

Examination of fundamental principles designed to improve the health of the public, public health theories, domains, and practices.

702 Introduction to Biostatistics. 3 cr. G.

Development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health. Includes lab section with introduction to SAS, including macros and core statistical analysis functions. Prereq: grad st; Math 116 with B or better, or equivalent, or cons instr

703 Environmental Health Sciences. 3 cr. G.

Survey of effects environment has on humans, and effects humans have on environment, emphasis on toxicology and infectious disease. Prereq: grad st

704 Principles and Methods of Epidemiology. 3 cr. G.

Quantitative study of patterns and determinants of health in human populations applying biomedical and social epidemiology perspectives. Problem-based lab includes surveillance, measurement, study design, and causal inference applications. Prereq: grad st; PH 702(C) or cons instr

705 Principles of Public Health Policy and Administration. 3 cr. G.

The role of policy in influencing population health, policies that promote public health, the policymaking process, and the planning and administration of health systems. Prereq: grad st; PH 704(R)

706 Perspectives on Community & Behavioral Health. 3 cr. G.

Philosophical underpinnings, conceptual frameworks, and strategies for the application of behavioral and social science concepts to the goals of public health. Prereq: grad st

707 Introduction to Statistical Computing. 1 cr. G.

Introduction to statistical methods as implemented in SAS, including macros and core statistical analysis functions Prereq: grad st; PH 702(C) or cons instr

708 Health Systems and Population Health. 3 cr. G.

Using fundamental concepts of health systems design, international comparisons, and case studies, this course demonstrates strategies through which health systems could improve health and reduce inequities by addressing social vulnerabilities. Prereq: grad st

709 Public Health Informatics. 3 cr. G.

Overview of the rapidly emerging and evolving field of public health informatics - active learning and exposure to new and relevant public health informatics methods, applications, and tools. Prereq: grad st

711 (810) Intermediate Biostatistics. 3 cr. G.

Introduction to modern multivariable statistical analysis, based on generalized linear models. Topics include linear regression, logistic regression, one-way and two-way ANOVA, longitudinal analysis, missing data, and mixed models. Prereq: grad st; PH 702(P) or cons instr

712 Probability and Statistical Inference. 3 cr. G.

Introductory graduate-level course that provides students with a mathematical treatment and understanding of key concepts in probability and distribution theory and statistical inference, and their applications in public health. Prereq: grad st; Math 231 (P) & 232 (P) or equivalent, or cons instr

713 Analyzing Observational and Experimental Data. 3 cr. G.

Analyze data from both experiments and observational studies within a causal inference framework as it applies to public health. Covers randomization, confounding, blocking, ANOVA, counterfactuals, selection bias, and measurement error. Prereq: grad st; PH 704(C), PH 711 (C) or PH 759 (C) or cons instr

Environmental and Occupational Health

714 Statistical Genetics and Genetic Epidemiology. 3 cr. G.

Introduction to statistical methods for the analysis of family and population based genetic data, including methods can be used in linkage analysis, family-based and population-based association studies. Prereq: grad st; PH 702(P) and PH 711(P) or cons instr

715 Applied Categorical Data. 3 cr. G.

Data analysis techniques for various kinds of categorical data for public health related examples using SAS. Prereq: grad st; PH 711(P) and PH 712(P) or cons instr

716 Applied Survival Analysis. 3 cr. G.

This course covers basic concepts and techniques in the statistical analysis of survival data. Prereq: grad st; PH711(P) and PH712(P); or cons instr.

717 Applied Longitudinal Data Analysis. 3 cr. G.

This course will cover data analysis techniques for longitudinal data with focus on application in public health with related examples using SAS. Prereq: PH 711 and PH 712; cons instr.

718 Data Management and Visualization in R. 3 cr. G.

This course covers basic concepts and techniques for statistical programming with the R computing language. Prereq: PH711; cons instr.

719 Social Justice in Public Health. 3 cr. G.

This course is designed to introduce you to the major social variables (e.g., socioeconomic status, race, poverty, social support, neighborhood environment) that affect public health. Prereq: grad st

720 Special Topics in Biostatistics: (Subtitled). 1-3 cr. G.

Survey of an area in Biostatistics. Specific credits and add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

721 Introduction to Translational Bioinformatics. 3 cr. G.

Review bioinformatics knowledge and analytical skills, high-throughput technologies that produce various omic data, along with the methodologies to analyze and interpret different layers of information. Prereq: grad st; PH 711(P) or cons instr

723 Design, Conduct and Analysis of Clinical Trials. 3 cr. G.

Introduction to the design, conduct and analysis of phase I-IV clinical trials, with an emphasis on phase III trials and ethical issues in clinical research. Prereq: grad st; PH 711 (P), or cons instr

725 Theories and Models of Health Behavior. 3 cr. G.

Examine theories of health behavior targeted to each level of the social ecological model, including historical and public health context. Assess utility of these theories in various domains. Prereq: grad st

726 Community Health Assessment. 3 cr. G.

Introduction to the concepts and techniques of community health assessment; conducting and critically analyzing community assessments. Prereq: grad st; PH 701(P) or cons instr

727 Program Planning & Implementation in Public Health. 3 cr. G.

Systematic approach to planning and implementing public health programs, examining program monitoring, methods of impact assessment, and measuring efficiency. Prereq: grad st

728 Program Evaluation in Public Health. 3 cr. G.

Students design and present research and evaluation plans, receive guidance on developing conceptual frameworks and hypotheses, collecting and analyzing data, and developing program evaluation plans. Prereq: grad st; PH 702(P) or cons instr

729 Survey Research Methods in Public Health. 3 cr. G.

The application of survey methods with emphases on sampling, survey design and planning, and data collection procedures. Prereq: grad st; PH 702(P) or cons instr

732 Youth Mental Health Practice for Non Mental Health Professionals. 3 cr. G.

Examination of mental health principles and practices from a public health professional's perspective, including ethical guidelines, necessary interpersonal skills, and mental health screenings and referrals to services. Prereq: grad st

740 Special Topics in Public Health: (Subtitled). 3 cr. G.

Topics of current interest in public health. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

741 Environmental Public Health Microbiology. 3 cr. G.

Environmental health microbiology is the study of microbial processes in water, land, and food that affect human health. Prereq: grad st; completed minimum of one undergraduate microbiology course.

743 Environmental Risk Assessment. 3 cr. G.

Risk assessment practices from an environmental health perspective, complexities and challenges of regulation, management, and mitigation of risks for both human and ecosystem health. Prereq: grad st; PH 702(P) & PH 703 (P) or cons instr

744 Environmental Toxicology. 3 cr. G.

This course will cover the occurrence, fate and transport, and toxic action of natural and synthetic chemicals encountered in the air, water, and soil. Prereq: grad st; CHEM 100 (or equivalent) with B or better, and BIO SCI 150 (or equivalent) with B or better, or cons instr

745 Developmental Toxicology. 3 cr. G.

An introduction to the field of developmental toxicology and how environmental contaminants influence vertebrate development, including humans. Prereq: grad st.

750 Seminar in Environmental Health Sciences. (Subtitled). 1-3 cr. G.

Survey of an area in environmental health. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max.

752 Public Health and Mental Health. 3 cr. G.

Understanding mental health and mental illness from a public health perspective; designed for an interdisciplinary audience of students, researchers and practitioners. Prereq: grad st.

758 Social Epidemiology. 3 cr. G.

Foundations of social epidemiology, including key concepts, theoretical frameworks, and methods for studying social and structural determinants of population health and health inequity. Prereq: grad st; PH 700(P), PH 702(P), and PH 704(P); or cons instr

759 Applied Quant Methods for Studying Population Health & Health Disparities. 3 cr. G.

Using STATA on real data to build regression models, perform diagnostics, and interpret results. Utilize social theory to put results into context. Prereq: grad st; PH 700(P), PH 702(P), PH 704(P), or cons instr.

761 Epidemiology Field Methods. 3 cr. G.

Prepares students to conduct epidemiologic field studies. Introduction of reviewing literature, designing questionnaires, developing surveillance systems, conducting emergency outbreak investigations, applying for IRB approval, and public relations. Prereq: grad st; PH 700(P), 702(P), and PH 704 (P) or cons instr

762 Environmental Epidemiology. 3 cr. G.

Expands upon basic epidemiological principles to tackle current problems in studies of health impacts of contaminants in air, water, food supply, consumer products, and indoor spaces, emphasizing a cross-disciplinary approach. Prereq: grad st; PH 703(C) and PH 704(P) or cons instr.

763 Epidemiology for Equity. 3 cr. G.

Students will integrate epidemiology methods with the principles, methods, and skills of participatory action research aimed at structural

Environmental and Occupational Health

change to promote social and/or environmental justice and health equity. Prereq: grad st; PH 700(P), 702(P), PH 704(P), and PH 790 (C); or consent of instructor

768 Cancer Epidemiology. 3 cr. G.

The course will provide an introduction to cancer epidemiology and prevention evaluating methods to study cancer etiology and survival with a particular focus on understanding cancer disparities. Prereq: grad st; PH 702(P) and PH 704(P); or cons instr grad st; PH 702(P) and PH 704(P); or cons instr.

769 Critical Perspectives on Nutritional Epidemiology and the Food System. 3 cr. G.

This course offers a synthesis of nutritional epidemiological methods and food systems perspectives to build students critical understanding of diets, nutrition, and their public health implications. Prereq: grad st; PH702(P), PH704(P), and PH705(P); or consent of instructor

774 Violence and Health. 3 cr. G.

This course examines relationships between violence and health from an interdisciplinary perspective in order to develop analytical, practical, and self-reflexive skills for intervening in violence and promoting health equity. Prereq: grad st

775 Mechanisms of Infectious Disease. 2 cr. G.

Molecular and cellular means by which microorganisms facilitate infection, withstand or evade immune response, induce damage to host, and ensure transmission to human populations. C L Sci 775 & PH 775 are jointly offered; they count as repeats of one another. Prereq: grad st; lc & la course in medical microbiology

776 Qualitative Approaches in Public Health Policy and Administration. 3 cr. G.

Introduces students to foundational approaches to qualitative research for use in public health policy & administration. It provides opportunities to practice foundational data collection, research analysis, reflexivity, & research design skills. Prereq: grad st

777 Quantitative Research Methods for PH Policy & Administration. 3 cr. G.

Introduces quantitative methods commonly used in public health policy and administration decision-making, skills to analyze quantitative research and to apply knowledge generated from research to the public health policy and administration context. Prereq: grad st; PH 702(P) or cons instr

779 Public Health Policymaking and Policy Analysis. 3 cr. G.

Introduces students to key frameworks for public health policymaking and policy analysis. Students apply concepts to a real world public

health problem of their choice. Prereq: grad st; PH705(P) or MSP760(P) or cons instr.

780 Seminar in Public Health Policy and Administration. (Subtitled). 1-3 cr. G.

Survey of an area in Public Health Policy and Administration. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

781 Public Health Administration. 3 cr. G.

This course introduces basic concepts, best-practice leadership, and management principles with the emphasis on organizational behavior in public health settings. Prereq: grad st.

784 (effective 09/05/2017) Social and Economic Policy as Health Policy. 3 cr. G.

This course examines how social and economic policies, including education, income redistribution, and housing shape population health. A broad overview of the social determinants of health is introduced/reviewed and current knowledge of the impact. grad st; a course covering multiple regression, including PH 711(P), PH 759(P), or cons inst.

785 (effective 09/05/2017) Principles of Public Health Economics. 3 cr. G.

The course introduces the application of microeconomic theories and models to explain major topics and trends in public health and health care settings. Prereq: grad st. or cons instr

790 Field Experience in Public Health. 1-6 cr. G.

Apply skills learned in the classroom to real world public health problems in a mentored field placement, engaging both faculty and site preceptors. Prereq: grad st; PH 701(P), PH 702(P), PH 703(P), PH 704(P), PH 705(P), PH 706(P), and PH 707(P) or cons instr

800 Capstone in Public Health. 2 cr. G.

Application of acquired public health knowledge, experience and competencies in developing a public health project that demonstrates readiness for professional practice. Satisfactory/Unsatisfactory only. Prereq: grad st; PH 790(P) or cons instr.

801 Seminar in Public Health Research. 3 cr. G.

Immersion in interdisciplinary collaborative approaches to public health research. Prereq: grad st; 1 course in stats/biostats and 1 course in research methods; or cons instr.

804 Advanced Epidemiology. 3 cr. G.

Advanced training in epidemiological concepts, principles and methods in the context of population health and health equity. grad st; PH758, PH823, or cons instr

808 Writing a Federal Grant in the Public Health Sciences. 3 cr. G.

This course is designed to provide students a hands-on experience with all aspects of preparation of a hypothesis driven grant application to a federal agency such as the NIH or NSF. Prereq: grad st. admis to a PhD program.

813 Practice of Biostatistical Consulting. 3 cr. G.

This course teaches the elements of statistical consulting, appropriate statistical analysis approaches, and how to interpret findings and effectively communicate with clients. Prereq: grad st; PH 711, PH 713, & PH 718; or cons instr.

818 (effective 09/02/2017) Statistical Computing. 3 cr. G.

This course will cover the theory and application of common algorithms used in statistical computing. Prereq: grad st; PH 711(P), MthStat 762(P), and PH 718(P) or cons inst.

819 Social and Environmental Justice in Public Health. 3 cr. G.

Social and environmental justice perspective on public health problems and concerns. Jointly offered w/ & counts as a repeat of Soc Wrk 819. Prereq: grad st

820 Maternal and Child Health Foundations, Policy and Practice. 3 cr. G.

The foundations of MCH, historical context, financing, challenges, and opportunities in advancing MCH at state, national and international level including the integration of men. Prereq: grad st; PH 702(P), 704(P) or cons instr

823 Applied Analysis of Binary Outcomes in Public Health Research. 3 cr. G.

Apply principles of epidemiology, statistics, and study design in analyzing a public health dataset of choice, covering confounding, modification, bias, missing data, and interpretation in light of limitations. Prereq: PH702 (P), PH 704(P), and doctoral standing; or consent of instructor.

825 Social and Behavioral Science in Public Health. 3 cr. G.

Overview of the contribution and use of social and behavioral sciences approaches in public health research, policy, planning/evaluation, practice, and interventions. Prereq: grad st

826 Principles of Community Intervention Research. 3 cr. G.

Seminar covering classicin community-based public health research and the development of conceptual and methodological skills in community engagement. Counts a repeat of PH 740 with similar topic. Prereq: grad st.

Environmental and Occupational Health

827 Research Design in Community and Behavioral Health Promotion. 3 cr. G.

Examination of experimental, quasi-experimental, and nonexperimental study designs, focus groups, and coding with qualitative software. Prereq: grad st; admis to doctoral prog; PH 801(P) & 702(P) or cons instr.

831 Community Engagement and Participatory Research Approaches in Public Health. **3 cr. G.** Effective approaches to engaging communities in health interventions and addressing health disparities. Prereq: grad st.

859 Racial/Ethnic Health Disparities in the United States. 3 cr. G.

The course will analyze studies of racial/ethnic health disparities, with a focus to include multi-level and temporal perspectives to better understand the social context in which the determinants of racial/ethnic health are embedded. Counts as repeat of PH 740 w/similar topic. Prereq: grad st; a course covering multiple regression, including PH 711(P), PH 759(P) , or cons inst.

864 (effective 09/05/2017) Research Ethics in Epidemiology and Public Health. 3 cr. **G.** Training in research ethics and ethical analysis in the context of public health and epidemiology research. Covers all topics outlined in the NIHs Responsible Conduct of Research Training. Prereq: grad st; PH801, PH704, or cons instr

865 (effective 01/22/2018) Critical Methodologies for Health Equity Research. 3 cr. **G.**

Analyzes interdisciplinary critical methodologies for researching health inequities across diverse axes of power and considers how to integrate these methodologies into epidemiologic and public health research to advance health equity. Prereq: grad st; PH 700(P), and PH 758(P) or PH 859(P), or cons instr

868 Epidemiologic Links Between Infectious and Chronic Disease. 3 cr. G.

Discussion of social patterning of infection, epidemiologic and physiologic links between infections and chronic disease, and methodological considerations in the evaluation of such associations. Prereq: grad st; PH702(P), PH704(P), and PH759(P) or PH711(P); or consent of instructor

870 (effective 09/05/2017) Epidemiology in Health Policy and Advocacy. 3 cr. G.

Using epidemiologic evidence to inform public health policy, through engagement with the policy process, communication with policymakers, and evidence-based appraisal of policy alternatives and advocacy for sound policy. grad st; PH 779(P), PH804; or cons instr

904 (effective 09/05/2017) Survey of Analytic Methods for Epidemiology. 3 cr. G.

Survey of advanced analytic approaches to the conduct of epidemiologic research in the pursuit of causal inference. Prereq: grad st; PH804 or permission of instructor.

911 (effective 09/02/2017) Generalized Linear Models. 3 cr. G.

This course will cover theory of advanced biostatistics models with focus on generalized linear models and will also cover generalized estimating equation, generalized linear mixed models. We will emphasize implementation in R. Prereq: grad st; PH 711(P), MthStat 762(P), and PH 718(P) or cons instr.

990 Research and Dissertation. 1-8 cr. G.

Original research in any public health discipline Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Environmental Health Sciences

School/College: Joseph J. Zilber School of Public Health

Degrees Conferred:

- Ph.D. in Environmental Health Sciences

Other Degrees Conferred by the Joseph J. Zilber School of Public Health:

- [Master of Public Health](#)
- [Ph.D. in Environmental and Occupational Health \(pre-Fall 2015\)](#)
- [Ph.D. in Public Health with a Concentration in Community and Behavioral Health Promotion](#)

Overview

The program in Environmental Health Sciences offers graduate study leading to the doctoral degree. Faculty for this program are drawn from a number of departments and research units at UWM, affording the student an unparalleled opportunity for cross-disciplinary training and the performance of novel research projects. Laboratories and equipment are available across campus to promote innovative concepts in issues of Environmental Health Sciences.

When applying for admission, students should describe their interest in the field and any research preferences. Applicants are encouraged to review the research interests of the faculty and contact those faculty who are of interest.

Graduate Faculty

(Professors' home departments, programs, or schools appear in parentheses)

Professors

Carvan, Michael III Ph.D., Texas A&M University (School of Freshwater Sciences)
Cisler, Ron, Ph.D., University of Wisconsin Milwaukee (College of Health Sciences)
Etzel, Ruth, MD, Ph.D., University of North Carolina at Chapel Hill
Florsheim, Paul, Ph.D., Northwestern University
McLellan, Sandra, Ph.D., University of Cincinnati Medical Center (School of Freshwater Sciences)
McRoy, Susan, Ph.D., University of Toronto (College of Engineering and Applied Science)
Schutz, Aaron, Ph.D., M.P.P., M.A., University of Michigan (School of Education)
Strath, Scott, Ph.D. University of Tennessee (College of Health Sciences)
Swartz, Ann, Ph.D., University of Tennessee (College of Health Sciences)
Tonellato, Peter, Ph.D., University of Arizona

Environmental Health Sciences

Velie, Ellen, Ph.D., University of California at Berkeley
Weinhardt, Lance, Ph.D., Syracuse University

Associate Professors

Cho, Young, Ph.D., University of Illinois at Chicago
Do, D. Phuong (Phoenix), Ph.D., M.Phil, The RAND Graduate School
Harley, Amy, Ph.D., M.P.H., Ohio State University
Huang, Chiang-Ching Spencer, Ph.D., University of Michigan
Klos, Lori, Ph.D., Cornell University (College of Health Sciences)
Laios, Michael, Ph.D., State University of New York, Upstate Medical University
Malcoe, Lorraine Halinka, M.P.H., Ph.D., University of California at Berkeley
Miller, Todd, Ph.D., University of Maryland
Ngu, Emmanuel, Dr.P.H., M.Sc, University of North Carolina at Chapel Hill
Svoboda, Kurt, Ph.D., S.U.N.Y at Stony Brook
Yan, Alice, Ph.D., University of Maryland

Assistant Professors

Auer, Paul, Ph.D., Purdue University
Carnegie, Nicole Bohme, Ph.D., University of Washington
Hussein, Mustafa, Ph.D., The University of Tennessee
Kalkbrenner, Amy, Ph.D., M.P.H., University of North Carolina at Chapel Hill
Laestadius, Linnea, Ph.D., M.P.P., Johns Hopkins University
Loyd, Jenna, Ph.D., University of California at Berkeley
Ma, Hongbo, Ph.D., University of Georgia
Meier, Helen, Ph.D., M.P.H., University of Michigan
Simanek, Amanda, Ph.D., University of Michigan
Walker, Renee, Dr.P.H., M.P.H., University of Pittsburgh
Wang, Yang, Ph.D., University of Nebraska
Zheng, Cheng, M.S, Ph.D., University of Washington

Adjunct Associate Professor

Swain, Geoffrey R. MD, MPH, Medical College of Wisconsin (University of Wisconsin-Madison School of Medicine & Public Health)

Doctor of Philosophy in Environmental Health Sciences

Admission

Applicants must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

- A baccalaureate degree in a science discipline, including at least four laboratory courses and one statistics course.

- Submission of scores on the General Test portion of the [Graduate Record Examination](#); test taken within last five years.
- Submission of at least three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

For students entering with an advanced degree, credit may be given for relevant coursework at the discretion of the Admissions Committee.

Major Professor as Advisor

As specified in Graduate School regulations, each student in the EHS Ph.D. program must have a major professor to advise and supervise his or her studies. Upon admission, the student is assigned a temporary advisor; however, a permanent advisor must be selected during the spring of the first year of study. The major professor serves as the student's research mentor and will guide the student in course selection and research design. During the spring of the first year in the program, the student should form an academic advisory committee which is to consist of the student's advisor and two faculty members from within the Joseph J. Zilber School of Public Health.

Course of Study

The Ph.D. in Environmental Health Sciences requires 64 credits beyond the bachelor's degree. In addition to the Ph.D. Common Core Coursework, credits include required concentration coursework (16 credits), "S" electives (at least 12 credits), and the remaining credits taken as research. Electives are divided into three categories: molecular, organismal, and population/environment. See below for a list of EHS Ph.D. Track requirements.

Ph.D. Common Core Coursework (12 credits)

PH 801 Seminar in Public Health Research (3 credits)
PH 819 Social and Environmental Justice in Public Health (3 credits)
PH 704 Principles and Methods of Epidemiology (3 credits)
PH 702 Introduction to Biostatistics (3 credits)

Required EHS Concentration Coursework (6 credits)

PH 705 Principles of Public Health Policy and Administration (3 credits)
PH 743 Environmental Risk Assessment (3 credits)
PH 750 Seminar in Environmental Health Sciences (Subtitled) (1-3 credits)
EOH 821 Advanced Survey of Environmental Health (3 credits)
EOH 822 Molecular and Cellular Basis of Environmental Disease (3 credits)
BIO SCI 750 Scientific Writing (2 credits)

Environmental Health Sciences

Molecular Level "S" electives (Choose at least one course for at least 3 credits)

PH 775 Mechanisms of Infectious Disease (2 credits)
BIO SCI 529 Molecular Biology of Microorganisms (3 credits)
BIO SCI 540 Microbial Diversity and Physiology (3 credits)
BIO SCI 564 Endocrinology (3 credits)
BIO SCI 700 Principles in Molecular Biology (TBD) (4 credits)
CHEM 601 Biochemistry: Protein Structure and Function (3 credits)
CHEM 602 Biochemistry: Cellular Processes (3 credits)
CHEM 604 Biochemistry: Metabolism (3 credits)
BMS 590 Topics in Clinical Laboratory Sciences: Public Health Nutrition and Food Politics (3 credits)
BMS 615 Cellular and Molecular Toxicology (3 credits)
BMS 733 Molecular Epidemiology (TBD) (3 credits)

Organismal Level "S" electives (Choose at least one course for at least 3 credits)

PH 745 Developmental Toxicology (3 credits)
BIO SCI 401 Immunology (2 credits)
BIO SCI 556 Developmental Neurobiology (4 credits)
IND ENG 580 Ergonomics (3 credits)
IND ENG 780 Advanced Ergonomics- Low Back Pain (3 credits)
IND ENG 783 Advanced Ergonomics- Upper Extremity (3 credits)

Population Level "S" electives (Choose at least one course for at least 3 credits)

PH 709 Public Health Informatics (3 credits)
PH 721 Introduction to Translational Bioinformatics (3 credits)
PH 741 Environmental Risk Assessment (3 credits)
PH 762 Environmental Epidemiology (3 credits)
UrbPlan 662 Land Use Planning for Urban Redevelopment (3 credits)
UrbPlan 771 Transportation Policy and Planning (3 credits)
UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning (3 credits)
UrbPlan 792 Using Urban Geographic Information Systems (GIS) for Planning (3 credits)
UrbPlan 794 Internet Geographic Information Systems (GIS) (3 credits)
XXX ### Industrial Hygiene (3 credits)
GEOG 520 Physical Geography of the City (3 credits)
FrshWtr 506 Environmental Health of Freshwater Ecosystems (3 credits)
IND ENG 786 Applied Biostatistics in Ergonomics (3 credits)
GEOG 880 Challenges to Urban Sustainability (3 credits)

GEOG 945 The Internal Structure of the City (3 credits)

Residence

The student must complete 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence requirements cannot be met at the master's level.

Ph.D. Advisory Committee The student, in consultation with the Major Professor, will select four additional members to form a Ph.D. Advisory Committee. A minimum of three committee members must be EHS program faculty. See the Graduate School [Doctoral Requirements](#) page for more information on the doctoral committee.

Doctoral Qualifying Exam

During the end of the second semester of enrollment, the student is required to pass a brief qualifying exam. The duration of this exam is to be no longer than 90 minutes. The student will give an oral synopsis/self-evaluation of his/her first year in the program describing highlights from his/her coursework. The academic advisory committee will evaluate if the student has demonstrated a knowledge base in Public Health that was to be firmly established in the first year of coursework. The academic advisory committee in conjunction with the student will also map out the remaining coursework that needs to be completed by the end of the third year in the program. Students failing this important first exam will not be allowed to continue in the program and will forfeit their TAsip, PAsip, or RAsip if applicable.

Doctoral Preliminary Examination

This examination must be taken no later than the end of the third year of study. In order to take the preliminary exam, all formal coursework must be completed with a cumulative GPA of 3.0 or higher. The preliminary examination consists of both written and oral components. The oral portion of the examination is broken into two subparts. The (proposal phase) will consist of the student presenting his/her dissertation proposal to the examining committee. In the "General Public Health Knowledge Phase" of the preliminary examination, the student will be evaluated (via oral questioning) by the academic advisory /doctoral advisory committee to determine if the student has truly acquired Public Health competencies which should have been acquired by completion of the formal coursework in the EHS Ph.D. program. A student who fails the doctoral preliminary examination will be dismissed from the program.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for

dissertator status are described on the Graduate School Doctoral Requirements page.

Dissertation

Doctoral students should be aware that the research component is extremely important and requires significant time allocation. A full-time commitment is required to complete this critical component of the degree. Successful doctoral students in our EHS program should anticipate working long hours, including on weekends, winter intersession and summer months. Students are also expected to enroll in, and successfully complete research credit. Six or more of these research credits must be obtained at the level of dissertator.

All successful doctoral students must prepare and successfully defend a dissertation reporting the results of their research. A full time student who does not pass the dissertation defense within six years of admission may be required to take another preliminary examination and be readmitted to the program.

Time Limit

The student must complete all requirements for the degree within 10 years of the date of initial enrollment in the program.

Courses

Environmental and Occupational Health 821 Advanced Survey of Environmental Health. 3 cr. G.

The role of environmental factors in determining human health, and human processes that degrade this interaction. Prereq: grad st

822 Molecular & Cellular Basis of Environmental Disease. 3 cr. G.

Examines how environmental agents cause changes in gene expression, structure, and activity leading to human disease; and resulting alterations in normal cellular processes and physiological consequences. Prereq: grad st

840 Special Topics in Environmental and Occupational Health. (Subtitled). 1-4 cr. G.

Topics of current interest in the field of environmental and occupational health. Specific topics and any additional prerequisites announced in the Schedule of Classes each time course is offered. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

939 Seminar in Environmental and Occupational Health. 1 cr. G.

Presentation of topics of current interest in environmental and occupational health. May be repeated to 4 cr max. Prereq: grad st

940 Research in Environmental and Occupational Health. 1-6 cr. G.

Research under supervision of mentor Prereq: grad st; cons instr

Environmental Health Sciences

990 Research and Dissertation. 1-8 cr. G.
Original research in the field of environmental and occupational health Prereq: grad st.

999 Independent Study. 1-3 cr. G.
Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Public Health

700 Structures of Inequality and Population Health. 3 cr. G.

Foundations of public health, critical social theory, and social justice praxis, which provide essential interdisciplinary tools for analyzing sociostructural processes and advancing social and health equity. Prereq: grad st

701 Public Health Principles and Practice. 3 cr. G.

Examination of fundamental principles designed to improve the health of the public, public health theories, domains, and practices.

702 Introduction to Biostatistics. 3 cr. G.

Development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health. Includes lab section with introduction to SAS, including macros and core statistical analysis functions. Prereq: grad st; Math 116 with B or better, or equivalent, or cons instr

703 Environmental Health Sciences. 3 cr. G.

Survey of effects environment has on humans, and effects humans have on environment, emphasis on toxicology and infectious disease. Prereq: grad st

704 Principles and Methods of Epidemiology. 3 cr. G.

Quantitative study of patterns and determinants of health in human populations applying biomedical and social epidemiology perspectives. Problem-based lab includes surveillance, measurement, study design, and causal inference applications. Prereq: grad st; PH 702(C) or cons instr

705 Principles of Public Health Policy and Administration. 3 cr. G.

The role of policy in influencing population health, policies that promote public health, the policymaking process, and the planning and administration of health systems. Prereq: grad st; PH 704(R)

706 Perspectives on Community & Behavioral Health. 3 cr. G.

Philosophical underpinnings, conceptual frameworks, and strategies for the application of behavioral and social science concepts to the goals of public health. Prereq: grad st

707 Introduction to Statistical Computing. 1 cr. G.

Introduction to statistical methods as implemented in SAS, including macros and

core statistical analysis functions Prereq: grad st; PH 702(C) or cons instr

708 Health Systems and Population Health. 3 cr. G.

Using fundamental concepts of health systems design, international comparisons, and case studies, this course demonstrates strategies through which health systems could improve health and reduce inequities by addressing social vulnerabilities. Prereq: grad st

709 Public Health Informatics. 3 cr. G.

Overview of the rapidly emerging and evolving field of public health informatics - active learning and exposure to new and relevant public health informatics methods, applications, and tools. Prereq: grad st

711 (810) Intermediate Biostatistics. 3 cr. G.

Introduction to modern multivariable statistical analysis, based on generalized linear models. Topics include linear regression, logistic regression, one-way and two-way ANOVA, longitudinal analysis, missing data, and mixed models. Prereq: grad st; PH 702(P) or cons instr

712 Probability and Statistical Inference. 3 cr. G.

Introductory graduate-level course that provides students with a mathematical treatment and understanding of key concepts in probability and distribution theory and statistical inference, and their applications in public health. Prereq: grad st; Math 231 (P) & 232 (P) or equivalent, or cons instr

713 Analyzing Observational and Experimental Data. 3 cr. G.

Analyze data from both experiments and observational studies within a causal inference framework as it applies to public health. Covers randomization, confounding, blocking, ANOVA, counterfactuals, selection bias, and measurement error. Prereq: grad st; PH 704(C), PH 711 (C) or PH 759 (C) or cons instr

714 Statistical Genetics and Genetic Epidemiology. 3 cr. G.

Introduction to statistical methods for the analysis of family and population based genetic data, including methods can be used in linkage analysis, family-based and population-based association studies. Prereq: grad st; PH 702(P) and PH 711(P) or cons instr

715 Applied Categorical Data. 3 cr. G.

Data analysis techniques for various kinds of categorical data for public health related examples using SAS. Prereq: grad st; PH 711(P) and PH 712(P) or cons instr

716 Applied Survival Analysis. 3 cr. G.

This course covers basic concepts and techniques in the statistical analysis of survival data. Prereq: grad st; PH711(P) and PH712(P); or cons instr.

717 Applied Longitudinal Data Analysis. 3 cr. G.

This course will cover data analysis techniques for longitudinal data with focus on application in public health with related examples using SAS. Prereq: PH 711 and PH 712; cons instr.

718 Data Management and Visualization in R. 3 cr. G.

This course covers basic concepts and techniques for statistical programming with the R computing language. Prereq: PH711; cons instr.

719 Social Justice in Public Health. 3 cr. G.

This course is designed to introduce you to the major social variables (e.g., socioeconomic status, race, poverty, social support, neighborhood environment) that affect public health. Prereq: grad st

720 Special Topics in Biostatistics: (Subtitled). 1-3 cr. G.

Survey of an area in Biostatistics. Specific credits and add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

721 Introduction to Translational Bioinformatics. 3 cr. G.

Review bioinformatics knowledge and analytical skills, high-throughput technologies that produce various omic data, along with the methodologies to analyze and interpret different layers of information. Prereq: grad st; PH 711(P) or cons instr

723 Design, Conduct and Analysis of Clinical Trials. 3 cr. G.

Introduction to the design, conduct and analysis of phase I-IV clinical trials, with an emphasis on phase III trials and ethical issues in clinical research. Prereq: grad st; PH 711 (P), or cons instr

725 Theories and Models of Health Behavior. 3 cr. G.

Examine theories of health behavior targeted to each level of the social ecological model, including historical and public health context. Assess utility of these theories in various domains. Prereq: grad st

726 Community Health Assessment. 3 cr. G.

Introduction to the concepts and techniques of community health assessment; conducting and critically analyzing community assessments. Prereq: grad st; PH 701(P) or cons instr

727 Program Planning & Implementation in Public Health. 3 cr. G.

Systematic approach to planning and implementing public health programs, examining program monitoring, methods of impact assessment, and measuring efficiency. Prereq: grad st

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728 Program Evaluation in Public Health. 3 cr. G.

Students design and present research and evaluation plans, receive guidance on developing conceptual frameworks and hypotheses, collecting and analyzing data, and developing program evaluation plans. Prereq: grad st; PH 702(P) or cons inst

729 Survey Research Methods in Public Health. 3 cr. G.

The application of survey methods with emphases on sampling, survey design and planning, and data collection procedures. Prereq: grad st; PH 702(P) or cons inst

732 Youth Mental Health Practice for Non Mental Health Professionals. 3 cr. G.

Examination of mental health principles and practices from a public health professional's perspective, including ethical guidelines, necessary interpersonal skills, and mental health screenings and referrals to services. Prereq: grad st

740 Special Topics in Public Health: (Subtitled). 3 cr. G.

Topics of current interest in public health. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

741 Environmental Public Health Microbiology. 3 cr. G.

Environmental health microbiology is the study of microbial processes in water, land, and food that affect human health. Prereq: grad st; completed minimum of one undergraduate microbiology course.

743 Environmental Risk Assessment. 3 cr. G.

Risk assessment practices from an environmental health perspective, complexities and challenges of regulation, management, and mitigation of risks for both human and ecosystem health. Prereq: grad st; PH 702(P) & PH 703 (P) or cons instr

744 Environmental Toxicology. 3 cr. G.

This course will cover the occurrence, fate and transport, and toxic action of natural and synthetic chemicals encountered in the air, water, and soil. Prereq: grad st; CHEM 100 (or equivalent) with B or better, and BIO SCI 150 (or equivalent) with B or better, or cons instr

745 Developmental Toxicology. 3 cr. G.

An introduction to the field of developmental toxicology and how environmental contaminants influence vertebrate development, including humans. Prereq: grad st.

750 Seminar in Environmental Health Sciences. (Subtitled). 1-3 cr. G.

Survey of an area in environmental health. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max.

752 Public Health and Mental Health. 3 cr. G.

Understanding mental health and mental illness from a public health perspective; designed for an interdisciplinary audience of students, researchers and practitioners. Prereq: grad st.

758 Social Epidemiology. 3 cr. G.

Foundations of social epidemiology, including key concepts, theoretical frameworks, and methods for studying social and structural determinants of population health and health inequity. Prereq: grad st; PH 700(P), PH 702(P), and PH 704(P); or cons instr

759 Applied Quant Methods for Studying Population Health & Health Disparities. 3 cr. G.

Using STATA on real data to build regression models, perform diagnostics, and interpret results. Utilize social theory to put results into context. Prereq: grad st; PH 700(P), PH 702(P), PH 704(P), or cons inst.

761 Epidemiology Field Methods. 3 cr. G.

Prepares students to conduct epidemiologic field studies. Introduction of reviewing literature, designing questionnaires, developing surveillance systems, conducting emergency outbreak investigations, applying for IRB approval, and public relations. Prereq: grad st; PH 700(P), 702(P), and PH 704 (P) or cons instr

762 Environmental Epidemiology. 3 cr. G.

Expands upon basic epidemiological principles to tackle current problems in studies of health impacts of contaminants in air, water, food supply, consumer products, and indoor spaces, emphasizing a cross-disciplinary approach. Prereq: grad st; PH 703(C) and PH 704(P) or cons instr.

763 Epidemiology for Equity. 3 cr. G.

Students will integrate epidemiology methods with the principles, methods, and skills of participatory action research aimed at structural change to promote social and/or environmental justice and health equity. Prereq: grad st; PH 700(P), 702(P), PH 704(P), and PH 790 (C); or consent of instructor

768 Cancer Epidemiology. 3 cr. G.

The course will provide an introduction to cancer epidemiology and prevention evaluating methods to study cancer etiology and survival with a particular focus on understanding cancer disparities. Prereq: grad st; PH 702(P) and PH 704(P); or cons instr grad st; PH 702(P) and PH 704(P); or cons instr.

769 Critical Perspectives on Nutritional Epidemiology and the Food System. 3 cr. G.

This course offers a synthesis of nutritional epidemiological methods and food systems perspectives to build students critical understanding of diets, nutrition, and their public health implications. Prereq: grad st;

PH702(P), PH704(P), and PH705(P); or consent of instructor

774 Violence and Health. 3 cr. G.

This course examines relationships between violence and health from an interdisciplinary perspective in order to develop analytical, practical, and self-reflexive skills for intervening in violence and promoting health equity. Prereq: grad st

775 Mechanisms of Infectious Disease. 2 cr. G.

Molecular and cellular means by which microorganisms facilitate infection, withstand or evade immune response, induce damage to host, and ensure transmission to human populations. C L Sci 775 & PH 775 are jointly offered; they count as repeats of one another. Prereq: grad st; lc & la course in medical microbiology

776 Qualitative Approaches in Public Health Policy and Administration. 3 cr. G.

Introduces students to foundational approaches to qualitative research for use in public health policy & administration. It provides opportunities to practice foundational data collection, research analysis, reflexivity, & research design skills. Prereq: grad st

777 Quantitative Research Methods for PH Policy & Administration. 3 cr. G.

Introduces quantitative methods commonly used in public health policy and administration decision-making, skills to analyze quantitative research and to apply knowledge generated from research to the public health policy and administration context. Prereq: grad st; PH 702(P) or cons instr

779 Public Health Policymaking and Policy Analysis. 3 cr. G.

Introduces students to key frameworks for public health policymaking and policy analysis. Students apply concepts to a real world public health problem of their choice. Prereq: grad st; PH705(P) or MSP760(P) or cons instr.

780 Seminar in Public Health Policy and Administration. (Subtitled). 1-3 cr. G.

Survey of an area in Public Health Policy and Administration. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

781 Public Health Administration. 3 cr. G.

This course introduces basic concepts, best-practice leadership, and management principles with the emphasis on organizational behavior in public health settings. Prereq: grad st.

784 (effective 09/05/2017) Social and Economic Policy as Health Policy. 3 cr. G.

This course examines how social and economic policies, including education, income re-distribution, and housing shape population

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health. A broad overview of the social determinants of health is introduced/reviewed and current knowledge of the impact. grad st; a course covering multiple regression, including PH 711(P), PH 759(P), or cons inst.

785 (effective 09/05/2017) Principles of Public Health Economics. 3 cr. G.

The course introduces the application of microeconomic theories and models to explain major topics and trends in public health and health care settings. Prereq: grad st. or cons instr

790 Field Experience in Public Health. 1-6 cr. G.

Apply skills learned in the classroom to real world public health problems in a mentored field placement, engaging both faculty and site preceptors. Prereq: grad st; PH 701(P), PH 702(P), PH 703(P), PH 704(P), PH 705(P), PH 706(P), and PH 707(P) or cons instr

800 Capstone in Public Health. 2 cr. G.

Application of acquired public health knowledge, experience and competencies in developing a public health project that demonstrates readiness for professional practice. Satisfactory/Unsatisfactory only. Prereq: grad st; PH 790(P) or cons instr.

801 Seminar in Public Health Research. 3 cr. G.

Immersion in interdisciplinary collaborative approaches to public health research. Prereq: grad st; 1 course in stats/biostat and 1 course in research methods; or cons instr.

804 Advanced Epidemiology. 3 cr. G.

Advanced training in epidemiological concepts, principles and methods in the context of population health and health equity. grad st; PH758, PH823, or cons instr

808 Writing a Federal Grant in the Public Health Sciences. 3 cr. G.

This course is designed to provide students a hands-on experience with all aspects of preparation of a hypothesis driven grant application to a federal agency such as the NIH or NSF. Prereq: grad st. admis to a PhD program.

813 Practice of Biostatistical Consulting. 3 cr. G.

This course teaches the elements of statistical consulting, appropriate statistical analysis approaches, and how to interpret findings and effectively communicate with clients. Prereq: grad st; PH 711, PH 713, & PH 718; or cons instr.

818 (effective 09/02/2017) Statistical Computing. 3 cr. G.

This course will cover the theory and application of common algorithms used in statistical computing. Prereq: grad st; PH

711(P), MthStat 762(P), and PH 718(P) or cons inst.

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Social and environmental justice perspective on public health problems and concerns. Jointly offered w/ & counts as a repeat of Soc Wrk 819. Prereq: grad st

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The foundations of MCH, historical context, financing, challenges, and opportunities in advancing MCH at state, national and international level including the integration of men. Prereq: grad st; PH 702(P), 704(P) or cons instr

823 Applied Analysis of Binary Outcomes in Public Health Research. 3 cr. G.

Apply principles of epidemiology, statistics, and study design in analyzing a public health dataset of choice, covering confounding, modification, bias, missing data, and interpretation in light of limitations. Prereq: PH702 (P), PH 704(P), and doctoral standing; or consent of instructor.

825 Social and Behavioral Science in Public Health. 3 cr. G.

Overview of the contribution and use of social and behavioral sciences approaches in public health research, policy, planning/evaluation, practice, and interventions. Prereq: grad st

826 Principles of Community Intervention Research. 3 cr. G.

Seminar covering classic in community-based public health research and the development of conceptual and methodological skills in community engagement. Counts a repeat of PH 740 with similar topic. Prereq: grad st.

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Examination of experimental, quasi-experimental, and nonexperimental study designs, focus groups, and coding with qualitative software. Prereq: grad st; admis to doctoral prog; PH 801(P) & 702(P) or cons instr.

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Effective approaches to engaging communities in health interventions and addressing health disparities. Prereq: grad st.

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covering multiple regression, including PH 711(P), PH 759(P) , or cons inst.

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990 Research and Dissertation. 1-8 cr. G.

Original research in any public health discipline Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Epidemiology

School/College: Joseph J. Zilber School of Public Health

- Ph.D. in Epidemiology

Other Degrees Conferred by the Joseph J. Zilber School of Public Health:

- [Master of Public Health](#)
- [Ph.D. in Environmental Health Sciences \(as of Fall 2015\)](#)
- [Ph.D. in Environmental and Occupational Health \(pre-Fall 2015\)](#)
- [Ph.D. in Public Health with a Concentration in Community and Behavioral Health Promotion](#)

Overview

The Ph.D. program in epidemiology prepares graduates for many career paths, including academia, non-governmental organizations, and public service at all levels of local, national, and international government.

Through rigorous theoretical and methodological training, students learn to conduct independent research that examines the distribution and determinants of health, and to translate their findings to public health policy and strategies to promote population health. The program encourages applicants from diverse backgrounds, with a clearly communicated interest in epidemiology and in promoting health equity.

This program also meets requirements outlined by the national Council on Education for Public Health (CEPH).

Graduate Faculty

Professors

Velie, Ellen, Ph.D., University of California at Berkeley

Associate Professors

Malcoe, Lorraine Halinka, MPH, Ph.D., University of California at Berkeley

Assistant Professors

Meier, Helen, Ph.D., MPH, University of Michigan

Simanek, Amanda, Ph.D., University of Michigan

Non-Faculty

Visiting Assistant Professor

Dookeran, Keith, MBA, M.D., MBBS, Ph.D., University of Illinois-Chicago

Doctor of Philosophy in Epidemiology

Admission

Applicants must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Submission of scores from the Graduate Record Examination (GRE), taken within 5 years of the date of application. While there is not a minimum GRE score requirement, strong quantitative, verbal and writing skills are critical to successfully completing the program.
2. Three letters of recommendation are required. At least one letter must be from a university faculty member.

Recommended:

- A completed master's degree in Epidemiology, public health, or the social sciences.
- At least one undergraduate mathematics or statistics course and one biological sciences course with a 3.0 GPA

Major Professor as Advisor

Students will be asked to identify their primary research areas of interest and faculty with potential shared interests; faculty will be matched to serve as a career mentor and advisor.

Credits and Courses

The curriculum consists of 75 credits beyond the bachelor's degree.

Required courses (66 credits)

PH 700 Structures of Inequality and Population Health
 PH 702 Introduction to Biostatistics
 PH 704 Principles and Methods of Epidemiology
 PH 705 Principles of Public Health Policy and Administration
 PH 758 Social Epidemiology
 PH 759 Applied Quant Methods for Studying Population Health & Health Disparities
 PH 761 Epidemiology Field Methods
 PH 763 Epidemiology for Equity
 PH 779 Public Health Policymaking and Policy Analysis
 PH 801 Seminar in Public Health Research
 PH 804 Advanced Epidemiology
 PH 819 Social and Environmental Justice in Public Health -OR- PH 859 Racial/Ethnic Health Disparities in US
 PH 823 Applied Analysis of Binary Outcomes in Public Health Research

PH 864 Research Ethics in Epidemiology & Public Health
 PH 870 Epidemiology in Health Policy & Advocacy
 PH 904 Survey of Analytic Methods for Epidemiology
 PH 960 Current Issues in Epidemiology
 PH 990 Research and Dissertation (1-3 cr)

Required Epidemiology Subject Matter "S" elective (Choose two courses, 6 cr.)

PH 768 Cancer Epidemiology
 PH 769 Critical Perspectives in Nutritional Epidemiology and Food Systems
 PH 762 Environmental Epidemiology
 PH 868 Epidemiologic Links Between Infectious and Chronic Disease
 PH 865 Critical Methodologies for Health Equity Research

Analytic Methods Electives (Choose 2 courses, 6 cr.; other classes as approved)

PH 712 Probability and Statistical Inference
 PH 714 Statistical Genetics and Genetic Epidemiology
 PH 715 Applied Categorical Data Analysis
 PH 716 Applied Survival Analysis
 PH 717 Applied Longitudinal Data Analysis
 PH 718 Data Management and Visualization in R
 PH 776 Qualitative Approaches in Public Health Policy and Administration
 SOC 982 Advanced Quantitative Analysis
 EDPSY 823 Structural Equation Modelling
 EDPSY 832 Theory of Hierarchical Linear Modelling
 PH 729 Survey Research Methods in Public Health OR SOC 752 Fundamentals of Survey Methodology
 GEOG 525 Geographic Information Science (4 cr)

Other Electives (Choose 1 course, 3 cr.; other classes as approved)

PH 727 Program Planning and Implementation in Public Health
 PH 728 Program Evaluation in Public Health
 PH 774 Violence and Health: Interdisciplinary Theories and Interventions
 PH 784 Social and Economic Policy as Health Policy
 PH 808 Writing a Federal Grant in the Public Health Sciences
 PH 820 Maternal and Child Health Foundations, Policy and Practice
 PH 826 Principles of Community Intervention Research
 PH 831 Community Engaged and Participatory Research and Practice
 NOTE: Students may apply previous graduate course work towards didactic Ph.D. credits, contingent on assessment of course equivalencies, in accordance with UW-Milwaukee policies.

Epidemiology

Dissertation Proposal Hearing

In consultation with his or her primary faculty advisor, the dissertator will develop a dissertation research plan and form a dissertation advisory committee. The composition of the dissertation committee must be in compliance with the rules and regulations of the Graduate School. The dissertator then submits a written dissertation plan to be reviewed and formally approved by the dissertation advisory committee. The research plan must clearly outline the student's obligation for completing an original piece of work of sufficient quality, which is to be determined by the committee. The review and approval process will include a formal presentation to the committee.

Dissertation

Upon approval of the dissertation proposal, students will proceed with an original and significant research investigation under the supervision of their major professor, culminating in a written dissertation.

Dissertation Defense

The dissertator must, as the final step toward the degree, pass an oral examination in defense of the dissertation. The dissertation defense will be publicly announced and open to the academic community. Once the defense is completed, students will be encouraged to revise their dissertation and submit it for publication.

Once the committee has formally approved the dissertation document and the oral defense, and the Chair of the appropriate program has certified completion of all requirements, the candidate is awarded the Ph.D. in Public Health.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

700 Structures of Inequality and Population Health. 3 cr. G.

Foundations of public health, critical social theory, and social justice praxis, which provide essential interdisciplinary tools for analyzing sociostructural processes and advancing social and health equity. Prereq: grad st

701 Public Health Principles and Practice. 3 cr. G.

Examination of fundamental principles designed to improve the health of the public, public health theories, domains, and practices.

702 Introduction to Biostatistics. 3 cr. G.

Development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health. Includes lab section with introduction to SAS, including

macros and core statistical analysis functions. Prereq: grad st; Math 116 with B or better, or equivalent, or cons instr

703 Environmental Health Sciences. 3 cr. G.

Survey of effects environment has on humans, and effects humans have on environment, emphasis on toxicology and infectious disease. Prereq: grad st

704 Principles and Methods of Epidemiology. 3 cr. G.

Quantitative study of patterns and determinants of health in human populations applying biomedical and social epidemiology perspectives. Problem-based lab includes surveillance, measurement, study design, and causal inference applications. Prereq: grad st; PH 702(C) or cons instr

705 Principles of Public Health Policy and Administration. 3 cr. G.

The role of policy in influencing population health, policies that promote public health, the policymaking process, and the planning and administration of health systems. Prereq: grad st; PH 704(R)

706 Perspectives on Community & Behavioral Health. 3 cr. G.

Philosophical underpinnings, conceptual frameworks, and strategies for the application of behavioral and social science concepts to the goals of public health. Prereq: grad st

707 Introduction to Statistical Computing. 1 cr. G.

Introduction to statistical methods as implemented in SAS, including macros and core statistical analysis functions. Prereq: grad st; PH 702(C) or cons instr

708 Health Systems and Population Health. 3 cr. G.

Using fundamental concepts of health systems design, international comparisons, and case studies, this course demonstrates strategies through which health systems could improve health and reduce inequities by addressing social vulnerabilities. Prereq: grad st

709 Public Health Informatics. 3 cr. G.

Overview of the rapidly emerging and evolving field of public health informatics - active learning and exposure to new and relevant public health informatics methods, applications, and tools. Prereq: grad st

711 (810) Intermediate Biostatistics. 3 cr. G.

Introduction to modern multivariable statistical analysis, based on generalized linear models. Topics include linear regression, logistic regression, one-way and two-way ANOVA, longitudinal analysis, missing data, and mixed models. Prereq: grad st; PH 702(P) or cons instr

712 Probability and Statistical Inference. 3 cr. G.

Introductory graduate-level course that provides students with a mathematical treatment and understanding of key concepts in probability and distribution theory and statistical inference, and their applications in public health. Prereq: grad st; Math 231 (P) & 232 (P) or equivalent, or cons instr

713 Analyzing Observational and Experimental Data. 3 cr. G.

Analyze data from both experiments and observational studies within a causal inference framework as it applies to public health. Covers randomization, confounding, blocking, ANOVA, counterfactuals, selection bias, and measurement error. Prereq: grad st; PH 704(C), PH 711 (C) or PH 759 (C) or cons instr

714 Statistical Genetics and Genetic Epidemiology. 3 cr. G.

Introduction to statistical methods for the analysis of family and population based genetic data, including methods can be used in linkage analysis, family-based and population-based association studies. Prereq: grad st; PH 702(P) and PH 711(P) or cons instr

715 Applied Categorical Data. 3 cr. G.

Data analysis techniques for various kinds of categorical data for public health related examples using SAS. Prereq: grad st; PH 711(P) and PH 712(P) or cons instr

716 Applied Survival Analysis. 3 cr. G.

This course covers basic concepts and techniques in the statistical analysis of survival data. Prereq: grad st; PH711(P) and PH712(P); or cons instr.

717 Applied Longitudinal Data Analysis. 3 cr. G.

This course will cover data analysis techniques for longitudinal data with focus on application in public health with related examples using SAS. Prereq: PH 711 and PH 712; cons instr.

718 Data Management and Visualization in R. 3 cr. G.

This course covers basic concepts and techniques for statistical programming with the R computing language. Prereq: PH711; cons instr.

719 Social Justice in Public Health. 3 cr. G.

This course is designed to introduce you to the major social variables (e.g., socioeconomic status, race, poverty, social support, neighborhood environment) that affect public health. Prereq: grad st

720 Special Topics in Biostatistics: (Subtitled). 1-3 cr. G.

Survey of an area in Biostatistics. Specific credits and add'l prereqs announced in Schedule of Classes each time course is offered.

Epidemiology

Retakable w/chg in topic to 9 cr max. Prereq: grad st

721 Introduction to Translational Bioinformatics. 3 cr. G.

Review bioinformatics knowledge and analytical skills, high-throughput technologies that produce various omic data, along with the methodologies to analyze and interpret different layers of information. Prereq: grad st; PH 711(P) or cons instr

723 Design, Conduct and Analysis of Clinical Trials. 3 cr. G.

Introduction to the design, conduct and analysis of phase I-IV clinical trials, with an emphasis on phase III trials and ethical issues in clinical research. Prereq: grad st; PH 711 (P), or cons instr

725 Theories and Models of Health Behavior. 3 cr. G.

Examine theories of health behavior targeted to each level of the social ecological model, including historical and public health context. Assess utility of these theories in various domains. Prereq: grad st

726 Community Health Assessment. 3 cr. G.

Introduction to the concepts and techniques of community health assessment; conducting and critically analyzing community assessments. Prereq: grad st; PH 701(P) or cons instr

727 Program Planning & Implementation in Public Health. 3 cr. G.

Systematic approach to planning and implementing public health programs, examining program monitoring, methods of impact assessment, and measuring efficiency. Prereq: grad st

728 Program Evaluation in Public Health. 3 cr. G.

Students design and present research and evaluation plans, receive guidance on developing conceptual frameworks and hypotheses, collecting and analyzing data, and developing program evaluation plans. Prereq: grad st; PH 702(P) or cons instr

729 Survey Research Methods in Public Health. 3 cr. G.

The application of survey methods with emphases on sampling, survey design and planning, and data collection procedures. Prereq: grad st; PH 702(P) or cons instr

732 Youth Mental Health Practice for Non Mental Health Professionals. 3 cr. G.

Examination of mental health principles and practices from a public health professional's perspective, including ethical guidelines, necessary interpersonal skills, and mental health screenings and referrals to services. Prereq: grad st

740 Special Topics in Public Health: (Subtitled). 3 cr. G.

Topics of current interest in public health. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

741 Environmental Public Health Microbiology. 3 cr. G.

Environmental health microbiology is the study of microbial processes in water, land, and food that affect human health. Prereq: grad st; completed minimum of one undergraduate microbiology course.

743 Environmental Risk Assessment. 3 cr. G.

Risk assessment practices from an environmental health perspective, complexities and challenges of regulation, management, and mitigation of risks for both human and ecosystem health. Prereq: grad st; PH 702(P) & PH 703 (P) or cons instr

744 Environmental Toxicology. 3 cr. G.

This course will cover the occurrence, fate and transport, and toxic action of natural and synthetic chemicals encountered in the air, water, and soil. Prereq: grad st; CHEM 100 (or equivalent) with B or better, and BIO SCI 150 (or equivalent) with B or better, or cons instr

745 Developmental Toxicology. 3 cr. G.

An introduction to the field of developmental toxicology and how environmental contaminants influence vertebrate development, including humans. Prereq: grad st.

750 Seminar in Environmental Health Sciences. (Subtitled). 1-3 cr. G.

Survey of an area in environmental health. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max.

752 Public Health and Mental Health. 3 cr. G.

Understanding mental health and mental illness from a public health perspective; designed for an interdisciplinary audience of students, researchers and practitioners. Prereq: grad st.

758 Social Epidemiology. 3 cr. G.

Foundations of social epidemiology, including key concepts, theoretical frameworks, and methods for studying social and structural determinants of population health and health inequity. Prereq: grad st; PH 700(P), PH 702(P), and PH 704(P); or cons instr

759 Applied Quant Methods for Studying Population Health & Health Disparities. 3 cr. G.

Using STATA on real data to build regression models, perform diagnostics, and interpret results. Utilize social theory to put results into context. Prereq: grad st; PH 700(P), PH 702(P), PH 704(P), or cons instr.

761 Epidemiology Field Methods. 3 cr. G.

Prepares students to conduct epidemiologic field studies. Introduction of reviewing literature, designing questionnaires, developing surveillance systems, conducting emergency outbreak investigations, applying for IRB approval, and public relations. Prereq: grad st; PH 700(P), 702(P), and PH 704 (P) or cons instr

762 Environmental Epidemiology. 3 cr. G.

Expands upon basic epidemiological principles to tackle current problems in studies of health impacts of contaminants in air, water, food supply, consumer products, and indoor spaces, emphasizing a cross-disciplinary approach. Prereq: grad st; PH 703(C) and PH 704(P) or cons instr.

763 Epidemiology for Equity. 3 cr. G.

Students will integrate epidemiology methods with the principles, methods, and skills of participatory action research aimed at structural change to promote social and/or environmental justice and health equity. Prereq: grad st; PH 700(P), 702(P), PH 704(P), and PH 790 (C); or consent of instructor

768 Cancer Epidemiology. 3 cr. G.

The course will provide an introduction to cancer epidemiology and prevention evaluating methods to study cancer etiology and survival with a particular focus on understanding cancer disparities. Prereq: grad st; PH 702(P) and PH 704(P); or cons instr grad st; PH 702(P) and PH 704(P); or cons instr.

769 Critical Perspectives on Nutritional Epidemiology and the Food System. 3 cr. G.

This course offers a synthesis of nutritional epidemiological methods and food systems perspectives to build students critical understanding of diets, nutrition, and their public health implications. Prereq: grad st; PH702(P), PH704(P), and PH705(P); or consent of instructor

774 Violence and Health. 3 cr. G.

This course examines relationships between violence and health from an interdisciplinary perspective in order to develop analytical, practical, and self-reflexive skills for intervening in violence and promoting health equity. Prereq: grad st

775 Mechanisms of Infectious Disease. 2 cr. G.

Molecular and cellular means by which microorganisms facilitate infection, withstand or evade immune response, induce damage to host, and ensure transmission to human populations. C L Sci 775 & PH 775 are jointly offered; they count as repeats of one another. Prereq: grad st; lc & la course in medical microbiology

Epidemiology

776 Qualitative Approaches in Public Health Policy and Administration. 3 cr. G.

Introduces students to foundational approaches to qualitative research for use in public health policy & administration. It provides opportunities to practice foundational data collection, research analysis, reflexivity, & research design skills. Prereq: grad st

777 Quantitative Research Methods for PH Policy & Administration. 3 cr. G.

Introduces quantitative methods commonly used in public health policy and administration decision-making, skills to analyze quantitative research and to apply knowledge generated from research to the public health policy and administration context. Prereq: grad st; PH 702(P) or cons instr

779 Public Health Policymaking and Policy Analysis. 3 cr. G.

Introduces students to key frameworks for public health policymaking and policy analysis. Students apply concepts to a real world public health problem of their choice. Prereq: grad st; PH705(P) or MSP760(P) or cons instr.

780 Seminar in Public Health Policy and Administration. (Subtitled). 1-3 cr. G.

Survey of an area in Public Health Policy and Administration. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

781 Public Health Administration. 3 cr. G.

This course introduces basic concepts, best-practice leadership, and management principles with the emphasis on organizational behavior in public health settings. Prereq: grad st.

784 (effective 09/05/2017) Social and Economic Policy as Health Policy. 3 cr. G.

This course examines how social and economic policies, including education, income redistribution, and housing shape population health. A broad overview of the social determinants of health is introduced/reviewed and current knowledge of the impact. grad st; a course covering multiple regression, including PH 711(P), PH 759(P), or cons inst.

785 (effective 09/05/2017) Principles of Public Health Economics. 3 cr. G.

The course introduces the application of microeconomic theories and models to explain major topics and trends in public health and health care settings. Prereq: grad st. or cons instr

790 Field Experience in Public Health. 1-6 cr. G.

Apply skills learned in the classroom to real world public health problems in a mentored field placement, engaging both faculty and site preceptors. Prereq: grad st; PH 701(P), PH 702(P), PH 703(P), PH 704(P), PH 705(P), PH 706(P), and PH 707(P) or cons instr

800 Capstone in Public Health. 2 cr. G.

Application of acquired public health knowledge, experience and competencies in developing a public health project that demonstrates readiness for professional practice. Satisfactory/Unsatisfactory only. Prereq: grad st; PH 790(P) or cons instr.

801 Seminar in Public Health Research. 3 cr. G.

Immersion in interdisciplinary collaborative approaches to public health research. Prereq: grad st; 1 course in stats/biostats and 1 course in research methods; or cons instr.

804 Advanced Epidemiology. 3 cr. G.

Advanced training in epidemiological concepts, principles and methods in the context of population health and health equity. grad st; PH758, PH823, or cons instr

808 Writing a Federal Grant in the Public Health Sciences. 3 cr. G.

This course is designed to provide students a hands-on experience with all aspects of preparation of a hypothesis driven grant application to a federal agency such as the NIH or NSF. Prereq: grad st. admis to a PhD program.

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Social and environmental justice perspective on public health problems and concerns. Jointly offered w/ & counts as a repeat of Soc Wrk 819. Prereq: grad st

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The foundations of MCH, historical context, financing, challenges, and opportunities in advancing MCH at state, national and international level including the integration of men. Prereq: grad st; PH 702(P), 704(P) or cons instr

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Apply principles of epidemiology, statistics, and study design in analyzing a public health dataset of choice, covering confounding,

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Overview of the contribution and use of social and behavioral sciences approaches in public health research, policy, planning/evaluation, practice, and interventions. Prereq: grad st

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Examination of experimental, quasi-experimental, and nonexperimental study designs, focus groups, and coding with qualitative software. Prereq: grad st; admis to doctoral prog; PH 801(P) & 702(P) or cons instr.

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The course will analyze studies of racial/ethnic health disparities, with a focus to include multi-level and temporal perspectives to better understand the social context in which the determinants of racial/ethnic health are embedded. Counts as repeat of PH 740 w/similar topic. Prereq: grad st; a course covering multiple regression, including PH 711(P), PH 759(P) , or cons inst.

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Discussion of social patterning of infection, epidemiologic and physiologic links between infections and chronic disease, and methodological considerations in the evaluation of such associations. Prereq: grad st; PH702(P), PH704(P), and PH759(P) or PH711(P); or consent of instructor

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990 Research and Dissertation. 1-8 cr. G.

Original research in any public health discipline
Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Exceptional Education

Exceptional Education

School/College: School of Education
Degrees Conferred:

- M.S. in Exceptional Education

Related Certificates

- [Certificate in Assistive Technology and Accessible Design](#)
- [Graduate Autism Spectrum Disorders Certificate](#)

Overview

The Department of Exceptional Education offers two options for a program of study at the master's level: a general option or a certification option. Students choosing the General Option enroll in 12 credits of core requirements and 18 credits that reflect a focus area of study. Students following the Certification Option enroll in 12 credits of core requirements and apply 18 credits of their certification credits, taken at the graduate level, to the degree. This program is created in consultation with a faculty advisor. Students choosing the Certification Option must be accepted into one of the Department of Exceptional Education's Post-Baccalaureate Teacher Certification Programs as well as the Graduate Program. Certification programs include Early Childhood Education (0-8 yrs), Primary/Middle and Middle/Secondary Education (grades K-9 or 6-12 in the areas of learning disabilities, cognitive disabilities, and emotional disturbance), Deaf and Hard of Hearing (grades K-12). Up to 15 credits of coursework in the certification program may be applied to the Master's degree in addition to 15 credits of core requirements.

Under the auspices of the Ph.D. program in Urban Education, the Department offers doctoral level training with a designated specialization in Exceptional Education.

Graduate Faculty

Professors

Drame, Elizabeth, Ph.D., Northwestern University
Otis-Wilborn, Amy, Ph.D., University of Kansas

Associate Professors

Ford, Alison, Ph.D., University of Wisconsin-Madison
Frattura, Elise, Ph.D., University of Wisconsin-Madison
Owens, Laura, Ph.D., University of Wisconsin-Madison
Rice, Nancy, Ph.D., Syracuse University
Winn, Judith, Ph.D., Michigan State University

Assistant Professors

Bartlett, Margaret, Ph.D., Arizona State University

Master of Science in Exceptional Education

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

- Personal interview to determine an applicant's basis for seeking admission, potential for completion of the program, and relevant background and experience in exceptional education.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses

The minimum degree requirement is 30 graduate credits, of which 18 credits must be in the Department of Exceptional Education. The remaining credits may be taken either in or outside of the School of Education. Courses in either the Certification Option or General Option are determined in consultation with an advisor from suggested course options identified by the Department.

Program Core Requirements (12 credits)

Issues and Trends (3 cr.)

Research course (3 cr.)

Urban/Multicultural course (3 cr.)

Thesis/Research course (3 cr.)

Certification Option (Up to 15 credits)

A student pursuing the Certification Option must be admitted to the Department of Exceptional Education's Post-Baccalaureate Teacher Certification Program (consult Undergraduate Bulletin for more information on admission dates and requirements). In consultation with an advisor, a student selects up to 18 credits of coursework required in the certification program for graduate credit. Additionally, the student enrolls in 12 credits of program core requirements. Listed below are the courses in each of the certification programs that can be taken for graduate credit.

Instruction

Middle Childhood/Early Adolescence (MCEA)

ExcEduc 681 Literacy II (3 cr.)

ExcEduc 605 Child, Learner, Disabilities (3 cr.)

ExcEduc 662 Collaborative Strategies (3 cr.)

ExcEduc 532 Assessment & Monitoring (3 cr.)

ExcEduc 574 Curriculum Accommodations II (3 cr.)

ExcEduc 601 Behavioral Supports (3 cr.)

ExcEduc 588 Teaching Experience (3 cr.)

Deaf/Hard of Hearing (DHH)

ExcEduc 562 Hearing Science (3 cr.)

ExcEduc 563 Speechreading/Auditory Rehabilitation (3 cr.)

ExcEduc 605 Child, Learner, Disabilities (3 cr.)

ExcEduc 533 Assessment & Monitoring: DHH (1 cr.)

ExcEduc 564 Communication Practicum (3 cr.)

ExcEduc 565 Teaching School Subjects (3 cr.)

ExcEduc 671 Behavior Support & Intervention for Mid/High Students with Disabilities (3 cr.)

ExcEduc 587 Teaching Experience (3 cr.)

ExcEduc 588 Teaching Experience (3 cr.)

Early Adolescence/Adolescence (EAA)

ExcEduc 605 Child, Learner, Disabilities (3 cr.)

ExcEduc 635 Curriculum Accommodations I: Middle/High (2 cr.)

ExcEduc 681 Literacy II (3)

CurrIns 545 Reading in the Content Areas (3 cr.)

ExcEduc 532 Assessment & Monitoring (3)

ExcEduc 636 Curriculum Accommodations II (2 cr.)

ExcEduc 662 Collaborative Strategies (3 cr.)

Exceptional Education

ExcEduc 576 Curriculum Accommodations III (2 cr.)

Early Childhood Special Education (ECSE)
ExcEduc 569 Curriculum and Methods for Special Ed: Preschool (3 cr.)

ExcEduc 648 ECSE Field Experience: Preschool (3 cr.)

ExcEduc 570 Curriculum and Methods for Special Education: Primary (3 cr.)

ExcEduc 649 ECSE Field Experience: Primary (3 cr.)

ExcEduc 568 Curriculum and Methods for Special Ed: Birth to 3 (3 cr.)

ExcEduc 647 EC Field Experience: Birth to 3 (3 cr.)

ExcEduc 612/CURRINS 612 Collaboration for Teachers with Families, Schools, and Communities (3)

ExcEduc 586 Teaching Experience I (3 cr.)

ExcEduc 613/ED PSY 613 Infant and Early Childhood Assessment (3 cr.)

ExcEduc 682 Language and Literacy in ECSE (3 cr.)

ExcEduc 776 Student Teaching in Early Childhood Special Ed. (3 cr.)

Administration and Supervision

In cooperation with Administrative Leadership

ExcEduc 579 Current Topics: Pupil Services
ExcEduc 780 Internship in Special Education Administration

ExcEduc 805 Legislative and Legal Aspects of Exceptional Education

ExcEduc 960 Seminar: Administration and Supervision of Programs for Exceptional Individuals

General Option (15 credits)

The general option for a Master's program in the Department of Exceptional Education is developed by identifying a theme of study that is based upon the student's educational background, areas of professional interest, and professional development goals. A theme, for example, may focus on assessment, instruction, policy, or other relevant issues in the area of special education. Courses are selected in consultation with a faculty advisor.

Thesis

A thesis or master's project is required for all students in the certification and general options. All students are required to present the results of their thesis or project at a seminar session in the semester in which they complete their degree.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Urban Education

Specialization in Exceptional Education. Under the auspices of the doctoral program in Urban Education, the Department of Exceptional Education provides doctoral training with a specialization in Exceptional Education. The program emphasizes the study of the socio-cultural context, educational policy, research-based practices, and systems change and reform to support learning and development of individuals with disabilities. Prospective doctoral students wishing to specialize in Exceptional Education must first be admitted to the Urban Education Doctoral Program. Admission and general program requirements can be obtained from the Director of Doctoral Studies in Urban Education. This program is described in detail on the [Urban Education](#) program page.

Courses

349 Field work: Interacting in the Deaf Community I. 3 cr. U/G.

Experiences of observation, actual interpreting, sign teaching and interaction with deaf community. Weekly seminar provides forum for feedback and processing experiences. Not open for cr to students with cr in ExcEduc 322(657). Prereq: jr st, admis to ITP, or cons instr.

353 Introduction to Culturally Diverse Community Resources. 3 cr. U/G.

Overview of community resources serving consumers with hearing impairments. Professionals and consumers from agencies and organizations will address needs as they relate to interpreting. Not open for cr to students with cr in ExcEduc 342(421). Prereq: jr st & admis to ITP, or grad st, or cons instr.

354 Field work: Interacting in the Deaf Community II. 3 cr. U/G.

Continuation of ExcEduc 349: requires time observing, interpreting, teaching and community interaction. Weekly seminars continue to provide forum for processing of experiences. Not open for cr to students with cr in ExcEduc 323(658). Prereq: jr st & admis to ITP, & ExcEduc 349(P); or grad st.

358 ASL/English Linguistics I. 3 cr. U/G.
The linguistics of American Sign Language, exploring its structure and grammar, emphasizing its phonology and its comparison to English. Prereq: C or better in ExcEduc 306(P).

363 ASL/English Linguistics II. 3 cr. U/G.
Focus on the linguistics of American Sign Language, including emphasis on its morphology and syntax and its comparison to English. Prereq: jr st, C or better in ExcEduc 358(P), or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st, cons instr, acceptance for Study Abroad Prog.

500 Fingerspelling & Numbers. 3 cr. U/G.
Introduction to fingerspelling and numbers in ASL. Prereq: jr st; C or better in ExcEduc 304(P) or Level 2+ ASLPI score.

510 Classifiers. 3 cr. U/G.
Study of the classifier system of ASL. Prereq: jr st; C or better in ExcEduc 305(P) or 306(P).

520 ASL Literature. 3 cr. U/G.
Introduction to the analysis of ASL Literature. Prereq: jr st; C or better in ExcEduc 305(P) or 306(P).

531 Inclusion for Secondary Educators: Humanities, the Arts, Foreign Language. 3 cr. U/G.

Understanding the needs of secondary level students with handicaps, emphasizing methods of assessment and programming in mainstreamed settings. Counts as repeat of ExcEduc 530 and 605. Prereq: jr st & admis to School of Educ; or grad st.

532 Assessment and Monitoring. 3 cr. U/G.
Roles and responsibilities in district-wide and alternative assessment, developing monitoring systems, report writing, equitable and just assessment practices. Prereq: admis to Post-Bac Cert prog or cons instr.

533 Assessment/Monitoring : Deaf & Hard of Hearing. 1 cr. U/G.

Roles and Responsibilities in District-Wide and Alternative Assessment, Developing Monitoring Ssystems, Report Writing Promotive, Equitable and Just Assessment Practices. Prereq: admis to Post-Bac Cert prog or cons instr.

536 Inclusion for Secondary Science and Math Educators. 1 cr. U/G.

History and legislation related to Special Education, characteristics of various disabilities, overview of universal design for learning (UDL), and accommodations and

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modifications of curriculum and instruction to meet the needs of all learners.

537 Math and Science Methods for All Learners. 1 cr. U/G.

Lesson and unit planning that incorporates curriculum and instructional strategies designed to include students with identified disabilities, in collaboration with special educators. Prereq: jr st; admis to teacher cert prog.

538 Teaching Math and Science to All Learners. 1 cr. U/G.

Practicum working with students with disabilities in general education settings focused on the planning and delivery of lessons in inclusive classrooms, in collaboration with special educators. Prereq: jr st; admis to teacher cert prog.

547 Comparative Special Education. 3 cr. U/G.

Special education legislation, instruction, and policies in a variety of social and cultural contexts. Prereq: jr st., completion of OWC-Part A

548 Introduction to Disability Studies. 3 cr. U/G.

Focuses on understanding disability from a variety of perspectives: historical, political, social, cultural, literary, personal, and artistic. Disability is viewed in a manner closer to ethnic, gender, and sexuality studies. Prereq: jr st, OWC Part A; or grad st.

558 Communication in the Classroom I: Deaf/Hard of Hearing. 3 cr. U/G.

Developing proficiency and instructional skills in using manual communication for individuals who are deaf or hard of hearing in the educational context. Prereq: must pass competency test in basic aspects of manual communication prior to registration; jr st; admis to Post-Bac Cert prog or cons instr.

559 Communication in the Classroom II: Deaf/Hard of Hearing. 3 cr. U/G.

Linguistic analysis and curriculum planning for facilitating the development of communication in students who are deaf or hard of hearing. Prereq: ExcEduc 680(P) & 681(P). Admis to Post-Bac Cert prog or cons instr.

560 Foundations of Autism Spectrum Disorders. 3 cr. U/G.

Examination of characteristics of individuals with autism spectrum disorders. Focus on causes, prevalence, assessment, diagnosis, and impact on personal lives. Prereq: jr st or cons instr; grade of C or better in English 102(P) or score at level 4 on EPT.

561 Methods for Working with Individuals with Autism Spectrum Disorders. 3 cr. U/G. Strategies for special education teachers and others for effectively working with individuals with autism spectrum disorders. Overview of

instructional issues, inclusion, and curriculum development. Prereq: jr st, C or better in ExcEduc 560(P) or cons instr.

562 Hearing Science. 3 cr. U/G.

Overview of physical and psycho-physical concepts of hearing science, speech mechanism, audiological evaluation and implications for the educational context. Prereq: admis to Post-Bac Cert prog or cons instr.

563 Speechreading/Auditory Rehabilitation. 3 cr. U/G.

Techniques for teaching speech, speechreading, listening, and auditory training for children who are deaf or hard of hearing. Prereq: admis to Post-Bac Cert prog or cons instr; ExcEduc 562(P); jr st.

564 Communication Methods Practicum. 3 cr. U/G.

Field experience with individuals with hearing impairments in schools. Emphasis on spoken and sign language development. Includes scheduled class and demonstrations. Prereq: jr st; admis to School of Educ or grad st; ExcEduc 541, 562 & 563, or cons instr.

565 Techniques of Teaching School Subjects to Individuals w/Hearing Impairments II. 3 cr. U/G.

Methods of teaching social studies, science, and mathematics as related to the language needs of students with hearing impairments and academic deficiencies. Prereq: jr st & admis to School of Educ, or grad st; ExcEduc 560 & 561 or cons instr.

568 Curriculum and Methods for Special Education: Birth to Three. 3 cr. U/G.

Designed for teachers serving infants and toddlers with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 647(C).

569 Curriculum and Methods for Special Education: Preschool. 3 cr. U/G.

Designed for teachers serving preschool children with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 648(C).

570 Curriculum and Methods for Special Education: Primary. 3 cr. U/G.

Designed for teachers serving primary children with disabilities and their families. Prereq: jr st; admis to ExcEduc prog; ExcEduc 649(C).

571 Curriculum Accommodations I: Primary/Middle. 1-3 cr. U/G.

Determine individualized goals within a broad curriculum framework and develop strategies for making accommodations in teaching methods, materials and class set-up. Retakable to 6 cr max. Prereq: admis to Post-Bac Cert prog or cons instr; jr st; ExcEduc 587(C).

574 Curriculum Accommodations II: Primary/Middle. 3 cr. U/G.

In-depth experience in IEP planning and scheduling to accommodate students with highly individualized needs within the academic curriculum. Prereq: ExcEduc 571(P), 588(C). Admis to post-bac cert prog or cons instr.

576 Curriculum Accommodations III: Functional for Middle to High Students. 3 cr. U/G.

Planning and scheduling for students with highly individualized goals, including school-to-work, while striving to integrate these goals into a well-coordinated program. Prereq: admis to Post-Bac cert prog or cons instr.

579 Current Topics in Exceptional Education: (Subtitled). 1-3 cr. U/G.

Specific topic announced in Schedule of Classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: jr st.

580 An Overview of Child/Youth Care. 3 cr. U/G.

Survey of skills, theories and approaches of the youth work field. Emphasis on interactive, developmental and relationship-building approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.

Applies the skills, theories and approaches of the youth work field to settings such as schools, community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

585 Supervised Practicum in Child and Youth Care. 2-4 cr. U/G.

Supervised practicum in residential agencies and settings which utilize child and youth care workers and serve behaviorally, cognitively and/or physically disabled youth. Ed Pol/ExcEduc 585 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P), or grad st; cons instr.

586 Teaching Experience I. 1-12 cr. U/G.

Placement with a regular education teacher. Focus on understanding regular curriculum framework and experience teaching small groups. Cr/no cr only; may be retaken to 15 cr max. Prereq: jr st; admis to Post-Bac Cert prog.

587 Teaching Experience II. 1-12 cr. U/G.

Placement with exceptional education teacher. Focus on small group instruction, understanding teaching responsibilities and collaboration. On-the-job option available through application.

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May be retaken to 15 cr max. Prereq: jr st; admis to cert prog in ExcEduc; or cons instr.

588 Teaching Experience III. 1-12 cr. U/G.
Placement with exceptional education teacher. Full teaching responsibility is assumed. On-the-job option available through special application. May be retaken to 15 cr max. Prereq: jr st; admis to cert prog in ExcEduc; or cons instr.

589 Workshop in Exceptional Education: (Subtitled). 1-6 cr. U/G.
Variable content format examines assessment and/or methodological strategies appropriate for educators working with broad range of handicapped children and adolescents. May be retaken with change of topic to max of 6 cr. Prereq: jr st; cons instr or workshop dir.

595 Technology Applications for Diverse Learners. 3 cr. U/G.
Explores the use of technology to enhance the academic performance of diverse students in inclusive classrooms. Prereq: jr st.

600 Survey of Exceptional Education. 3 cr. U/G.
History, theories, research, and practices related to individuals with learning, sensory, behavioral or physical handicapping conditions. Prereq: sr st & admis to School of Educ; or grad st.

601 Behavioral Supports. 3 cr. U/G.
Addresses needs of students with challenging behaviors. Emphasis on working collaboratively to conduct functional behavioral analysis. Prereq: admis to Post Bac Cert prog or cons instr.

602 Resources and Instruction in American Sign Language. 3 cr. U/G.
Course focuses on assessment and methodology components in teaching ASL as a foreign language. Prereq: jr st.

605 Child, Learner, Disabilities. 3 cr. U/G.
Perspectives on disability; learning characteristics associated with disabilities; historical, legal and philosophical foundations; child mentoring and advocacy linked with a family-based practicum. Counts as repeat of ExcEduc 530 and 531. Prereq: admis to Post-Bac Cert prog or cons instr.

607 Working with Culturally Diverse Deaf Students. 3 cr. U/G.
Discusses the educational and culturally diverse backgrounds of deaf students in the schools. Counts as repeat of ExcEduc 579 with similar topic. Prereq: none.

608 Multicultural Learning and Teaching in Special Education. 3 cr. U/G.
Covers theoretical and practical applications of multicultural issues to learning and teaching in special education. Prereq: jr st.

612 Collaborations for Teachers with Families, Schools, and Communities. 3 cr. U/G.
Theory/strategies for developing effective family-school relationships, with a focus on urban issues, inclusive classrooms, teacher-family communications, family education and support, and community resources for teachers. Counts as repeat of CurrIns 505 and ExcEduc 651. Jointly offered with and counts as repeat of CurrIns 612. Prereq: jr st; admis to SOE; or cons instr.

613 Infant and Early Childhood Assessment. 3 cr. U/G.
Theoretical and applied aspects of early childhood assessment. Experience administering specific individual and group (screening) tests. Assessment of language, cognition, motor, adaptive behavior, developmental delay. Counts as repeat of Ed Psy 575. Jointly offered with and counts as repeat of Ed Psy 613. Prereq: jr st.

630 Survey of EC Intervention: Young Children with Special Needs, Families. 3 cr. U/G.
Introduction to etiology, historic background, current service provisions, and issues and trends as related to infants, toddlers, and preschoolers with disabilities and their families. Prereq: jr st & admis to School of Educ; or grad st.

631 Methods for Teaching Commun Skills to Students with Severe Disabilities. 3 cr. U/G.
Study of assessment, instructional, and augmentative techniques for teaching and providing communication (vocal and non-vocal) to students with severe disabilities. Prereq: sr st; ExcEduc 665(410)(P), ComsDis 240(P), or cons instr.

633 Interdisciplinary Team Field Experience in Urban Settings. 2 cr. U/G.
Field experience is designed to develop student's skills as members of interdisciplinary teams in urban community settings. Prereq: jr st; ExcEduc 634(C).

634 Collaborative Consultation/Teaming-Serving Young Children with Disabilities. 3 cr. U/G.
Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthy 634, & ComSDis 634 are jointly offered; they count as repeats of one another. Prereq: jr st.

635 Individualized Planning & Instructional Methods. 2 or 3 cr. U/G.
Methods and strategies for teaching and evaluating adolescents with disabilities. Special emphasis given to individual educational programs, lesson planning and scheduling. Prereq: jr st; admis to Post-Bac cert prog or cons instr; ExcEduc 487(C) & 587(C) or cons instr.

636 Curriculum Accommodations. 2 or 3 cr. U/G.
Methods and strategies for teaching and evaluating adolescents with learning disabilities, emotional disturbance and cognitive disabilities. Special emphasis given to developing individual adaptations and modifications. Prereq: jr st; admis to Post-Bac Cert prog or cons instr; ExcEduc 635(P); 488(C) & 588(C) or cons instr.

644 Enhancing Literacy Learning for Diverse Learners: 3 cr. U/G.
Teaching reading and writing to diverse learners. Jointly offered with & subtitles count as repeat of same title of CurrIns 644. CurrIns 644 & ExcEduc 644 may be retaken with change of topic to combined 9 cr max. Prereq: currently teaching with at least 2 yrs experience; cons instr.

647 Early Childhood Special Education Field Experience: 0 to 3 Yrs. 3 cr. U/G.
Provides urban experiences in early intervention programs to develop teaching skills in birth to three programs. May be retaken to 9 cr max. Prereq: jr st; admis to ExcEduc prog.

648 Early Childhood Special Education Field Experience: Preschool. 3 cr. U/G.
Practicum provides urban teaching experiences in preschool programs to develop skills for working with 3-to-5 year olds with special needs and their families. May be retaken to 9 cr max. Prereq: jr st; admis to ExcEduc prog.

649 Early Childhood Special Education Field Experience: Primary. 3 cr. U/G.
Practicum provides urban teaching experiences in primary school-age programs to develop skills for working with 1st to 3rd graders with special needs and their families. May be retaken to 9 cr max. Prereq: jr st; admis to ExcEduc prog.

651 Working With Families in Urban Communities. 3 cr. U/G.
Familial and ecological factors affecting individuals with disabilities and their caregivers including in-depth experiences with a family who has a young child with special needs. Prereq: jr st.

652 Developmental Evaluation of Young Children with Disabilities. 3 cr. U/G.
The major functions of assessment used by Early Childhood Special Educators. Prereq: jr st; ExcEduc 651(P).

655 Introduction to Education of Individuals Who are Deaf and Hard of Hearing. 3 cr. U/G.
Overview of educational programs and policies for pre K-12 students who are deaf and hard of hearing. Prereq: jr st.

662 Collaborative Strategies. 3 cr. U/G.
Provides the teacher with techniques that will assist in establishing relationships with other

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professionals, parents, and community agencies. Prereq: jr st; ExcEduc 300(P), 600(P), or 605(P); admis to Post-Bac Cert prog or cons instr.

665 Language and Literacy for the Exceptional Student. 3 cr. U/G.

An overview of the theoretical underpinnings for language and literacy practices, assessments, and methods of facilitating growth in students with exceptional education needs. Prereq: ExcEduc 300 or equiv; ComsDis 240; jr st & admis to School of Educ or grad st.

671 Behavior Support & Intervention for Mid/High Students with Disabilities. 3 cr. U/G.

Techniques in arranging academic and social environments for adolescents having learning and social problems. Prereq: admis to Middle/High prog; cons instr.

676 Learning Strategies II:

Cognitiv/Metacognitiv Intervntns-Mild Hndicppd Stdnts. 3 cr. U/G.

Indepth analysis of strategy instruction for use with adolescents with mild handicaps. Prereq: jr st; ExcEduc 675; cons instr; teacher certification.

679 Critical Issues in Transition Planning for Students with Disabilities. 3 cr. U/G.

Understanding transition planning and tools to effectively assist students with disabilities in the transition process. Counts as repeat of ExcEduc 589 with similar topic. Prereq: jr st.

680 Literacy I. 3 cr. U/G.

Observing and assessing reading and writing; implementing basic strategies toward supporting reading and writing development; becoming a motivated reader/writer. Prereq: admis to the Post-Bac Cert prog or cons instr.

681 Literacy II. 3 cr. U/G.

Organizing and implementing literacy instruction. Addressing the individual strengths and needs in communication of students with disabilities. Prereq: ExcEduc 680(P); admis to the Post-Bac Cert prog or cons instr.

682 Language and Literacy in Early Childhood Special Education. 3 cr. U/G.

Methods in language and literacy instruction for children with special needs including study of first and second language development in children birth through age eight. Prereq: jr st; admis to Post-Bac cert prog, or cons instr.

684 Multisensory Structured Language Teaching. 3 cr. U/G.

Advanced study of dyslexia and how to implement remedial approaches to literacy. Includes a required practicum experience. Prereq: Post-bac status or cons instr.

685 Advanced Methods in Learning Disabilities. 3 cr. U/G.

Examination of recommended instructional practices in the areas of literacy, mathematics, organization and study skills, social interactions and self-advocacy. Counts as repeat of ExcEduc 589 with same topic. Prereq: grad st or admis to Post-Bac Cert prog or cons instr.

699 Independent Reading. 1-3 cr. U/G.

Prereq: jr st & admis to School of Educ or grad st; cons instr.

703 Vocational Aspects in Rehabilitation and Exceptional Education. 3 cr. G.

Disability and case management practices for severely disabled persons. Emphasis on return-to-work interventions: vocational evaluation, work adjustment, job placement, accommodation, ergonomics. Jointly offered with & counts as repeat of Couns 703. Prereq: grad st; ExcEduc 679(P) or Couns 601(C).

705 Understanding Culture and Ethnicity in the Transition Process. 3 cr. G.

This course will provide an overview of the importance of culture & ethnicity in the transition process for students with disabilities. Prereq: grad st; ExcEduc 679(P); cons instr.

707 Infusing Socio-Sexual Issues into Transition Planning. 3 cr. G.

This course is designed to discuss socio-sexual issues & facilitate participants' development of skills needed to infuse socio-sexual issues into transition planning. Prereq: grad st; ExcEduc 679(P); cons instr.

708 Student, Family & Community Involvement in the Transition Planning Process. 3 cr. G.

This course is designed to explore trends & strategies relative to the development of self determination skills, person-centered planning & educators as consultants in transition planning. Prereq: grad st; exceduc 679(P); cons instr.

715 Issues and Trends in Exceptional Education. 3 cr. G.

Designed for students with entry level experience in exceptional education, the course reviews the exceptional education populations, methodology and current issues and trends. Prereq: grad st; ExcEduc 300 or equiv or cons dept.

730 Assistive and Instructional Technology for Students with Disabilities. 3 cr. G.

Introduction to special education technology emphasizing applications for students with disabilities and their teachers. Prereq: grad st.

735 Technology & Instruction for Students with Disabilities. 3 cr. G.

Curriculum intergration models and technology integration strategies for enhancing educational

outcomes of students with disabilities. Prereq: grad st.

740 Universal Design for Learning: Research and Practice. 3 cr. G.

Study of research in universal design for learning and design of classroom interventions that enhance the performance of students with disabilities and their non-handicapped peers. Counts as repeat of ExcEduc 779 with same topic. Prereq: grad st.

760 Foundations of Autism Spectrum Disorders. 3 cr. G.

Examination of characteristics of individuals with autism spectrum disorders. Focus on causes, prevalence, assessment, diagnosis, and impact on personal lives. Prereq: grad st

761 Methods for Working with Individuals with Autism. 3 cr. G.

Strategies for special education teachers and others for effectively working with individuals with autism spectrum disorders. Overview of instructional issues, inclusion, and curriculum development. Prereq: grad st.; ExcEduc 760(P) or cons instr.

762 Academic/Social Challenges of Individuals with ASD: Adv. Interventions. 3 cr. G.

Intervention and Supports for Individuals with high functioning Autism and Asperger Syndrome. Prereq: grad st.; ExcEduc 760(P) and ExcEduc 761(P) or cons instr.

765 Assistive Technology Service Delivery in Schools. 3 cr. G.

Introduction to legal, legislative, and policy foundations guiding the creation and delivery of assistive technology services in schools, clinics and agencies. Prereq: grad st.

770 Seminar: Research on Individuals With Special Needs. 3 cr. G.

Recent research relevant to individuals with handicapping conditions. Prereq: grad st; ExcEduc 300(P) or 600(P).

771 Field Work with Students Having Exceptional Education Needs. 3 cr. G.

Retakable to 9 cr max. Prereq: grad st; cons dept.

772 Field Work with Students Having Hearing Impairments. 1-3 cr. G.

Retakable to 9 cr max. Prereq: grad st; cons dept.

773 Field Work with Students Having Cognitive Disabilities. 3 cr. G.

Retakable to 9 cr max. Prereq: grad st; cons dept.

775 Field Work: Individuals with Autism Spectrum Disorders. 3 cr. G.

Prereq: grad st; ExcEduc 760(P) & ExcEduc 761(C) or cons instr

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776 Fieldwork with Students Having Early Childhood-Exceptional Education Needs. **1-3 cr. G.**

Retakable to 9 cr max. Prereq: grad st; cons dept.

777 Fieldwork in Assistive Technology. 1-6 cr. G.

Provides students with a school- or clinic-based experience in the delivery of assistive technology services. ExcEduc 777 & Occthy 777 are jointly offered; they count as repeats of one another. May be retaken for 9 cr max. Prereq: grad st & cons instr.

778 Field Work with Students Having Learning Disabilities. 3 cr. G.

Retakable to 9 cr max. Prereq: grad st; cons dept.

779 Current Topics in Exceptional Education: (Subtitled). 1-3 cr. G.

Specific topic announced in schedule of classes each time course is offered. Prereq: grad st; cons instr.

780 Internship in Special Education Administration. 3 cr. G.

Students will work with selected administrators in the field of special education administration. Prereq: grad st; cons instr.

790 Administration of Pupil Services. 3 cr. G.

Review and analysis of pupil service programs in K-12 education, considers historical, legal and professional proactive standards. Prereq: grad st; Ad Ldsp 710(P), 752(P); cons instr.

799 Independent Reading. 1-3 cr. G.

Prereq: grad st; cons instr.

801 Urban Education: Doctoral Seminar in Exceptional Education. 3 cr. G.

Examination of research on exceptional education in urban settings including topics related to students in general and special education environments. Prereq: grad st; admis to urban educ doctoral prog; Educ 701.

805 Legislative and Legal Aspects of Exceptional Education. 3 cr. G.

Legislative and legal factors involved in educating individuals with handicapping conditions. Prereq: grad st; ExcEduc 600.

815 Capstone Course In Special Education. 3 cr. G.

Culmination of course work during the graduate program leading to the development of the thesis or graduate project. Prereq: grad st; ExcEduc 715(P).

861 Foundations in Student Services and Special Education Administration. 3 cr. G.

Sets the foundation for leadership in special education and student services in the context of integrated comprehensive services and student diversity. Prereq: grad st.

880 Proseminar in Urban Education: Exceptional Education. 3 cr. G.

An examination of selected problems and issues in urban education. Prereq: grad st; admis to Urban Educ doctoral prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

890 Master's Research Project. 1-6 cr. G.

Research project for master's degree in Exceptional Education. Retakable to 6 cr max. Prereq: grad st; cons instr

900 Seminar: Urban Issues in Exceptional Education. 3 cr. G.

Analysis of societal forces affecting special education, teachers, and pupils in an urban environment. Emphasis on social-political-economic and human-relations factors operant in special education programs. Prereq: grad st; cons instr.

950 Seminar: Research on Mental Retardation. 3 cr. G.

Review of literature in mental retardation. Evaluation of recent research. Prereq: grad st; ExcEduc 640.

953 Semnr-Resrch on Early Intrvntn: Infnts/Young Chldrn w/Spcl Needs & Families. **3 cr. G.**

Analysis of research and contemporary issues in early intervention for infants, toddlers, and preschoolers with special needs and their families. Prereq: grad st; ExcEduc 630 or 640 or cons instr.

955 Seminar: Research on Students with Severe Handicaps. 3 cr. G.

Analysis of the contemporary issues and trends in the field of the education of students with severe handicaps. Prereq: grad st; ExcEduc 556 or cons instr.

960 Seminar: Administration/Supervision of Programs for Exceptional Individuals. **3 cr. G.** Administration, supervision, philosophy, organization, and federal and state legislation affecting individuals with handicapping conditions. Prereq: grad st; ExcEduc 300 or 600.

961 Advanced Analysis and Design of Student Service and Special Education **Administration. 3 cr. G.**

Advanced analysis and design of organization and leadership of integrated comprehensive services for all learners. Prereq: grad st; ExcEduc 861(P).

975 Seminar: Research on Individuals with Hearing Impairments. 3 cr. G.

Review of literature on hearing impairments and education of individuals with hearing

impairments. Evaluation of recent research. Prereq: grad st; ExcEduc 650.

990 Research or Thesis. 1-6 cr. G.

Prereq: grad st & cons instr.

999 Independent Reading. 1-3 cr. G.

For benefit of superior graduate students unable to secure needed content in regular courses. Prereq: grad st; cons instr.

Executive MBA

Admission

Applicants for the Executive MBA Program must meet [Graduate School requirements](#) and additional program standards as specified below:

- Eight or more years of professional experience preferred, including significant management experience, and nomination of the employing organizations.
- Applicants are reviewed by the Master's Program Committee of the Lubar School of Business. The admission recommendations are based upon:
 - Academic achievement and ability to do intensive graduate-level work
 - Nature of managerial experience
 - Contribution to the varied skills of the class
 - Ability and willingness of the individual and the employer to make a 17-month commitment to the program.
 - Proof of competency in the four foundation requirement areas of financial accounting, macroeconomics, mathematics review, and team building and business communications through coursework, or through examinations as approved by the Master's Program faculty committee. Students are also assumed to have basic proficiency in the use of word processing, spreadsheet, presentation, and Web-browsing software.

See <http://www4.uwm.edu/business/programs/mba/> for additional information.

Major Professor as Advisor

The student in the Executive MBA Program is not assigned an advisor or major professor. Questions about the student's program of study, courses or regulations should be directed to the EMBA Director, Lubar N471, (414) 229-6045.

Credits and Courses

Students admitted to the Executive MBA Program will take the following courses.

Required Courses - 43 credits

Exceptional Education

Bus Mgmt 704 Accounting Analysis and Control

Bus Mgmt 705 Corporate Finance

Bus Mgmt 706 Managing in a Dynamic Environment

Bus Mgmt 707 Information Technology for Competitive Advantage

Bus Mgmt 708 Marketing Strategy: Concepts and Practice

Bus Mgmt 709 Business Analysis

Bus Mgmt 711 Competitive Operations Strategy

Bus Mgmt 712 Strategic Management

Bus Mgmt 713 Entrepreneurship: Venture Creation & Management

Bus Mgmt 714 Managing People and the Role of the General Manager

Bus Mgmt 716 International Business Management

Bus Adm 752 Corporate Economics

Bus Adm 795 Seminar-in-Management (7 credits to be completed, e.g. Strategy Formulation, Business Ethics, Managerial Accounting, Developing Leaders, Mergers and Acquisitions, Digital Marketing, International Business Simulation, Legal Issues, Innovation Strategy for Managers & Leaders, etc.)

Thesis

Not required.

Comprehensive Examination

Not required.

Freshwater Sciences

School/College: School of Freshwater Sciences

- [Freshwater Sciences Faculty](#)

Degree Conferred:

- M.S. in Freshwater Sciences and Technology
- Ph.D. in Freshwater Sciences

Overview

The School of Freshwater Sciences offers a graduate program of studies providing students with advanced training and education in four areas: Freshwater System Dynamics; Human and Ecosystem Health; Freshwater Technology; and Freshwater Policy and Economics. Each of these focus areas is interrelated with the others, and includes biologic, physical, technologic and policy aspects of freshwater.

The Master of Science program has two tracks designed to provide a strong foundation necessary for the training of graduates that will utilize novel approaches to the sustainable and equitable use and management of freshwater systems worldwide. The Doctor of Philosophy program is a research degree designed to explore and discover novel approaches to the sustainable and equitable use and management of freshwater systems worldwide. These programs will create an interdisciplinary atmosphere for training the next generation of scientists armed with the knowledge, skills and experience to anticipate and address the freshwater issues of the future.

Timely application is encouraged for students seeking financial support. When applying for admission, applicants should describe as completely as possible their specific research interests within freshwater sciences. Applicants are strongly encouraged to establish contact, before or during the application process, with Freshwater Sciences faculty members whose research interests are closest to their own, regarding the likelihood of one serving as the student's major professor.

Graduate Faculty

Professors

Carvan, Michael, Ph.D., Texas A&M University
 Garman, David, Ph.D., University of Sydney
 Grundl, Timothy, Ph.D., Colorado School of Mines
 Guo, Laodong, Ph.D., Texas A&M University
 Janssen, John, Ph.D., Michigan State University
 Klaper, Rebecca, Ph.D., University of Georgia
 Klump, J. Val, Ph.D., University of North Carolina

McLellan, Sandra, Ph.D., University of Cincinnati

Associate Professors

Bootsma, Harvey, Ph.D., University of Manitoba
 Kaster, Jerry, Ph.D., University of Colorado
 Kehl, Jenny, Ph.D., University of Colorado-Boulder

Assistant Professors

Sepulveda Villet, Osvaldo Jhonatan, Ph.D., University of Toledo
 Smith, Matthew, Ph.D., University of Tasmania
 Waples, James, Ph.D., University of Wisconsin-Milwaukee
 Newton, Ryan, Ph.D., University of Wisconsin-Madison

Non-Faculty Scientists

Cuhel, Russell, Ph.D., Massachusetts Institute of Technology & Woods Hole Oceanographic Institution
 Deng, Dong-Fang, Ph.D., University of California-Davis

Associate Scientist

Aguilar-Diaz, Carmen, Ph.D., University of Wisconsin-Milwaukee

Affiliate Faculty

Distinguished Professor

Hutz, Reinhold, Ph.D., Michigan State University (Biological Sciences)

Associate Professors

Berges, John, Ph.D., University of British Columbia (Biological Sciences)
 Xu, Shangping, Ph.D., Princeton University (Geosciences)
 Young, Erica, Ph.D., Monash University (Biological Sciences)

Assistant Professor

Chang, Woo-Jin, Ph.D., Inha University (Mechanical Engineering)

Affiliate Non-Faculty Senior Scientists

Binkowski, Frederick, M.S., University of Wisconsin-Milwaukee

Master of Science in Freshwater Sciences and Technology

Admission

Prerequisite Coursework

The following prerequisites are strongly recommended:

1. At least one semester coursework in three of the following at the college level: chemistry, biological sciences, physics, and calculus.
2. One additional semester of chemistry, biological sciences, or physics.

Admission will be considered based upon the applicant's academic and/or professional background, proposed course of study, and possible additional coursework once in the degree program, should important preparatory gaps be identified.

Other requirements

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. A bachelor's degree in biology, chemistry, economics, geosciences, mathematics, physics, public policy, or other appropriate natural science, social science or engineering discipline.
2. A minimum GPA of 3.0.
3. Submission of scores on the General Test of the [Graduate Record Examination](#) (This requirement is optional for Professional Track applicants.).
4. Three letters of recommendation from persons familiar with the applicant's scholarship and/or research potential.

The student must indicate in the Statement of Purpose (part of the formalized application process) the track to which they are applying and the intended focus of their M.S. studies. The statement must also indicate how their previous education has prepared them for graduate studies.

Critical skills required for the successful completion of the M.S. program include research design, data analysis, and effective communication of research results.

Thesis Track

Major Professor as Advisor

Students in the thesis track must be accepted by a faculty member who will serve as the initial major professor, and be primarily responsible for matriculation. Acceptance or agreement by a faculty member does not constitute formal acceptance into the School of Freshwater Sciences. Prospective thesis-track students are strongly encouraged to communicate with the prospective major professors early in the admission process.

A plan of study is required that identifies the planned courses and timeline for completion of the degree. For the thesis track, this includes coursework and proposed research and is planned by the student in consultation with the major professor and must be approved by the Thesis Advisory Committee.

Thesis Advisory Committee

The membership of the Thesis Advisory Committee should be established by the end of the student's first semester. The Committee

Freshwater Sciences

must consist of three members including the M.S. student's advisor as chair (or co-advisors as co-chairs who are graduate faculty members from the School of Freshwater Sciences) and at least two additional members, one of whom must come from outside the student's research focus. Consideration will be given to the inclusion of one external, non-UWM member of the committee. If included as part of the committee, this person would participate in the thesis defense examination. The Committee must meet at least once a year to monitor the student's academic and research progress.

Credits and Courses

Minimum degree requirement is 30 graduate credits.

Required core courses (9 credits)

Frshwtr 502 Aquatic Ecosystem Dynamics
Frshwtr 504 Freshwater Analysis
One of the following:
Frshwtr 506 Environmental Health of Freshwater Ecosystems
Frshwtr 508 Freshwater Engineering
Frshwtr 510 Economics, Policy & Management of Water

Elective courses (9-12 credits)

To be selected in consultation with the students major professor.

Seminars and Practica (6 credits)

Two 901 Seminar in Freshwater Sciences (1 credit each)
Two 512 Freshwater Sciences Practicum (2 credits each)

Thesis (up to 6 credits)

Credits and Courses

For students admitted Spring 2018 or later

Minimum degree requirement is 31 graduate credits.

Choose three of the following (9 credits)

Frshwtr 502 Aquatic Ecosystem Dynamics (3 cr)
Frshwtr 504 Freshwater Analysis (3 cr)
Frshwtr 506 Environmental Health of Freshwater Ecosystems (3 cr)
Frshwtr 508 Freshwater Engineering (3 cr)
Frshwtr 510 Economics, Policy & Management of Water (3 cr)

Choose one of the following (3 credits)

Frshwtr 513 Field Experimentation and Analysis in Freshwater Sciences (3 cr)
Frshwtr 514 Analytical Techniques in Freshwater Sciences (3 cr)

Required courses (4 credits)

English 890 Science, Communication and Public Engagement (3 cr)
Frshwtr 900 Colloquium in Freshwater Science (1 credit)

Elective courses (9 credits)

To be selected in consultation with the student's major professor.

Thesis (up to 6 credits)

Proposal Defense and Preliminary Oral Examination

The student must complete a formal oral defense of her or his written thesis proposal. This defense should be made before the end the third semester and will also serve as the preliminary oral examination. The Thesis Committee decides by simple majority whether the student passes, fails, or must repeat the examination or defense. At the discretion of the Committee, a student who fails the defense or examination may be allowed one additional attempt at successful completion.

Thesis

The thesis is conducted with oversight from the student's Advisory Committee. The thesis research is expected to be of a caliber sufficient for publication in a peer-reviewed journal. Satisfactory completion of the thesis, including successful defense, is required for graduation. Up to six credits may be awarded for thesis research.

Please see the [Graduate School thesis and dissertation formatting requirements](#) for further information.

Thesis defense

The thesis defense is a public presentation of the thesis research followed by an oral defense administered by the Advisory Committee.

Time Limit

All degree requirements must be completed within five years of initial enrollment.

Professional Science Track

Major Professor as Advisor

Upon admission to the program, each student in the professional track will be assigned an initial advisor based on their background. The initial advisor will provide counseling to the students and help to identify goals and objectives of their graduate education. Students should identify their permanent advisor during the first semester in the program. The advisor will oversee the student's internship.

A plan of study is required and planned by the student in consultation with his or her advisor and the internship coordinators of the program. The plan of study identifies the planned courses and timeline for completion of the degree coursework and internship.

Credits and Courses

Minimum degree requirement is 36 graduate credits.

Required science core courses (12 credits)

Frshwtr 502 Aquatic Ecosystem Dynamics
Frshwtr 504 Freshwater Analysis
Pick two of the following three courses:
Frshwtr 506 Environmental Health of Freshwater Ecosystems
Frshwtr 508 Freshwater Engineering
Frshwtr 510 Economics, Policy & Management of Water

Required professional core courses (choose 9 credits)

Frshwtr 810 Professional Development for Water Leaders
BusMgmt 706 Managing in a Dynamic Environment
BusMgmt 723 Managing and Negotiating Across Cultures
BusMgmt 715 Leadership, Team Building, and Effective Management
Philos 337 Environmental Ethics
[Substitute courses](#) as approved by program director

Elective courses (12 credits)

To be selected in consultation with the students major professor.

Graduate internship (3 credits)

Frshwtr 980 Graduate Internship

Credits and Courses

For students admitted Spring 2018 or later

Minimum degree requirement is 32 graduate credits.

Required courses (19 credits)

Frshwtr 502 Aquatic Ecosystem Dynamics (3 cr)
Frshwtr 504 Freshwater Analysis (3 cr)*
Frshwtr 513 Field Experimentation and Analysis in Freshwater Sciences (3 cr)
Frshwtr 514 Analytical Techniques in Freshwater Sciences (3 cr)
Frshwtr 900 Colloquium in Freshwater Sciences (1 cr)
Frshwtr 810 Professional Development for Water Leaders (3 cr)
English 890 Science, Communication and Public Engagement (3 cr)

Pick one of the following three courses: (3 credits)

Frshwtr 506 Environmental Health of Freshwater Ecosystems (3 cr)
Frshwtr 508 Aquatic Technologies (3 cr)
Frshwtr 510 Economics, Policy & Management of Water (3 cr)

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Elective courses (9 credits)

To be selected in consultation with the students major advisor.

Graduate internship (1 credit)

Frshwtr 980 Graduate Internship

Internship

All students in the professional science track are required to participate in an internship research experience (3 credits), generally between the first and second years of the program. Internship experiences will center on complex regional, national, and global water problems and support student learning relative to identified content, skill, and practice targets. Internship experiences will require learners to apply what they learn to authentic, practical problems in the field, both locally and, potentially, across the globe. The program coordinators will provide resources for students to secure research internship opportunities with regional, national, and international partners in industry, government, and non-profit sectors. It will be the responsibility of the student and advisor to identify the direct supervisor within a specific organization and submit a proposed plan of study that identifies goals and objectives for their internship experience. Proposals will be reviewed by the program coordinators and approved based on how the internship experience meets program goals, the feasibility of the proposed plan, and the qualifications of the internship supervisor. Alternatively, a group project may occur in lieu of an internship and should provide students with training and experience in performing professional-level work that involves managing group dynamics and applying technical expertise to solve complex, multidisciplinary water-related problems.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Freshwater Sciences

Admission

Prerequisite Coursework

The following prerequisites are strongly recommended:

1. At least one semester coursework in three of the following four areas: chemistry, biological sciences, physics, and calculus.
2. One additional semester of chemistry, biological sciences, or physics.

Admission will be considered based upon the applicant's academic and/or professional background, proposed course of study, and possible additional coursework once in the

degree program, should important preparatory gaps be identified.

Other requirements

An applicant must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission:

1. A degree in biology, chemistry, economics, geosciences, mathematics, physics, public policy or other appropriate natural science, social science or engineering discipline.
2. An undergraduate GPA of at least 3.0 (4.0 basis).
3. Submission of scores on the General Test of the [Graduate Record Examination](#).
4. Three letters of recommendation from persons familiar with the applicant's scholarship, research achievements and potential.

A master's degree is not a prerequisite for admission to the Ph.D. program.

Students in the Ph.D. program must be accepted by a faculty member who will serve as the major professor, and be primarily responsible for matriculation. Acceptance or agreement by a faculty member does not constitute formal acceptance into the School of Freshwater Sciences. Applicants are strongly encouraged to communicate with prospective major professors early in the admission process.

Reapplication

A student in the M.S. program, or who receives the master's degree at UWM, must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Residence

The student must meet [Graduate School residence requirements](#).

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Appointment of a major professor will be based on compatibility between a student's preferred research area or area of specialization and a professor's area of specialization.

Course of Study

Students must earn 54 credits beyond the bachelor's degree, of which 24 credits may be taken from formal coursework completed as part of a master's degree. A minimum of 27 credits must be earned in residence at UWM. Students may take up to a maximum of 9 credits of independent study counting toward the degree.

Required courses (5 credits)

Two Frshwtr 900 Colloquium in Freshwater Sciences (1 cr each)
English 890 Science, Communication and Public Engagement (3 cr)

Pick four of the following five courses (12 credits)

Frshwtr 502 Aquatic Ecosystem Dynamics (3 cr)
Frshwtr 504 Freshwater Analysis (3 cr)
Frshwtr 506 Environmental Health of Freshwater Ecosystems (3 cr)
Frshwtr 508 Aquatic Technologies (3 cr)
Frshwtr 510 Economics, Policy & Management of Water (3 cr)

Choose one of the following (3 credits)

Frshwtr 513 Field Experimentation and Analysis in Freshwater Sciences (3 cr)
Frshwtr 514 Analytical Techniques in Freshwater Sciences (3 cr)

Elective courses (17 credits)

Dissertation research (17 credits)

A Program of Study, including coursework and proposed research, is planned by the student in consultation with the major professor, and must be approved by the Committee. A student must present an annual progress report and an updated plan of study to his or her Doctoral Advisory Committee. For students entering with advanced degrees, some of the coursework may already be completed. Requests for counting previously taken courses toward the degree requirements will be evaluated on a case-by-case basis. A minimal grade point average of 3.00 must be earned in coursework, not including research or seminars.

Ph.D. Advisory Committee

The membership of the Ph.D. Advisory Committee will be established by the end of the student's first year. The Committee must consist of five members including the doctoral student's advisor as chair (or co-advisors as co-chairs). A minimum of three members must be from UWM, at least two graduate faculty members from the School of Freshwater Sciences, and two additional members, with consideration given to the inclusion of an external, non UWM member. The Committee must meet at least once a year to monitor and formally report to the faculty on the student's academic and research progress.

Doctoral Preliminary Examination

The preliminary examination must be passed by the end of the second year for the student to continue in the program. Extensions of this deadline must be approved by the Ph.D. Advisory Committee. The examination is in two parts: written and oral. The content of the examination is determined in advance by the student's Advisory Committee, and will include subject matter that is broadly related to the area of research that the student will specialize in, as

Freshwater Sciences

well as content related to the core courses. The Doctoral Committee decides by simple majority whether the student passes, fails, or must retake part or all of the examination. At the discretion of the Committee, a student who fails the examination may be allowed one additional attempt of all or part of the examination. After successful completion of the preliminary examination, the student concentrates on the development and execution of original research.

Dissertation Proposal Hearing

Following successful completion of the doctoral preliminary examination, the student submits a written dissertation proposal to the student's Ph.D. Advisory Committee. The proposal must be submitted within one semester of the successful completion of preliminary exams, and defended by the end of the following semester. Extensions of this deadline must be approved by the Ph.D. Advisory Committee.

Dissertator Status

Specific requirements which must be completed before the Graduate School places a doctoral student in dissertator status are described in the [Doctor of Philosophy Degree](#) requirements section.

Dissertation

During the final year of study, the candidate must present a public seminar on the dissertation research and subsequently prepare and successfully defend a dissertation reporting the results of the candidate's research to the Committee. The original research findings embodied in this dissertation are expected to be accepted for publication in one or more refereed journals.

Please see the [Graduate School thesis and dissertation formatting requirements](#) for further information.

Dissertation Defense

As the final step toward the degree the candidate must defend the dissertation before the Ph.D. Advisory Committee.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

461 Politics and Policy of Sustainability. 3 cr. U/G.

Principles of environmental policy, governance, and management for global sustainability. CES 461, Frshwtr 461, & Global 461 are jointly offered; they count as repeats of one another. Prereq: jr st; CES 210(P) or cons instr.

464 Chemical Hydrogeology. 3 cr. U/G.

Natural chemical processes that occur in groundwater systems, how they are modified by human activity and contamination, and attempts

to regulate them. Lec, lab. Frshwtr 464 & Geo Sci 464 are jointly offered; they count as repeats of one another. Prereq: jr st; Chem 102(P)

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

502 Aquatic Ecosystem Dynamics. 3 cr. U/G.

Interdisciplinary, quantitative approach to understanding large lake dynamic processes, including geological formation, hydrology, hydrodynamics, chemistry and the dynamics of plankton and fish communities. Prereq: jr st; 1 sem calculus or algebra; 2 sem Physics, Chem, or Bio Sci; or cons instr.

504 Quantitative Freshwater Analysis. 3 cr. U/G.

A fundamental set of tools for the quantitative analysis of environmental data sets, with an emphasis on the calculation of reservoirs, residence times and rates in aquatic systems. Prereq: jr st; 1 sem calculus, Physics, Chem, & Bio Sci; or cons instr.

506 Environmental Health of Freshwater Ecosystems. 3 cr. U/G.

The influences of human-induced environmental change on the health of freshwater ecosystems and humans who interact with these systems. Prereq: jr st.

508 Freshwater Engineering. 3 cr. U/G.

Engineering principles of freshwater resources, including hydrology, hydraulics, water chemistry, water and wastewater treatment technologies. Prereq: jr st.

508 (effective 09/05/2017) Aquatic Technologies. 3 cr. U/G.

Interdisciplinary perspective on the function, application and development of technologies used in the aquatic sciences. Prereq: jr st.

510 Economics, Policy and Management of Water. 3 cr. U/G.

The impact of economics, policy and management decisions on our freshwater resources and how science and economics affect these decisions. Prereq: jr st.

511 Ichthyology. 3 cr. U/G.

The diverse biology of fishes focusing on behavioral, biomechanical, genetic, and physiological adaptations to diverse ecological systems. Bio Sci 511 & Frshwtr 511 are jointly offered; they count as repeats of one another. Prereq: jr st; grade of C or better in Bio Sci 310(P); or cons instr.

512 Freshwater Sciences Practicum: (Subtitled). 2-4 cr. U/G.

Diverse opportunities for practical, hands-on experience in the practice of freshwater science with emphasis on team work, problem solving, field work, and dissemination of results. Retakable w/chg in topic to 9 cr max. Prereq: jr st, Frshwtr 502(P) & 504(P); or cons instr.

513 (effective 09/05/2017) Field Experimentation and Analysis in Freshwater Sciences. 3 cr. U/G.

Student acquisition of comprehensive investigative procedures in freshwater ecology focusing on field and laboratory interactive assignments. Prereq: jr st; Bio Sci 152(P); Chem 104(P); or grad st.

514 (effective 01/22/2018) Analytical Techniques in Freshwater Sciences. 3 cr. U/G.

Modern analytical techniques and genomics principles and methods in freshwater sciences. Counts as repeat of Frshwtr 650 w/same topic. Prereq: jr st; Bio Sci 152(P); Chem 104(P); or grad st.

522 Aquatic Organic Biogeochemistry. 3 cr. U/G.

Fluxes and biogeochemical cycling pathways of dissolved, colloidal and particulate organic matter across interfaces in aquatic systems. Prereq: jr st & 1 sem Chem; or cons instr.

524 Aquatic Isotope Biogeochemistry. 3 cr. U/G.

Principles and applications of stable and radioactive isotopes and other biogeochemical tracers in aquatic environments. Prereq: jr st.

525 Advanced Ecology of Aquatic and Terrestrial Ecosystems. 3 cr. U/G.

Advanced ecological theory and its applications to aquatic and terrestrial ecosystems. Prereq: jr st; a college-level course in General Ecology or equiv.

562 Principles of Aquaculture Systems. 3 cr. U/G.

Physical and chemical aspects of intensive & recirculating operations of aquaculture production systems. Prereq: jr st; BioSci 152 (P); Chem 104(P); Math 116(P).

563 Finfish Aquaculture and Nutrition Principles. 3 cr. U/G.

Principles of aquaculture and fish nutrition; emphasis on Great Lakes; future challenges to aquaculture development in North America. Prereq: jr st; Bio Sci 152(P); Chem 104(P).

564 Water Quality in Aquaculture. 3 cr. U/G.

Principles of water chemistry & microbial conversion of nutrients; microorganisms that impact fish health; for successful operation of intensive aquaculture operations. Prereq: jr st; Bio Sci 152(P); Chem 104(P).

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565 Fish Health. 3 cr. U/G.

Overview of current and emerging fish diseases and treatment strategies to diagnose and identify pathogens and disease to mitigate spread of disease. Prereq: jr st; Bio Sci 152(P); Chem 104(P).

584 Aquatic Ecosystem Services Valuation. 3 cr. U/G.

Economic theory and methods in valuing aquatic and related terrestrial ecosystems. Counts as repeat of Frshwtr 650 with same topic. Prereq: jr st.

610 Freshwater Inland Seas. 3 cr. U/G.

An oceanographic approach to the study of freshwater inland seas with regard to geology, hydrodynamics, climate, interactions with land, wetlands, streams, and biota interactions. Prereq: jr st; one upper-division natural science course.

611 Environmental Change and Freshwater Ecosystem Health. 3 cr. U/G.

An integrated, holistic approach to the impacts of global climate change on freshwater ecosystems from the population to the molecular levels. Prereq: jr st; one upper-division natural science course.

621 (Bio Sci 521) Benthic Ecology. 3 cr. U/G.

Chemophysical and biological interactions in freshwater and marine systems. Emphasis on invertebrate ecology. 2 hrs lec, 4 hrs lab. Req'd field work for which fee is assessed. Prereq: sr st & cons instr; or grad st.

650 Topics in Freshwater Sciences: (Subtitled). 1-3 cr. U/G.

Current issues in freshwater sciences. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

781 Water Law for Scientists and Policy Makers. (Subtitled). 3 cr. G.

The course is formatted to provide five (5) classes each on the Clean Water Act and basic common law concepts of Water Law; The Great Lakes Compact; and Wisconsin's Groundwater Protection Act. Counts as repeat of Frsh Wtr 650 with similar topic. Prereq: grad st.

782 Water Resources Planning. 3 cr. G.

Emphasis on planning for water across the water cycle (surface, groundwater, wetlands, etc.), integrating non-water resources (habitat, energy, GHG emissions, etc.) in an urban context. Jointly offered with & counts as repeat of UrbPlan 782. Prereq: grad st.

790 Freshwater Policy and Governance. 3 cr. G.

The main theoretical frameworks used in public policy to study environmental problems. Prereq: grad st.

810 Professional Development for Water Leaders. 3 cr. G.

Exploration of skill set needed for lifelong career development: research ethics, communications, teamwork, interpersonal relationships, administration, entrepreneurship, project management, and leadership. Counts as repeat of FrshWtr 650 with similar topic. Prereq: grad st.

822 Molecular & Cellular Basis of Environmental Disease. 3 cr. G.

Examines how environmental agents cause changes in gene expression, structure, and activity leading to disease; and resulting alterations in normal cellular processes and physiological consequences. Frshwtr 822 & EOH 822 are jointly-offered; they count as repeats of one another. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for grad students who must meet minimum credit load requirement. Fee for 1 credit assessed. Prereq: grad st; cons instr.

900 Colloquium in Freshwater Sciences. 1 cr. G.

Lectures by staff and visitors on research in various areas of freshwater sciences. Prereq: grad st

901 Seminar in Freshwater Sciences: (Subtitled). 1-3 cr. G.

Seminar on topics of current interest in freshwater sciences. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

980 Graduate Internship. 1-3 cr. G.

Students earn credits for serving in an internship that involves work related to freshwater sciences disciplines. They must prepare a report based on the internship. Retakable w/chg in topic to 6 cr max. Satisfactory/Unsatisfactory only. Prereq: grad st; cons instr.

985 Master's Research and Thesis. 1-6 cr. G.

Research and writing of the master's thesis under the supervision of the major professor. Prereq: grad st; cons instr.

990 Doctoral Research and Dissertation. 1-9 cr. G.

Research and writing of the doctoral dissertation under the supervision of the major professor. Prereq: grad st; cons instr.

999 Independent Study. 1-3 cr. G.

For graduate students unable to secure needed content in regular courses. Retakable w/ chg in topic to 6 cr max. Prereq: grad st; cons instr.

Geography

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Geography
- M.S. in Geography
- Ph.D. in Geography

Related Certificates

- [Certificate in Geographic Information Systems \(GIS\)](#)

Overview

The Department of Geography offers master's programs of study across a range of systematic, regional, and technical fields, and an innovative Ph.D. program focused on the urban environment. The department's strengths lie in three areas of expertise that are incorporated into the programs at both master's and Ph.D. levels. The areas are:

- **Urban Development:** This area primarily emphasizes the role of economic systems as well as cultural and social forces that shape the landscape and dynamics of urban areas. Courses examine such issues as urban growth and change, race and ethnicity in the city, cultural and physical aspects of urban planning process, and the geography of urban political decision-making.
- **Physical Geography and Environmental Studies:** This area addresses the interactions among natural forms and processes on the earth's surface and human connections with those natural phenomena. Coursework in this general area discusses the distribution and analysis of earth surface landforms and processes (geomorphology), soils (pedology), plants and animals (biogeography) and long-term atmospheric patterns (climatology). Emphasis is placed on the relationship between the physical environment and people, incorporating studies of, for example, natural hazards, conservation, and environmental change, and paying particular attention to the manifestations of these relationships and processes in the urban environment.
- **International Interests:** Department faculty members have varied international interests and experience, for example, in Africa, Canada, the Caribbean, China, Latin America, South Asia, and Western Europe.

In addition to these departmental strengths, individual faculty members apply their expertise in topics such as remote sensing, GIS, and cartography to problems of the city.

Geography faculty also participate in the certificate program in Geographic Information Systems, which is jointly offered by the College of Letters and Science and the School of Architecture and Urban Planning.

While the master's program offers a more traditional structure within which students can strengthen their knowledge of the discipline and one or more of its subfields, the department's unique Ph.D. program is designed to be especially attractive to forward-looking students interested in the urban environment who seek a flexible, versatile, 21st century graduate education with a strong emphasis on interdisciplinarity. The Ph.D. program's urban-environmental theme is inclusive and encompassing of processes and problems associated with the intersection of human and natural environments, strongly focused on "the city" as the entity of engagement. The program breaks with longstanding tradition in the field of geography in stressing a balance between specialized analytical research and synthetic research, between traditional academic research and community engagement, and between research and teaching. It relies heavily on Geographic Information Science (GIS) as a research tool and as an organizing framework.

Facilities and Resources

The University of Wisconsin–Milwaukee is the repository of the venerable American Geographical Society Library, an internationally renowned research resource. The Department of Geography boasts a large instructional Map Collection, which functions as a federal government depository for maps; and a Soils and Physical Geography Laboratory, which supports research projects among several UWM departments.

Microcomputer facilities used by the Geography Department for instruction include two PC/Windows workstation labs. Software installed in these labs includes geographic information systems, remote sensing, mapping, illustration, photo editing, desktop publishing, statistical, database management, and word processing packages. Several university DEC Alphas, other microcomputer laboratories, and multimedia facilities also are available for graduate student research.

Other research resources at UWM available to the Geography Department staff and students include the Cartography and GIS Center, the Great Lakes WATER Institute, the Center for Urban Initiatives and Research, the Center for Latin America, the Center for International Education, the Center for Urban Transportation Studies, the Center for Women's Studies, the Institute for Survey and Policy Research, and University Information Technology Services (formerly Information and Media Technologies).

Graduate Faculty

Distinguished Professor

Schwartz, Mark D., Ph.D., University of Kansas

Professors

Ghose, Rina, Ph.D., University of Wisconsin-Milwaukee

Wu, Changshan, Ph.D., Ohio State University

Associate Professors

Bonds, Anne, Ph.D., University of Washington
 Choi, Woonup, Ph.D., University of Illinois at Urbana-Champaign

Donnelly, Alison, Ph.D., Trinity College, Ireland

Fredlund, Glen, Ph.D., University of Kansas

Holifield, Ryan, Ph.D., University of Minnesota

Mansson McGinty, Anna, Ph.D., Lund University, Sweden

McCarthy, Linda, Ph.D., University of Minnesota

Sziarto, Kristin, Ph.D., University of Minnesota

Assistant Professors

Xu, Zengwang, Ph.D., Texas A&M University

Yoon, Hyejin, Ph.D., Ohio State University

Master of Arts/Master of Science in Geography

The M.A. normally is awarded to those who concentrate in cultural or human geography, whereas the M.S. is awarded to those who concentrate in physical geography. Students must elect to pursue either the M.A. or M.S. option during their first semester in the program. A minimum of 6 credits in physical geography or natural science courses appropriate to the student's area of study are required for the M.S. Students may also elect to complete their degree through either a thesis or non-thesis track.

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Evidence of general intellectual ability and compelling interest in geography. An undergraduate major in geography is desirable as evidence of such ability and interest but is not required. Past coursework will be compared to the core requirements of the UWM Geography bachelor's degree in order to determine any deficiencies that need to be satisfied as a condition of acceptance.
2. Submission to the Geography department of three letters of recommendation supporting application.
3. Submission of recent [GRE](#) scores.
4. Departmental approval, based on thorough evaluation of applicant's potential for professional development.

Geography

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Chair of the Graduate Student Administrative Committee is a temporary advisor; within the first semester the student selects an advisor in the student's specialization.

Credits and Courses

Minimum degree requirement is 30 graduate credits with an average GPA of 3.0. The student, in consultation with the advisor, plans a program of studies to include 4 credits in Geography 525 (Geographic Information Science); 4 credits in Geography 547 (Spatial Analysis); 3 credits in Geography 810 (Introduction to Techniques of Research and Presentation); 3 credits in Geography 870 (Contemporary Geographic Approaches); and 12 credits in graduate-level (700 and above) courses approved by the student's advisor (at least 3 of these credits must be in one Geography graduate seminar course). The remaining 4 credits will be earned in the student's capstone project (see Thesis Track and Non-Thesis Track information below). The student also must attend Geography colloquia regularly while in residence and must present her/his thesis research at a departmental colloquium.

Thesis Track

The student must register at least 4 credits of Geog 890: Research and Master's Thesis (approved by the student's advisor). In addition, the student, through the advisor, must present a proposed thesis topic and Advisory Committee to the Graduate Faculty of the Department for its approval. For students electing the M.S. option, the Faculty will also judge the appropriateness of the thesis topic for that degree. The student must then write a thesis acceptable to the major professor for presentation to the Advisory Committee (two faculty in addition to the advisor). The defense date for the thesis must be set at least two weeks prior to the Graduate School deadline for completion of all work. The thesis must be approved by the advisor and delivered to the committee at least six weeks prior to the defense date. Students must submit the thesis to the advisor in sufficient time to meet the committee deadline. Exceptions to these deadlines under unusual circumstances must be approved unanimously by the student's committee.

In addition to submission of the final thesis to the Graduate School (according to their required procedure), the candidate must present the Geography Department with a professionally hard-bound copy which meets Graduate School specifications for quality. This copy will remain on file in the department.

Non-Thesis Track

This track is intended for students who are not interested in continuing their graduate education beyond the master's degree, and plan to seek professional employment. The M.A. degree will normally be awarded upon completion of this track. Those who wish a M.S. degree must formally petition the Graduate Faculty in writing, providing a rationale as to why that degree is appropriate to their program. The student must complete at least 4 credits of graduate work (approved by the student's advisor) as either:

1. **Two research papers (Geog 999)**
2. Students pursuing the non-thesis track through the two research paper option must choose two separate topics, and conduct extended literature reviews on the topics, although other possibilities, such as a small research project, should not be excluded. The papers are expected to be 25-50 pages apiece. The student is expected to have an oral defense with three committee members regarding the two papers. According to current guidelines, the student is not expected to present his/her papers to the colloquium series
3. OR
4. **A graduate internship (Geog 698 or Geog 889—note that Geog 810 is a prerequisite for Geog 889)**
5. Students pursuing the non-thesis track through the graduate internship should conduct at least 180 hours of internship. The internship should be related to the student's academic area of interest and must be approved by the advisor. The student is expected to write a scholarly paper of 25-50 pages length that connects the internship to the appropriate literature. The student must have a committee of three faculty members, and is expected to go through an oral defense with the committee members regarding the internship paper. According to current guidelines, the student is not expected to present his/her internship paper to the colloquium series.

Comprehensive Examination

In combination with the thesis defense (or after completion of the work for the non-thesis track), the student must pass a final oral examination over the field of geography, administered by the student's Advisory Committee. Scheduling this examination during the summer is not permitted except under unusual academic circumstances and with the approval of the department faculty.

Time Limit

This program is designed to be completed in two years of full-time attendance. The Graduate School requires that all degree requirements be

completed within five years of initial enrollment.

Geography M.A./MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Geography offers an M.A./MLIS coordinated program to prepare students for positions as map librarians. Students in the program will pursue concurrently a Master of Arts in Geography degree program and a Master of Library and Information Science degree program, with an emphasis on Map Librarianship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

The M.A. in Geography normally has a minimum requirement of 24 credits in geography. For the coordinated M.A. Geography/MLIS degree program, however, students can substitute 6 credits in L&I Sci courses for 6 credits of geography. This program, therefore, requires a total of 48 credits. Students must complete the 30 credits required for the MLIS degree and the 18 credits in Geography courses specified below.

Geog 525 Geographic Information Science, 4 cr
Geog 547 Spatial Analysis, 3 cr
Geog 810 Introduction to Techniques of Research and Presentation, 3 cr
Geog 870 Contemporary Geographic Approaches: (Subtitle), 3 cr
Geog 900-level course, 3 cr
Geog Any graduate course, 2 cr

Students are encouraged to take L&I Sci 683 Cartographic Resources in Libraries (3 cr) as one of the two L&I Sci courses that substitute for 6 credits of geography.

The Geography Department offers opportunities for fieldwork that may count toward these requirements. In addition to off-campus fieldwork, the American Geographical Society Collection at the UWM Golda Meir Library provides many unique opportunities for map librarianship fieldwork and is an appropriate site for an internship.

Graduates of the program are qualified to assume positions as curators and staff members in map collections of universities, governmental agencies, and industry. In cases where map collections are not of sufficient size to warrant separation as distinct collections, knowledge of how to store, classify, and retrieve maps will be a valuable set of skills that enhance the qualifications of the information professional.

For more information on this program, see the Library and Information Science section of this Bulletin.

Geography

Doctor of Philosophy in Geography

Admission

An applicant must meet [Graduate School requirements](#) to be considered for admission to the program. Students from a wide range of disciplinary backgrounds may be admitted. They must present the following credentials:

1. Master's degree.
2. Statement of interest in the program.
3. Substantial evidence of scholarly potential and commitment.
4. Three letters of recommendation, submitted to the Geography Department.
5. Recent (within five years) [GRE](#) scores.

In some instances where the applicant's record demonstrates exceptional promise, the Department will consider applications for admission to the Ph.D. program directly from a B.A./B.S. degree. Such admission does not constitute a waiver of any of the requirements indicated below.

The Graduate Program Committee, during the admission process, will evaluate an applicant's academic background and will assign deficiencies based on a comparison of his/her background and the proposed specific area of study as outlined in the student's statement of interest. In general, the department seeks students with:

1. Potential for planning and successfully completing an independent scientific research project, as evidenced by a master's thesis and/or other appropriate materials;
2. Basic statistical analysis skills;
3. Interest and/or ability in evaluating problems related to the urban environment with a spatial framework; and
4. Interest in examining research questions within a multi-disciplinary (human/physical) team environment.

Reapplication

A student who receives the master's degree from UWM must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Major Advisor and Committee

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations; the student may not register for any courses without that advisor's prior approval. The Chair of the Graduate Student Administrative Committee is a temporary advisor; within the first semester the student selects an advisor within the area of specialization. Each student, preferably after completion of the first year of study, also will select four additional members of the

faculty/qualified professions to form his/her advisory committee. A majority of the committee members must be core geography faculty members. Affiliated faculty members from other departments may serve as major advisors.

Graduate Student Orientation

All new students are expected to participate in the department orientation program, offered during the week prior to the start of fall classes. If a student enters the program in the spring, s/he must participate in this program during the subsequent fall semester. New students will be paired with an experienced student mentor during their first year. Instructional opportunities sponsored by the Center for Instruction and Professional Development (CIPD) and the Preparing Future Faculty (PFF) initiative will be offered to all teaching assistants and other interested students enrolled in the doctoral program.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM with a minimum GPA of 3.0.

Under the guidance of the advisory committee, the chair of which serves as the student's major professor, the student plans a program of study leading to the development of a special interest. All programs of study contain the following four elements: core concepts and methods, thematic focus, elective courses (as needed to meet the total credit requirement), and dissertation.

Core Concepts and Methods

All students must take the following foundation courses:

Geog 525 Geographic Information Systems
Geog 870 Contemporary Geographic Approaches
Any Geography graduate seminar

One of the following three courses:

Geog 403 Remote Sensing: Environmental and Land Use Analysis
Geog 547 Spatial Analysis
Geog 727 Qualitative Research

Thematic Focus (at least three courses)

Students, in consultation with their advisor, must select a minimum of three courses that together confer specialized expert knowledge in one thematic area. The courses selected do not have to come from a single list, and they may include other courses not listed.

Local Places: Problems and Issues (relevant courses include)

Geog 441 Geography of Cities and Metropolitan Areas
Geog 455 Applied Climatology

Geog 464 Environmental Problems
Geog 564 Urban Environmental Change and Social Justice
Geog 734 GIS and Society
Geog 945 The Internal Structure of the City
Geo Sci 465 Advanced Environmental Geology
Urb Std 981 Perspectives Toward Change in Urban Social Institutions
UrbPlan 720 Urban Development Theory and Planning

Global and Regional Perspectives (relevant courses include)

Geog 430 Geography of Transportation
Geog 440 City Systems and Metropolitan Development
Geog 443 Cities of the World: Comparative Urban Geography
Geog 540 Globalization and the City
Geog 742 Urban and Regional Dimensions of Globalization
Geog 744 Cities, Regions, and Globalization
Geo Sci 470 Engineering Geology
Urb Std 701 Comparative Urban Development
UrbPlan 780 Seminar in Environmental Planning Issues

Monitoring and Modeling Urban Dynamics (relevant courses include)

Geog 403 Remote Sensing: Environmental and Land Use Analyses (if not taken in core)
Geog 411 Physical Climatology
Geog 420 Methods and Principles in Land Form Geography
Geog 520 Physical Geography of the City
Geog 547 Spatial Analysis (if not taken in core)
Geog 625 Intermediate Geographic Information Science
Geog 650 Geography Field Work
Geog 703 Advanced Remote Sensing
Geog 725 Advanced Geographic Information Science: Geographic Modeling
Geog 727 Qualitative Research (if not taken in core)
Geog 750 Remote Sensing and Urban Analysis
Geo Sci 730 Modeling Techniques for Hydrogeology
UrbPlan 721 Applied Planning Methods

Research Techniques (elective course)

Students who have not taken a research techniques course in their prior graduate program should consult with their faculty advisor regarding their enrollment in Geog 910, Techniques of Research and Presentation, an introduction to theoretical and practical aspects of geographic research, funding, presentation, and publication. Ideally, students should enroll in this course after their first full year of courses, but no later than their fourth semester, after they have completed the majority of CORE requirements. The course is designed to assist students with the initiation of their Ph.D. dissertation research.

Geography

Foreign Language Requirement

If appropriate to the proposed area of study, the student's committee will require that s/he acquire the necessary competence in a foreign language. The major professor will supervise the completion of this requirement with input from the committee as necessary.

Elective Courses

Courses taken from geography or cognate fields to achieve the total of 54 credits required for the Ph.D. degree. Students must have the approval of their advisors for the elective courses.

Dissertation

The candidate must write an acceptable dissertation that demonstrates formulation, design, and independent execution of a significant research project. The dissertation must make an original contribution to knowledge in the field of geography. It may focus on geographical theory, methodology, data, or analysis, or it may involve collaborative approaches, interdisciplinary syntheses, and integrative solutions appropriate to the focus of the student's graduate program of study.

Portfolio Evaluation

By the end of the first full academic year in the program, each student will undergo a formal portfolio evaluation by the members of the faculty in order to determine the student's readiness to continue in the program. This evaluation will include inspection of all written work produced in courses, commentary by relevant instructors, and any other materials the student chooses to submit. The possible outcomes of this review will be:

1. PASS (student continues with the normal second year of their program);
2. FAIL (student is recommended for academic dismissal); or
3. PROBATION (student is counseled to take specific courses or other actions to achieve the necessary readiness to continue in the program). In the case of a recommendation of Probation, the student will be re-evaluated after an additional semester. If this second review does not result in a decision to PASS, the student will be recommended for academic dismissal.

Residence

The student must meet minimum [Graduate School residence requirements](#) of one continuous academic year of full-time graduate studies at UWM. This can be satisfied by completing 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, including summer sessions. Residence credit cannot be earned at the master's level or before the master's degree is awarded.

Doctoral Preliminary Examination

Each student will undergo a comprehensive written and oral examination by the end of his/her sixth semester in the program. The student's committee, advisor, and proposed dissertation topic must be approved formally by the Geography departmental faculty prior to the scheduling of these exams. A Proposed Ph.D. Program/Plan of Study must be filed with the major professor prior to the preliminary examination. Successful completion of these exams leads to candidacy, when work on the dissertation can commence.

The student's advisor, as chair of the advisory committee, will organize and administer the examination. The content of the examination will be determined by the area of the student's interest. The scope of the examination will be determined by the student's advisory committee. A student judged qualified by the majority of the five-member advisory committee will be admitted to candidacy. A student judged not qualified by the majority of the advisory committee will not be admitted to candidacy at the time of the examination but will be given an opportunity to retake the examination once, after a waiting period of at least one semester. At the discretion of the advisory committee, the second examination will be either a complete reexamination or a partial examination over the parts in which the student failed to qualify. A student receiving a negative vote of the advisory committee after the second examination will be recommended for academic dismissal. The student will be informed of the reasons for failure to qualify.

Presentations

Each student must make two presentations at department colloquia. The first presentation will be scheduled early in the student's program; it is designed to give the student experience in making formal presentations. The second presentation will communicate the student's dissertation research topic and preliminary results.

Dissertation

As mentioned above, the candidate must write an acceptable dissertation. The defense date for the dissertation must be set at least two weeks prior to the Graduate School deadline. The dissertation must be approved by the major professor and delivered to the student's advisory committee at least six weeks prior to the defense date. A student must submit the dissertation to the advisor in sufficient time to meet the committee's deadline. Exceptions to these deadlines under unusual circumstances must be approved unanimously by the student's committee.

Dissertation Defense

The candidate must, as the final step toward the degree, defend the dissertation before the advisory committee. If the candidate passes the

defense, the advisory committee will recommend to the Graduate School that a degree of Doctor of Philosophy be conferred.

Submission of Completed Dissertation

In addition to submission of the final dissertation to the Graduate School (according to its required procedure), the candidate must present to the Geography Department a professionally hard-bound copy that meets Graduate School specifications for quality. This copy will remain on file in the department.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Special Issues for Directly Admitted Students

Students directly admitted to the doctoral program after completion of their bachelor's degree will not earn a master's degree during the course of their studies. Further, formal doctoral status (which affects stipend rates and the ability to fulfill the residency requirement) will not be granted until the student has completed 24 credits in the program. Lastly, no more than 12 dissertation credits can be used to satisfy the 54-credit doctoral degree requirement.

Courses

400 Population, Environment, Development. 3 cr. U/G.

Population processes and policies in different geographical contexts: fertility, mortality, migration, and policies affecting these; population-environment relations; interactions of population and economic development. Prereq: jr st; Geog 105(P), 110(P), 114(P), or 140(P).

403 Remote Sensing: Environmental and Land Use Analysis. 4 cr. U/G.

Use of aerial photographs and digital imagery in environmental and land use analysis, including urban areas. 3 hrs lec; 2 hrs lab PC/Windows familiarity recom. Prereq: jr st & Geog 215(P); or grad st.

405 Cartography. 4 cr. U/G.

Thematic cartography; map communication, design principles, illustration and mapping software. 3 hrs lec, 2 hrs lab. Prereq: jr st & Geog 215(P); or grad st.

410 Gendered Geographies. 3 cr. U/G.

Various ways feminist geographers have analyzed gender in relation to phenomena such as the body, home, work, the nation, colonization, and globalization. Prereq: jr st & one of Geog 105(P) or 110(P) or Wmns 200(P) or 201(P) or equiv; or grad st.

Geography

411 Physical Climatology. 3 cr. U/G.

Analyzing climatic processes at the microclimate scale. Budgets of radiation, energy, water, and momentum at the earth's surface, sensible-latent heat, and soil-plant-atmosphere interactions. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

415 Hydrogeography. 3 cr. U/G.

Role of water in geographic systems. Interaction of water with physical and human systems, key hydrological processes, spatial and temporal variations of water, data collection, modeling. Prereq: jr st, Geog 120(P) or 125(P), & Geog 215(P); or grad st.

420 (effective 09/05/2017) Methods and Principles in Land Form Geography. 3 cr. U/G. Geographic qualitative and quantitative methods in land form analysis and principles of landscape evolution. Prereq: jr st & Geog 120(P) or 121(P) or Geo Sci 100(P).

420 Methods and Principles in Land Form Geography. 3 cr. U/G.

Geographic qualitative and quantitative methods in land form analysis and principles of landscape evolution. Prereq: jr st & Geog 120(P) or 121(P) or Geo Sci 101(P).

421 Geography of Latin America. 3 cr. U/G.

Topical and regional analysis of physical features, discovery and exploration, processes of settlement, evolution of the landscape, and problems of development through modern times. Prereq: jr st & Geog 110(P) or 120(P) or 125(P); or grad st.

424 Karst Geomorphology. 3 cr. U/G.

Description and analysis of karst (limestone) processes and landforms. Prereq: jr st; Geog 004(P), 120(P) or cons instr.

430 Geography of Transportation. 3 cr. U/G.

Geographic analysis of transportation, with emphasis on commodity flows and traffic patterns. Prereq: jr st; Geog 115(P).

441 Geography of Cities and Metropolitan Areas. 3 cr. U/G.

Extent, localization, and geographic relations of land uses, facilities, and internal circulation, with particular reference to large North American cities. Prereq: jr st & intro course in geog or acceptable course in an urban related field, e.g. Econ, UrbPlan, Urb Std; or grad st.

443 Cities of the World: Comparative Urban Geography. 3 cr. U/G.

Geographic analysis of world urban systems with emphasis on the cultural traditions, form, function and socio-economic development of cities. Prereq: jr st & Geog 110(P), 115(P), or 140(P).

450 Climates of the Past and Climate Change. 3 cr. U/G.

Climatic history of the earth and climate models. Milankovitch theory, quaternary climates, temporal-spatial scales of change, general circulation, and earth system models. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

455 Applied Climatology. 3 cr. U/G.

Applications of climate processes and data. Solar energy, wind energy, food production, water usage, building design, urban environments, ecological assessment, and land form development. Prereq: jr st, Geog 120(P) or Atm Sci 100(P) or 240(P), & Geog 310(R); or grad st.

462 Cultural Geography of Latin America. 3 cr. U/G.

Development of cultural landscapes, with emphasis on land use and environmental change resulting from European introductions; historical explanation of modern landscapes and environmental problems. Prereq: jr st; one of Geog 105(P), 110(P), 421(P), 422(P), Hist 180(P), 388(P), 389(P), or 390(P).

464 Environmental Problems. 3 cr. U/G.

General discussion and case studies of geographical contexts and historical roots of modern environmental problems. History of human concern over adverse environmental impacts. Prereq: jr st & an intro course in a life science or environmental science.

470 Geography of South Asia. 3 cr. U/G.

Survey of the historical, cultural and economic geography of South Asia, including India and adjacent countries. Prereq: jr st; intro Geog, Anthro, or Econ course.

475 Geography of Soils. 3 cr. U/G.

Systematic and regional study of soils, interrelationships of soils with the physical and cultural landscape. 2 hrs lec, 2 hrs lab. Prereq: jr st; Geog 120(P), 121(P), or 125(P) or equiv.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

515 Watershed Analysis and Modeling. 3 cr. U/G.

Theories and applications of analytical and modeling techniques for watershed processes, including geographic information systems (GIS), statistics, and computer simulations. Prereq: jr st; working knowledge of GIS; Geog 415(R) or Geo Sci 463(R) or 562(R); or grad st.

525 Physical Geography of the City. 3 cr. U/G.

Spatial aspects and interactions of plants, animals, climate, soils, and water resources relevant to human activities in the urban environment. Prereq: jr st & Geog 120(P) or 125(P); or grad st.

525 Geographic Information Science. 4 cr. U/G.

Geographic and information theoretical foundations of geographic information science (GIS). Use of macro languages in a software project to expand GIS functionality. 3 hrs lec, 2 hrs lab. Prereq: jr st, & Geog 215(P); or grad st.

540 Globalization and the City. 3 cr. U/G.

Spatial aspects of globalization and their impact on the city. Topics include emergence of global cities, impacts on urban development, and global era urban strategies. Prereq: jr st.

547 Spatial Analysis. 4 cr. U/G.

Advanced analysis techniques, including multivariate relationships and spatial modeling. Prereq: jr st; Geog 247(P) or dept-approved equiv.

564 Urban Environmental Change and Social Justice. 3 cr. U/G.

Spatial aspects of contributors to urban environmental change affecting social justice. Inequitable distribution of environmental risks and benefits; challenge of developing policies. Prereq: jr st.

625 Intermediate Geographic Information Science. 4 cr. U/G.

Concepts and techniques of geographic information science (GIS), with emphasis on GIS-based spatial analysis, associated applications, and technology. 3 hrs lec, 2 hrs lab. Prereq: jr st; Geog 525(P) or UrbPlan 591(P) or 791(P); or cons instr.

647 ArcGIS Programming with Python. 4 cr. U/G.

Fundamentals of Python programming language; focus on programming designed to automate ArcGIS geoprocessing tasks, manipulate spatial data (including geometries and rasters), and create customized tools. Prereq: jr st; C+ or better in Geog 525(P) or cons instr or grad st.

650 Geography Field Work. 3 cr. U/G.

Geographic field techniques and field problems; classroom preparations and field projects. Students will pay fieldwork expenses. Retakable w/chg in topic to 9 cr max. Prereq: jr st; writ cons instr.

654 Tropical Field Course: (Subtitled). 3 cr. U/G.

Study of geographic field problems and techniques in the tropics. Classroom preparations, field projects and field trip to the tropics. Students will pay field trip expenses.

Geography

Retakable for cr w/chg of field topic & site to 9 cr max. Prereq: jr st; writ cons instr.

698 GIS/Cartography Internship. 1-6 cr. U/G.

Practical GIS/cartography experience with government agency or private firm under supervision of working expert and faculty member. Intern's contract specifies duties and duration. Retakable to 6 cr max. Prereq: jr st; Geog 215(P); writ cons instr & dept chair.

703 Advanced Remote Sensing. 3 cr. G.

Advanced techniques of image processing and analysis, including classification, georegistration, and spatial modeling. Prereq: grad st; Geog 403(P).

725 Advanced Geographic Information Science: Geographic Modeling. 3 cr. G.

Advanced spatial modeling with both GIS and other tools of geo-computation, including examination of conceptual models aimed at an analysis of their possible implementation. Prereq: grad st; Geog 625(P).

727 Qualitative Research. 3 cr. G.

Qualitative research as applied in geography, including the relationship between quantitative and qualitative approaches, issues of interpretation, and ethics of field work. Prereq: grad st.

734 GIS and Society. 3 cr. G.

Interconnected relationship between Geographic Information Science (GIS) and society, including hidden impacts and implications of such a relationship. Prereq: grad st.

742 Urban and Regional Dimensions of Globalization. 3 cr. G.

Geographic perspectives on urban and regional change as 'developed' and 'less developed' parts of the world become more interconnected by wider international processes of change. Prereq: grad st.

744 Cities, Regions, and Globalization. 3 cr. G.

Globalization process and impact on cities and regions, including emergence of global cities and regions, impact on uneven development, and global era urban strategies. Prereq: grad st

750 Remote Sensing and Urban Analysis. 3 cr. G.

Seminar in remote sensing technologies and applications in urban analyses, including land use/land cover analysis, socio-economic information estimation, heat-island effect, sprawl monitoring, and growth modeling. Prereq: grad st; Geog 403(P); Geog 525(P) or UrbPlan 591(P) or 791(P).

810 Introduction to Techniques of Research and Presentation. 3 cr. G.

Proseminar on the scholarly use of materials in all aspects of geography; training for effective presentation in both written and oral form. Prereq: grad st.

870 Contemporary Geographic Approaches: (Subtitled). 3 cr. G.

Foundations of geographic inquiry, with emphasis on the roles of sub-disciplines, and generalist/specialist approaches in the development of geographic science. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

880 Urban Sustainability. 3 cr. G.

Urban sustainable challenges and opportunities that impact the built environment. Includes review of traditional and innovative sustainable practices and regulations Jointly-offered w/& counts as repeat of UrbPlan 880. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

889 Internship in Geography. 1-6 cr. G.

Application of advanced principles of geography in a business, organizational, educational, political, or other appropriate setting. Intern's contract specifies duties and duration. Retakable to 6 cr max. Prereq: grad st; Geog 810(P); writ cons instr & dept chair.

890 Research and Master Thesis. 1-6 cr. G.

Research connected with master thesis. Retakable to 6 cr max. Prereq: grad st.

905 Seminar: Selected Topics in Geography: (Subtitled). 3 cr. G.

Retakable w/topic chg to 9 cr max. Prereq: grad st.

910 Techniques of Research and Presentation. 3 cr. G.

Seminar on theoretical and practical aspects of geographic research, funding, presentation, and publication. Prereq: grad st in Geog Ph.D. program.

932 Seminar: Economic Geography: (Subtitled). 3 cr. G.

Analysis in depth of significant topics in advanced economic geography specializations: agricultural geography, geography of manufacturing, and geography of transportation. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

934 Seminar: Urban Geography: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

940 Seminar: Physical Geography: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

941 Seminar: Climatology: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

942 Seminar: Geography of Land Form: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

945 The Internal Structure of the City. 3 cr. G.

The interaction of forces responsible for the evolution of the city as a spatial form and the allocation of economic and social activity within the spatial configuration. Geog 945 & Urb Std 945 are jointly-offered; they count as repeats of one another. Prereq: grad st.

960 Seminar: Geographic Techniques: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

990 Research and Doctoral Dissertation. 1-12 cr. G.

Research projects connected with dissertation. Retakable to 12 cr max. Prereq: grad st.

999 Independent Work. 1-6 cr. G.

Independent reading or project. Retakable w/chg in topic to 12 cr max. Prereq: grad st.

Geosciences

Geosciences

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Geosciences
- Ph.D. in Geosciences

Overview

The Department of Geosciences offers graduate work emphasizing applied aspects of the hydrologic, geological, and geophysical sciences. The geological sciences concentration prepares students for careers in such areas as engineering and environmental geology, hydrogeology, geophysical exploration, mining and petroleum geology.

The M.S. degree program trains students equally for professional practice and continued graduate study. The typical course of study takes two years to complete. The Ph.D. degree program, with interwoven components in lithospheric and hydrospheric science, is problem oriented rather than specialty oriented: this program is designed to produce scholars and practitioners capable of applying their training to achieve sound and pragmatic solutions to real problems in the earth sciences. Students in the doctoral program will normally spend a minimum of two years of formal coursework, not including dissertation research.

The Department has a variety of geological and geophysical field equipment including a drill rig, portable water sampling and analytical systems, and marine and land-based seismic and electrical resistivity systems. In addition, the Department maintains the following equipment directly or through its association with the UWM Center for Great Lakes Studies: x-ray diffractometer and spectrometer, atomic absorption unit, gas and ion chromatographs, liquid scintillation counter, cold region environmental chambers, operating well field, seismograph, Paleomagnetism laboratory, and recirculating flume.

Supporting facilities in the University include a computing center, scanning electron microscope, a cartographic laboratory, the Saukville Field Station 50 km north of the campus, the Center for Great Lakes Studies, and the Urban Research Center.

The Department also maintains the extensive geological collections of the Greene Geological Gallery and cooperates actively with the Milwaukee County Public Museum.

Graduate Faculty

Professors

Grundl, Timothy J., Ph.D., Colorado School of Mines

Harris, Mark T., Ph.D., Johns Hopkins University

Isbell, John L., Ph.D., Ohio State University, Chair

Sverdrup, Keith, Ph.D., University of California-San Diego

Associate Professors

Cameron, Barry I., Ph.D., Northern Illinois University

Czeck, Dyanna, Ph.D., University of Minnesota
Dornbos, Stephen, Ph.D., University of Southern California

McHenry, Lindsay, Ph.D., Rutgers University

Fraiser, Margaret, Ph.D., University of Southern California

Xu, Shangping, Ph.D., Princeton University

Assistant Professors

Bowles, Julie, Ph.D., University of California, San Diego

Non-Faculty

Visiting Assistant Professor

Gulbranson, Erik, Ph.D., University of California, Davis

Master of Science in Geosciences

Admission

An applicant must meet [Graduate School requirements](#) plus the following departmental requirements to be considered for admission to the program:

- Undergraduate preparation consisting of one year each of: college chemistry, college physics, and calculus; one summer of field training in geology for students majoring in geology.
- Undergraduate grade point average of 3.0 (4.0 scale).
- Submission of scores on the [Graduate Record Examination](#) (General Test).

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. A geology student who lacks field training must acquire the training not later than the summer following initial enrollment.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The student is assigned a temporary advisor at the time of initial enrollment and requests a faculty

member to serve as the thesis advisor after selecting an area of specialization.

Credits and Courses

Minimum degree requirement is 30 graduate credits, at least 24 of which must be earned in formal course credits and up to 6 of which may be earned through an acceptable thesis. A graduate student is allowed to register for a maximum of nine 990 research credits, no more than 6 of which may be counted toward the 30-credit requirement.

All students in their second or later year are required to present a progress report annually to the Department.

Proposal for Thesis

Prior to the formal undertaking of thesis research, the student must prepare a written proposal for the thesis problem including an estimate of costs to be incurred. Copies of the proposal are to be distributed to the faculty advisor and the Department reading file. One copy is to be placed in the student's permanent Department file. An abstract of the proposal is to be distributed to each Department faculty member for comment and criticism.

Thesis

The student must write an acceptable thesis embodying the results of original research completed under the direction of the advisor.

Comprehensive Examination

The student must pass a comprehensive examination, either oral or written or both. In part a defense of the thesis, the examination covers the student's entire graduate program of studies. At the option of the student, the part of the examination consisting of the presentation of the results of thesis research may be open to other graduate students.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Geosciences

Admission

To be considered for admission to the program, an applicant must meet [Graduate School requirements](#) plus the following program requirements:

1. Hold a master's degree in one of the natural sciences, engineering, or mathematics or have equivalent experience.
2. Have an appropriate background in aspects of the geosciences relevant to the intended field of study.
3. Submit scores from the [Graduate Record Examination](#) (general test).
4. Arrange to have at least three (3) letters of recommendation sent to the Graduate

Geosciences

Coordinator of the Department of Geosciences.

Exceptional students without a M.S. degree may be considered for admission. A student who holds a master's degree from UWM must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Course of Study

Doctoral students must earn 54 credits beyond the bachelor's degree, of which 24 credits may be taken from formal coursework completed as part of the master's study. At least 21 graduate credits beyond the master's degree must be earned in formal coursework.

Each student must prepare a formal Program of Study to be submitted to the Graduate School within the first semester in the program. Courses are selected in consultation with the student's advisor with approval from the Doctoral Committee. Students are strongly advised to take courses from each of their committee members prior to taking the doctoral preliminary examination. For full time students, coursework should be completed within 4 semesters after admission to the Ph.D. program. In unusual situations, this timetable may be extended beyond 4 semesters. A timetable for coursework completion for part time students will be established on an individual basis.

Residency Requirement

The Graduate School requires satisfaction of a residency requirement. This involves completing at least 8 graduate credits in 2 consecutive semesters or 6 graduate credits in 3 consecutive semesters (including summer sessions) while in full doctoral status at UWM. In addition, at least half of the graduate credits required for the Ph.D. must be earned at UWM.

Quantitative Skill

A working knowledge of computer programming, statistics, numerical methods, or GIS appropriate to the student's field of study is required. Standards for this requirement will be established by the student's Doctoral Committee. Undergraduate courses taken to meet this requirement do not apply to the course requirements for the Ph.D.

Doctoral Committee

The membership of the Doctoral Committee will be established in the student's first semester. The Committee must consist of the following: the doctoral student's advisor as chair (or co-advisors as co-chairs); at least three additional graduate faculty members from the Geosciences Department; and at least one member from outside the student's fields of specialization. The student is required to arrange a meeting with the Doctoral Committee at least once each year.

The student may request a change of advisor if another faculty member is available, willing, and able to assume that role. If this change involves a significant modification of the area of specialization or research, the student's record will be reexamined to determine whether the student's background is sufficient for the new specialty. If it is not, it may be necessary for the student to withdraw from the program and reapply in the new specialty. Normally such a change of direction will not be allowed once the dissertation proposal has been defended.

Doctoral Preliminary Examination

Advancement to dissertator status requires that students must pass a doctoral preliminary examination and then develop and successfully defend a dissertation proposal. The doctoral preliminary examination is administered in two parts: a set of written exams and a follow-up oral exam. The structure of the examination will be established by the student's Doctoral Committee. It must be passed prior to the completion of 24 credits in the program and must demonstrate knowledge in the fields of geology and related sciences defined by the Doctoral Committee. The written and oral exams are taken after the residency requirement is fulfilled.

Subsequently, the student must present to the Doctoral Committee a written proposal in NSF format for her/his dissertation research. At a minimum, it should provide an overview of and approach to the problem being addressed, a budget, and appropriate bibliographic references. The dissertation proposal should be defended within one semester of completion of the preliminary exam. Students who successfully pass all three elements of the doctoral preliminary examination are admitted to doctoral dissertator status.

Annual Presentation of Results

Each dissertator is required to make a 30-minute presentation of research results at a Geosciences Colloquium each year. Dissertators also are required to make a 50-minute colloquium presentation of the results of the completed doctoral research prior to the dissertation defense.

Dissertation

The candidate must present a written dissertation reporting the results of independent, original research carried out under the direction of the major professor. Prior to a defense, the dissertation must be reviewed by a Reading Committee consisting of the major professor and at least two other members of the Doctoral Committee. Information regarding dissertation deadlines, preparation, and review of the dissertation is available from the Student Services Office of the Graduate School.

Dissertation Defense

The student first will present research results in a colloquium. Then the dissertation must be orally defended before the entire Doctoral Committee. The defense may include questions related to any of the dissertator's fields of study. If the dissertation is defended and the oral examination is passed to the satisfaction of a majority of the Doctoral Committee, the candidate is passed and recommended for the degree.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Additional Requirements and Information

Detailed information about program requirements is provided to each student following admission and is available from the Department office. For additional information on Graduate School Ph.D. requirements, see the [Doctoral Requirements](#) Webpage.

Courses

317 Stable Isotope Geochemistry. 3 cr. U/G.

To understand the fractionation and mass balance of stable isotope systems in nature and their application to geologic problems. Prereq: jr st; Geo Sci 100(P) or 101(P); & Chem 104(C) & Geo Sci 301(P).

400 Water Quality. 3 cr. U/G.

Water availability and water quality in surface and subsurface water bodies; management of water as a resource. 2 hrs lec, 3 hrs lab. Prereq: jr st; Chem 102(P); Math 232(P); or cons instr.

401 General Soil Science. 3 cr. U/G.

Soil profile development, weathering, soil mineralogy, water and nutrient relationships, classification of soil. 2 hrs lec, 3 hr lab. Required field trips for which fees are assessed. Prereq: jr st; Chem 104(P) or equiv or cons instr.

405 Geology for In-Service Teachers: (Subtitled). 1-3 cr. U/G.

Basic, advanced or new topics in geology for in-service teachers. Retakable with change in topic to max of 9 cr. Prereq: in-service teacher, additional prereqs depending on topic.

409 Process Geomorphology. 3 cr. U/G.

Study of geological processes and their effect on the formation and evolution of land forms. Lec, lab, field trips for which fee is assessed. Prereq: jr st; Geo Sci 100(P), Geog 120(P), or 121(P).

435 History of Geologic Thought. 3 cr. U/G.

History of development of the major concepts in geology. Prereq: jr st; Geo Sci 102(P) or cons instr.

Geosciences

440 Geochemical Thermodynamics. 3 cr. U/G.

Basic equilibrium thermo-dynamics applied to low-temperature and high-temperature geochemical problems. Prereq: jr st, Chem 104(P), Geo Sci 301(P), & Math 231(P).

443 Glacial and Pleistocene Geology. 3 cr. U/G.

Mechanics of glacial flow, Pleistocene stratigraphy, and laboratory techniques. Lec, lab, & field trips for which fees are assessed. Prereq: jr st; Geo Sci 100(P) or 101(P) or Geog 120(P) or 121(P). Geo Sci 102(R) or 108(R).

461 Physical Oceanography. 3 cr. U/G.

Overview of physical oceanography, conservation of mass, salinity and momentum, thermodynamics, equations of motion. Waves, currents and circulation. Prereq: jr st; Math 232(P); & Physics 123(P) or 210(P).

463 Physical Hydrogeology. 3 cr. U/G.

Study of ground water occurrence, its interrelationship with surface water, aquifer properties, groundwater flow and water supply development, including well hydraulics, water quality, and groundwater law. Lec, lab, & field trip for which fee is assessed. Prereq: jr st; Geo Sci 100(P) or 101(P); Math 232(P).

464 Chemical Hydrogeology. 3 cr. U/G.

Natural chemical processes that occur in groundwater systems, how they are modified by human activity and contamination, and attempts to regulate them. Lec, lab. Frshwtr 464 & Geo Sci 464 are jointly-offered; they count as repeats of one another. Prereq: jr st; Chem 102(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Phanerozoic Evolutionary Trends. 3 cr. U/G.

Examination of Earth's paleoecological patterns and their driving mechanisms. Counts as repeat of Geo Sci 696 or 697 w/same topic. Prereq: jr st; Geo Sci 102(P).

511 Stratigraphy and Sedimentation. 3 cr. U/G.

Techniques and principles of sedimentology and stratigraphy, including methods of correlation, analysis of facies, stratigraphic mapping, and tectonic controls of sedimentation. Lec, lab, field trips. Prereq: jr st ; Geo Sci 102(P) or equiv.

515 Physical Sedimentology. 3 cr. U/G.

Physical properties, processes, and environments of clastic sediments. Lec, lab,

field trip for which fee is assessed. Prereq: jr st; Geo Sci 511(P).

520 Introduction to Paleontology. 3 cr. U/G.

General study of fossils and theoretical principles used in the study of paleontology. Lec, lab, field trips. Prereq: jr st; Geo Sci 102 or 108.

525 Terroir: Geology in a Glass. 3 cr. U/G.

The geology, soil types, and climate of famous wine regions; factors that influence the production of fine wine. No cr for students w/cr in Geo Sci 696 w/same topic. Prereq: jr st; Geo Sci 100(P).

528 Biogeochemistry and the Fossil Record. 3 cr. U/G.

Fermentation as a metabolic process; the organic geochemistry of fermentation; and procedures and protocols for fermentation experiments. Prereq: jr st.

545 X-Ray Analytical Methods. 3 cr. U/G.

Methods in x-ray diffractometry and spectrometry. Nature and generation of x-rays, collection and interpretation of powder diffraction patterns and elemental analysis using x-ray spectrometry. Prereq: jr st; Geo Sci 301(P); satisfaction of OWC-A req; Chem 102(C).

558 Conducted Field Trip: (Subtitled). 1-3 cr. U/G.

Field trip to a classical geologic area. Preceded by a seminar. Retakable w/chg in topic to 9 cr max, only 3 cr of which may be applied toward geo sci major. Prereq: jr st; cons instr.

562 Environmental Surface Hydrology. 3 cr. U/G.

Land-atmosphere interactions, modeling of runoff generation, and water movement in the vadose zone. 3 hrs lec. Prereq: jr st; Math 232(P); or cons instr.

563 Field Methods in Hydrogeology. 3 cr. U/G.

Introduction to current equipment and methodology used in field evaluation of hydrologic systems. Well installation and monitoring, stream gaging, indirect surface observations. Lab, field trip for which fee is assessed. Prereq: jr st; Geo Sci 463(P).

599 Geology of Wisconsin--Field Course. 3 cr. U/G.

Multi-institutional team-taught, conducted field course throughout Wisconsin; instruction in the field, using exposures on which Wisconsin's geological history has been interpreted. Prereq: jr st; Geo Sci 302(P).

614 Advanced Structural Geology. 3 cr. U/G.

Advanced analysis of deformation as applied to geological structures from microscopic through regional scales. Lec, field trip for which fee is

assessed. Prereq: jr st; Geo Sci 414(P); Math 231(C).

635 Volcanology. 3 cr. U/G.

Why and when volcanoes erupt; predicting whether eruptions will be explosive or passive. Prereq: jr st; Geo Sci 302(P) or cons instr.

636 Geochronology. 3 cr. U/G.

Theory and application of radiometric and other numerical dating methods in geology, archaeology, and paleoanthropology. Anthro 636 & Geo Sci 636 are jointly offered; they count as repeats of one another. Prereq: jr st, Anthro 101(P) or 103(P) or Geo Sci 100(P), & cons instr; or grad st & cons instr.

637 Planetary Geology. 3 cr. U/G.

Advanced study of planetary geology, for advanced undergraduate and graduate students. No cr for students w/cr in Geo Sci 697 w/same topic. Prereq: jr st; Geo Sci 301(P) or Astron 211(P) or 400(P); completion of OWC-A GER (English 102 or equiv placement).

638 Advanced Igneous Petrology. 3 cr. U/G.

Recent trends and applications in the fields of igneous petrology. Quantitative modelling of important petrologic processes. Critical reading of journal articles in petrology. Lec. Prereq: jr st; Geo Sci 302(P).

655 Topics in Structure and Tectonics: (Subtitled). 1-3 cr. U/G.

Retakable w/chg in topic to 9 cr max. Prereq: jr st; Geo Sci 414(P) or cons instr.

668 Geoelectrical Methods. 3 cr. U/G.

Fundamentals of electrical resistivity surveys and electromagnetic methods, with an emphasis on surficial and environmental applications. Prereq: jr st; Geo Sci 316(C), 463(C), or 661(C).

688 Seminar in Geosciences for Teachers: (Subtitled). 1-6 cr. U/G.

Seminar modules on various topics in geosciences offered for teachers. Open only to practicing science teachers with demonstrable expertise in geoscience. Retakable w/chg in topic to 9 cr max. Prereq: current teaching contract.

695 Internship in Geoscience. 1-3 cr. U/G.

An internship consistent with the student's plan of study in geosciences. Requirements and evaluation determined by the department on an individual basis. Prereq: jr st; cons dept.

696 Topics in the Geological Sciences: (Subtitled). 1-3 cr. U/G.

Add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

Geosciences

697 Seminar in the Geological Sciences: (Subtitled). 1-3 cr. U/G.

Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

698 Research Experience for Teachers. 1-6 cr. U/G.

Enrichment of students' geoscience background. Work with faculty mentor to develop an innovative teaching program for use in students' own classrooms. Open only to practicing science teachers with demonstrable expertise in geoscience. Retakable w/chg in topic to 9 cr max. Prereq: current teaching contract.

703 Biotic Crises in Earth's History. 3 cr. G.

The interconnectedness among the physical, chemical, and biological processes on Earth and throughout Earth's history. Prereq: grad st; Geo Sci 520(P) or equiv.

730 Modelling Techniques for Hydrogeology. 3 cr. G.

Study and application of modelling techniques in hydrogeology. Includes finite difference and finite element techniques for groundwater flow, contaminant transport, and geochemistry. Prereq: grad st; Geo Sci 463; knowledge of fortran or equiv; cons instr.

740 Carbonate Sedimentology. 3 cr. G.

Depositional processes, environments and stratigraphic analysis of carbonate rocks. Lec, lab, field trip, for which fee is assessed. Field trip for which fee is assessed. Prereq: grad st; Geo Sci 511 or equiv.

749 Biogeochemistry of Soils. 3 cr. G.

Biogeochemical processes in soils and their impact on water quality. 3 hrs lec. Prereq: grad st; Geo Sci 464(P) or cons instr.

750 Contaminant Hydrogeology. 3 cr. G.

Transport and fate of contaminants in aquifers, aquitards, and unsaturated geologic materials. Prereq: grad st; Geo Sci 464(C).

790 Graduate Seminar in the Geological Sciences: (Subtitled). 1-3 cr. G.

Add'l prereqs announced in schedule of classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for grad students who must meet minimum cr load requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Master's Thesis. 1-8 cr. G.

Prereq: grad st; cons instr & completed thesis proposal.

997 Doctoral Externship. 1-12 cr. G.

Prereq: grad st; admis to candidacy for Ph.D.

998 Doctoral Dissertation. 1-12 cr. G.

Prereq: grad st; admis to candidacy for Ph.D.

999 Advanced Independent Reading. 1-4 cr. G.

Independent geologic study. Retakable to 4 cr max. Prereq: grad st & cons instr.

Health Care Informatics

School/College: College of Health Sciences
Degrees Conferred:

- M.S. in Health Care Informatics

Overview

The College of Health Sciences, Health Care Administration and Informatics Program, offers the Master of Science in Health Care Informatics (HCI).

The HCI Program is designed to meet the demand for highly trained health care informatics professionals by drawing on the experience and expertise of several UWM disciplines: Computer Science-College of Engineering and Applied Science (CEAS), Health Care Administration and Informatics, College of Health Sciences (CHS), Management Information Systems-Lubar School of Business (LSB), and the School of Information Studies (SOIS). The curriculum covers several areas including: systems analysis and design, database and project management, decision support, network design, and health care applications and procurement.

The program is designed for full-time and part-time students who seek employment as health care informatics professionals within health care delivery systems, managed care organizations, and with health care computer vendors.

Graduate Faculty

Professors

Cisler, Ron Ph.D., University of Wisconsin-Milwaukee

Associate Professors

Kate, Rohit Ph.D., University of Texas at Austin

Nambisam, Priya Ph.D., University of Wisconsin-Madison

Patrick, Timothy Ph.D. University of Missouri-Columbia

Trinh, Hanh Ph.D. Virginia Commonwealth University

Wu, Min Ph.D. University of North Carolina

Assistant Professors

Fink, Jennifer Ph.D., University of Wisconsin-Milwaukee

Luo, Jake Ph.D., Queen's University, Belfast, UK

Master of Science in Health Care Informatics

Admission

An applicant must meet [Graduate School requirements](#) and submit GRE scores taken within the past five years (GRE requirement will be waived for applicants who already hold

another master's degree or Ph.D., or the equivalent). No specific undergraduate major is necessary for admission. A typical applicant will have background in a health-related field or in an information/computer related field, but applicants from other academic or professional backgrounds are welcome to apply who will be considered on a case-by-case basis

Major Professor as Advisor

A student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Initially the director of the HCI Program advises and supervises newly admitted students. Students are then assigned faculty advisors according to faculty advising loads.

Credits and Courses

The Master of Science in Health Care Informatics degree will be awarded upon completion of appropriate 32 credits (non-thesis option) or 35 credits (thesis option) of prescribed graduate study; 23 credits of core courses and 6 credits of electives are required, plus either 3 credit HCA 891 or 6 credits HCA 890.

Core required courses

HCA 700 Introduction to HealthCare Informatics (2 credits)

HCA 741 Essential Programming for Health Informatics (3 credits)

HCA 760 Biomedical Terminology and Ontology (3 credits)

HCA 723 Health Care Systems Applications—Administrative & Clinical (3 credits)

HCA 541 Healthcare Information Systems Analysis & Design (3 credits)

HCA 722 Legal, Ethical and Social Issues in Health Care Informatics (3 credits)

HCA 542 Healthcare Database Design & Management (3 credits)

HCA-742 Computational Intelligence in Health Informatics (3 credits)

Electives

Electives other than those listed below are to be approved by the student's major professor.

HCA 721 Health Information Technology Procurement (3 credits)

HCA 743 Predictive Analytics in Healthcare (3 credits)

HCA 744 Text Retrieval and Its Applications in Biomedicine (3 credits)

HCA 745 Health Big Data Processing Platforms (3 credits)

HCA 776 Biomedical Natural Language Processing (3 credits)

HCA 789 Biomedical Information Extraction (3 credits)

HCA 909 Guided Teaching Experience in Health Sciences (3 credits)

HS 917 Seminar in Health Outcomes Assessment

Project or Thesis

HCA 891 Health Care Informatics Professional Project (3 credits)

or HCA 890 Health Care Informatics Research and Thesis (1-6 credits)

Thesis/Project Options

Option A: Project Option

The Project option requires students to apply health informatics research and theory to a professional situation. The project must be undertaken in compliance with program requirements under the supervision of a HIA major professor. Students who choose this option count 3 credits of HCA 891 toward the required 32-graduate-credit minimum.

Option B: Thesis Option

The thesis option requires students to plan, design, execute and report results of original applied or basic research. Students who choose the thesis option are responsible for identifying a HIA major professor and a thesis committee. The thesis committee should consist of the major professor and at least two other graduate faculty. The student must pass a comprehensive oral examination in defense of the completed thesis. Students who choose this option count 6 credits of HCA 890 toward the required 35-graduate-credit minimum.

Program Completion Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Master of Science in Health Care Informatics/Master of Library and Information Science

The College of Health Sciences and School of Information Studies collaboratively offer a program designed to provide students with theoretical and practical exposure to the evolving field of healthcare informatics as practiced in hospitals, clinics, professional offices, corporations, the government, the insurance industry, and higher education.

Admission

Students are admitted to both graduate programs separately and [admission requirements](#) are consistent with those specified by the UWM Graduate School, the Department of Healthcare Informatics, and the [MLIS program](#) of the School of Information Studies.

Credit and Courses

Students accepted into this M.S./MLIS program complete the following courses:

Health Care Informatics

Healthcare Informatics

Introduction to Healthcare Informatics: 2 credits

HCA 700 Introduction to HealthCare Informatics

Programming, 3 credits (choose one):

BA 740 Information Technology Management Concepts and Languages
BA 813 Object-Oriented & Visual

Systems Analysis and Design, 3 credits (choose one):

BA 747 Service-Oriented Analysis and Design
HCA 541 Healthcare Systems A & D

Database Management, 3 credits (choose one):

BA 749 Data Management Systems
CS 557 Introduction to Database Systems
CS 757 Data Base Organization and File Structure
HCA 542 Healthcare Database Design & Mgt

Project Management, 3 credits:

BA 748 Information Technology Project Management

Decision Support Systems, 3 credits (choose one):

BA 741 Decision Support Systems and Groupware
BA 814 Enterprise Knowledge & Semantic Management
CS 720 Computational Models of Decision Making
HCA 744 Text Retrieval & Its Application in Biomedicine (pending)

Network Design/Telecommunications, 3 credits (choose one):

BA 893 Infrastructure for Electronic Business
CS 520 Computer Networks
L&I SCI 710 Electronic Networking and Information Services

Technology Procurement, 3 credits:

HCA 721 Health Information Technology Procurement

Clinical Applications, 3 credits:

HCA 723 Healthcare Systems Applications - Clinical, Administrative & Research

Project or Thesis, 3 credits (choose one):

HCA 890 Healthcare Informatics Research and Thesis
HCA 891 Healthcare Informatics Master's Project

Minimum Credits for M.S.: 29

Library and Information Science

L&I SCI 501 Foundations of Library and Information Science; 3 credits
L&I SCI 511 Organization of Information; 3 credits

L&I SCI 571 Information Access and Retrieval; 3 credits

L&I SCI 591 Research in Library and Information Science; 3 credits

Electives (15 credits), including at least 4 of the following 5

L&I SCI 510 Introduction to Reference Services and Resources

L&I SCI 661 Ethics and the Information Society; 3 credits

L&I SCI 714 Metadata; 3 credits

L&I SCI 791 Information Architecture; 3 credits

L&I SCI 835 Information Sources and Services—Health Sciences; 3 credits

Other elective; 3 credits

Students also must pass a comprehensive examination, or submit and successfully defend a thesis. The thesis option requires additional credits.

Minimum MLIS Credits: 27

Minimum Total Credits for the Program: 56

The credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated M.S./MLIS degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Schedule of Classes

The [Schedule of Classes](#) is a list of classes offered by term.

Courses

Descriptions of required and elective courses offered at UWM as part of the M.S. in Health Care Informatics can be found under the respective curricular areas (see below).

- [Business Administration \(BUS ADM\)](#)
- [Health Care Administration \(HCA\)](#)
- [Computer Science \(CompSci\)](#)
- [Library and Information Science \(InfoSt\)](#)
- [Nursing \(Nurs\)](#)

Health Sciences

School/College: College of Health Sciences
Degrees Conferred:

- Ph.D. in Health Sciences

Overview

The Ph.D. in Health Sciences is an interdisciplinary degree program designed to accomplish three major objectives:

1. Provide advanced study and research training opportunities in the human health sciences.
2. Produce cohorts of scholars capable of advancing the discovery, dissemination, and application of new knowledge in the health sciences.
3. Prepare future academic leaders in the health sciences.

The curriculum includes a set of core courses providing a comprehensive structure for doctoral education including:

- Philosophical foundations.
- Concepts and practices that contribute to students, development as teaching scholars.
- Research methods.
- A series of seminars that build students, critical thinking skills, familiarity with a range of health sciences research topics, and experience in scholarly dialogue and presentation.

Concentrations and cross-disciplinary courses

In addition to the core courses, the program includes concentration and cross-disciplinary courses in areas such as disability and rehabilitation, diagnostic and biomedical sciences, human movement sciences, population health, and health administration/policy. Independent research and the dissertation will be structured according to the choice of specialization.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Azenabor, Anthony, Ph.D., University of Benin (Biomedical Sciences)
 Cisler, Ron, Ph.D., University of Wisconsin-Milwaukee (Health Informatics and Administration)
 Eells, Janis, Ph.D., University of Iowa (Biomedical Sciences)

Engel, Joyce, Ph.D., University of Kansas, Lawrence (Occupational Science & Technology)
 Garg, Arun, Ph.D., University of Michigan (Occupational Science & Technology)
 Gelfer, Marylou, Ph.D., University of Florida (Communication Sciences and Disorders)
 Greenleaf, Christy, Ph.D., University of North Carolina-Greensboro (Kinesiology- Exercise Science and Health Promotion)
 Johnston, Mark, Ph.D., Claremont Graduate University (Occupational Science and Technology)
 King, Phyllis, Ph.D., University of Wisconsin-Milwaukee (Occupational Science & Technology)
 Meyer, Barbara, Ph.D., Michigan State University (Kinesiology-Integrative Health Care and Performance)
 Rhyner, Paula, Ph.D., Kent State University (Communication Sciences and Disorders)
 Smith, Roger, Ph.D., University of Wisconsin-Madison (Occupational Science & Technology)
 Strath, Scott, Ph.D., University of Tennessee-Knoxville (Kinesiology- Exercise Science and Health Promotion)
 Swartz, Ann, Ph.D., University of Tennessee (Kinesiology- Exercise Science and Health Promotion)

Associate Professors

Barnekow, Kris, Ph.D., University of Wisconsin – Madison (Occupational Science & Technology)
 Cobb, Stephen, Ph.D., Georgia State University (Kinesiology- Exercise Science and Health Promotion)
 Earl, Jennifer, Ph.D., Pennsylvania State University (Kinesiology-Integrative Health Care and Performance)
 Ebersole, Kyle, Ph.D., University of Nebraska (Kinesiology-Integrative Health Care and Performance)
 Heilmann, John, Ph.D., University of Wisconsin-Madison (Communication Sciences and Disorders)
 Huddleston, Wendy, Ph.D., Medical College of Wisconsin (Kinesiology-Integrative Health Care and Performance)
 Kapellusch, Jay, Ph.D., University of Wisconsin – Milwaukee (Occupational Science & Technology)
 Keenan, Kevin, Ph.D., University of Colorado (Kinesiology- Exercise Science and Health Promotion)
 Klos, Lori, Ph.D., Cornell University (Kinesiology- Exercise Science and Health Promotion)
 Lund, Shelley, Ph.D., Pennsylvania State University (Communication Sciences and Disorders)
 Lyons, Jeri-Anne, Ph.D., Medical College of Wisconsin (Biomedical Sciences)
 Moerchen, Victoria, Ph.D., University of Wisconsin-Madison (Kinesiology-Integrative Health Care and Performance)

Nambisan, Priya, Ph.D., Rensselaer Polytechnic Institute (Health Informatics and Administration)
 Stoffel, Virginia, Ph.D., Cardinal Stritch University (Occupational Science & Technology)
 Nardelli, Dean, Ph.D., University of Wisconsin-Madison (Biomedical Sciences)
 O'Connor, Kristian, Ph.D., University of Massachusetts – Amherst (Kinesiology- Exercise Science and Health Promotion)
 Patrick, Timothy, Ph.D., University of Missouri-Columbia (Health Informatics and Administration)
 Pauloski, Barbara, Ph.D., Northwestern University (Communication Sciences & Disorders)
 Seery, Carol, Ph.D., University of Washington-Seattle (Communication Sciences and Disorders)
 Sindhu, Bhagwant, Ph.D., University of Florida (Occupational Science & Technology)
 Slavens, Brooke, Ph.D., Marquette University (Occupational Science & Technology)
 Stoffel, Virginia, Ph.D., Cardinal Stritch University (Occupational Science & Technology)
 Trinh, Hanh, Ph.D., Medical College of Virginia (Health Informatics and Administration)
 Wang, Jinsung, Ph.D., Arizona State University (Kinesiology- Exercise Science and Health Promotion)
 Wu, Min, Ph.D., Medical School, University of North Carolina at Chapel Hill (Health Informatics and Administration)
 Zalewski, Kathryn, Ph.D., University of Wisconsin-Milwaukee (Kinesiology- Integrative Health Care and Performance)

Assistant Professors

Arvinen-Barrow, Monna, Ph.D., University of Northampton, United Kingdom (Kinesiology- Exercise Science and Health Promotion)
 Doll, Jennifer, Ph.D., Washington University (Biomedical Sciences)
 Hassan, Wail, Ph.D., University of Southern Mississippi (Biomedical Sciences)
 Heuer, Sabine, Ph.D., Ohio University (Communication Sciences and Disorders)
 Kate, Rohit, Ph.D., University of Texas- Austin (Health Informatics and Administration)
 Luo, Jake, Ph.D., Queens University- Belfast (Health Informatics and Administration)
 Prasad, Rashmi, Ph.D., University of Pennsylvania (Health Informatics and Administration) remove; no longer at UWM
 Wang, Ying-Chih, Ph.D., University of Florida (Occupational Science & Technology)

Non-Faculty

Clinical Professors

Cashin, Susan, Ph.D., Southern Illinois University Carbondale

Clinical Associate Professors

Alt, Carlynn, Ph.D., PT, Marquette University

Doctor of Philosophy in Health Sciences

Admission

To be considered for admission to the program applicants must satisfy all UWM Graduate School admission requirements in addition to the following College of Health Sciences requirements:

1. Submission of scores on the General Test portion of the [Graduate Record Examination](#); test taken within last five years.
2. One of the following:
 - Master's degree or equivalent in an area that provides foundational academic preparation in proposed Health Sciences Ph.D. [Area of Concentration](#).
 - Bachelor's degree with exceptional promise, as indicated by research experience/evidence of writing or an undergraduate project, recommendations, [GRE](#) scores, and undergraduate GPA.
3. A sample of the applicant's written work that demonstrates his or her ability to conduct research and/or the ability to critically analyze the scholarly work of others.
4. A letter outlining the applicant's academic and professional background, declaration of Area of Concentration and Major Professor as well as specific research interests and goals for the Ph.D. program. This statement should be submitted to the Graduate School and must be complete and thorough as it provides information that is central to the admission decision. This letter will serve in lieu of the Graduate School's "Reasons for Graduate Study" statement.
5. Three letters of recommendation from individuals familiar with the applicant's intellectual achievement and potential. At least two of these letters must be from faculty or senior administrators at academic institutions.

For applicants from countries other than the U.S.A. whose first language is not English, a score of at least 250 on the computer-based (or 600 on the paper-based) Test of English as a Foreign Language (TOEFL) is required. A score of 6.5 on the International English Language Testing Systems (IELTS) examination will be accepted in lieu of the TOEFL.

The Ph.D. Steering Committee will make an admission recommendation and forward it to the appropriate College of Health Sciences departmental Graduate Faculty or Executive Committee and identified Major Professor. The final admission decision is contingent upon

approval by the departmental Graduate Faculty Committee or Executive Committee, the applicant's Major Professor, and the Graduate School.

Prior to admission an eligible College of Health Sciences Graduate Faculty member must agree to serve as the applicant's major professor.

Reapplication

A student who has received a master's degree in Clinical Laboratory Sciences, Communication Sciences and Disorders, Kinesiology, or Occupational Therapy from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D. degree.

Residence

The student must complete at least half of the graduate credits required for the Ph.D. in residence at UWM in doctoral status. In addition, the student must complete at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. In exceptional cases, modifications of the residence requirement may be requested, subject to the approval of the College of Health Sciences Ph.D. Steering Committee and the Graduate School.

Course of Study

The Ph.D. program requires 72 credits beyond the Bachelor's degree, including no more than 36 credits from a related master's degree and/or other post-baccalaureate coursework. A student must complete a minimum of 36 credits at UWM including dissertation credits. Precise numbers of credits and actual course requirements will be determined after review of the applicant's previous coursework. The student plans an individual program of study in consultation with the Major Professor and Doctoral Committee that will include a set of core courses, an area of concentration, cross-disciplinary courses, electives, and the dissertation.

Core Courses (16 credits)

BMS 901: Seminar on Philosophical Approaches to Science (3 credits)
 KIN 702: Statistical Analysis in the Health Sciences (3 credits)
 BMS 910: Advanced Seminar in Health Sciences (1 credit, repeated 4 times)
 OCCTHPY 900: Teaching, Learning & Educational Leadership in the Health Sciences (3 credits)
 A statistical analysis, qualitative analysis, or research methods course approved by the student's Major Professor (3 credits)

Area of Concentration (minimum of 9 credits)

Courses related to the area of concentration will require students to draw upon the strengths and

expertise of the faculty and curriculum in an interdisciplinary and collaborative manner. The basis of scientific exploration will be premised on the model adapted by the World Health Organization (WHO) which defines three levels contributing to the concept of health: 1) intact body structures and unimpaired host functions at the molecular, cellular or organ system level, 2) ability to participate in activities and roles at the level of the living organism or individual person, and 3) a physical and social environment that influences health at the level of society and populations.

Cross Disciplinary Courses (minimum of 6 credits)

Cross-disciplinary courses in areas such as disability and rehabilitation, diagnostic and biomedical sciences, human movement sciences, and population health and health administration/policy, will provide a unique framework and understanding for specific health states, outcomes, determinants, and environmental influences. Each of these specialties reflects trends and needs in health-related fields as well as the current expertise among faculty in CHS.

Electives (6 credits)

Elective courses relevant to the student's program of study will be selected from within CHS and from departments across campus. This cross-disciplinary approach will encourage collaboration and interaction, and provide breadth and depth to a student's focused course of study.

Dissertation (minimum of 12 credits)

The last component of the degree requirements, independent research and dissertation, will be structured by the choice of concentration. The dissertation will consist of focused, independent research that contributes to the existing body of knowledge.

Foreign Language

Foreign language coursework is optional, depending upon the recommendation of the student's Major Professor.

Doctoral Committee

In consultation with the Major Professor, each student is responsible for selecting a Doctoral Committee before completing 12 credits in the doctoral program. The doctoral committee shall consist of the student's major professor and four other graduate faculty: three of these must be at UWM, including at least two from CHS. The other member may be from another institution, subject to the approval of the student's program executive committee. Upon formation of the Doctoral Committee, the student must file a "Doctoral Committee" form with his/her major professor which is to be subsequently filed with the CHS - Ph.D. Steering Committee.

Doctoral Preliminary Examinations

The doctoral preliminary examinations must be completed within three years of initial enrollment in the program. Students may receive up to two additional semesters to complete the preliminary examinations with approval of the CHS - Ph.D. Steering Committee. The examinations consist of a written examination designed to demonstrate the breadth of a student's knowledge and the ability to conduct advanced research, and an oral exam covering issues raised during the written exam and/or focusing on the proposed dissertation research. The oral exam must follow the written exam within 10 days. Students take the preliminary examinations after completing all doctoral coursework or with no more than three credits of doctoral coursework remaining. Students cannot take the examinations if they have any incomplete or unreported grades or a GPA lower than 3.0. Students who fail the preliminary examinations may not proceed to the dissertation. The examinations may be retaken only once.

Dissertation Proposal

Upon successful completion of the preliminary examinations, the student submits a written dissertation proposal and delivers an oral presentation of the proposed research to the Dissertation Committee. The proposal takes the form of a scholarly document outlining the problem, its background and significance, summarizing relevant literature, and outlining the proposed research methods. It should include a tentative timetable and outline any required resources (space, equipment, etc.). Members of the student's Dissertation Committee must approve the dissertation proposal. Acceptance of the dissertation proposal establishes an agreement between the student and the Dissertation Committee as to the nature and scope of the research to be conducted, and the procedure for completing the dissertation. Upon Dissertation Committee approval, research proposals that use animal or human subjects must receive approval from the Animal Care and Use Committee or the Institutional Review Board.

Dissertator Status

Specific requirements which must be completed before a doctoral student qualifies for dissertator status are described on the Graduate School [Doctoral Requirements](#) page.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to the existing body of knowledge. The original research findings embodied in the dissertation should be acceptable for publication in a refereed journal. The student's Major Professor and Dissertation Committee provide guidance in completing the dissertation.

Dissertation Defense

Once the dissertation document meets with Dissertation Committee approval, an oral defense takes place. At the time of the defense, the dissertation must be of publication-quality (as judged by the Dissertation Committee). The dissertation defense will be held in an open forum after which the Dissertation Committee will meet in closed session to make a decision on degree conferral. The time and place of the public presentation must be announced with adequate time (i.e., at least one week prior to the defense) so that faculty and students may attend.

Time Limit

The student must complete all requirements for the degree within seven years of the date of initial enrollment in the program. Upon successfully passing the preliminary examinations, the student must complete all requirements for the degree within four years.

Courses

444 Introduction to Text Retrieval and Its Applications in Biomedicine. 3 cr. U/G.

Introduction to text retrieval, text classification and their biomedical applications; topics include: indexing, query processing, and document retrieval methods. Jointly offered with & counts as repeat of CompSci 444, CompSci 744, & HCA 744. Prereq: jr st; CompSci 351(P) or HCA 442(P).

497 Study Abroad. (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance to Study Abroad Prog.

521 Advanced Systems Thinking for Healthcare Leaders. 3 cr. U/G.

An in-depth view of systems theory, Deming's system of profound knowledge, and Goldratt's theory of constraints and how these theories can improve healthcare organizations. Prereq: jr st; HCA 340(P) & Bus Adm 330(P).

537 Introduction to Healthcare Databases and Technologies. 3 cr. U/G.

Introduction to origins, sources and content of healthcare data; technologies used to manage and control healthcare databases. Prereq: jr st in Hlth Sci or minor in HCA or HCI cert or cons instr; HS 224 (HCA 224)(P) or L&I Sci 110(P) or Bus Adm 230(P).

541 Healthcare Information Systems Analysis and Design. 3 cr. U/G.

Overview of health facility computerized information systems. Information systems theory, systems analysis, and implementation of computer systems from a managerial/planning perspective. Prereq: jr st, HCA 537(P); or grad st.

542 Healthcare Database Design and Management. 3 cr. U/G.

Study of database structure, data models, and operations issues. Emphasis on data security, integrity, integration, and access. Healthcare database applications. Prereq: jr st, HCA 541(P); or grad st.

590 Topics in Health Sciences: (Subtitled). 1-3 cr. U/G.

Topics of current interest within the field of health sciences. The theme for each semester's offering will be posted. May be repeated with change in topic to max of 9 cr for grad students. Prereq: jr st; cons instr for grad cr.

699 Advanced Independent Study: 1-3 cr. U/G.

May be retaken with change in topic. Prereq: U: jr st, 2.5 gpa, writ cons instr; G: grad st; writ cons instr.

700 Introduction to Health Care Informatics. 2 cr. G.

An introduction to the history, theory, applications, and organizational context of health informatics. Prereq: grad st or cons instr.

721 Health Information Technology Procurement. 3 cr. G.

A study of the concepts related to acquisition of information technology, including evaluation, selection, and contracts. Emphasis on integration of information technology and strategic planning. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

722 Legal, Ethical and Social Issues in Health Care Informatics. 3 cr. G.

Legal, ethical and social issues in the use of health care computer-based technology and information systems. Prereq: grad st

723 Health Care Systems Applications - Administrative and Clinical. 3 cr. G.

A study of the administrative and clinical applications of health information systems with emphasis on content, functional and technical requirements. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

741 Essential Programming for Health Informatics. 3 cr. G.

Study of programming topics and skills necessary to perform commonly encountered computational tasks in the field of biomedical and health informatics. Prereq: grad st.

742 Computational Intelligence in Health Informatics. 3 cr. G.

Study of computational intelligence as applied to biomedical and health care informatics. Prereq: grad st.

Health Sciences

743 Predictive Analytics in Healthcare. 3 cr. G.

Study of predictive analytics methods and their healthcare applications. Prereq: grad st or cons instr.

744 Text Retrieval and Its Applications in Biomedicine. 3 cr. G.

Fundamental issues and current research in text retrieval, text classification and their biomedical applications; programming and use of indexing, query processing, and document retrieval methods. Not open to students who have cr in COMPSCI 744, COMPSCI 444 or HCA 444. Prereq: grad st; COMPSCI 351 (P) or HCA 442 (P) or cons instr

745 Health Big Data Processing Platforms. 3 cr. G.

Study of big data processing techniques in healthcare. Prereq: HCA741; grad st or cons instr.

760 Biomedical and Healthcare Terminology and Ontology. 3 cr. G.

Theory and application of ontology, controlled terminology, and coding to health information systems. Prereq: grad st

776 Biomedical Natural Language Processing. 3 cr. G.

Study of basic and essential concepts, techniques, and tools of Natural Language Processing for its application to the biomedical domain. Prereq: grad st; B or better in HCA 741 or cons instr. Computer and internet access required.

789 Biomedical Information Extraction. 3 cr. G.

Applications of Natural Language Processing Methods to Biomedical Information Extraction Tasks. Prereq: grad st; B or better in HCA 776 or cons instr. Counts as a repeat of HCA 590 with same topic.

813 Health Regulatory Policy and Politics. 3 cr. G.

Social and political foundations of healthcare regulations including legal factors affecting patient/client care, operations, the administration of healthcare facilities and systems. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

821 Operations Management in Healthcare Organizations. 3 cr. G.

Fundamental principles, concepts, and approaches regarding health care operations management, quality management, and process improvement. Prereq: grad st; admis to MHA major; or cons instr

822 (effective 09/05/2017) Human Resources Management for Healthcare Executives. 3 cr. G.

Human resources management functions, processes and systems within healthcare organizations including recruitment, selection, training of personnel and the legal and regulatory environment. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr.

830 Social Media & Healthcare: Opportunities & Pitfalls. 3 cr. G.

Social media for healthcare providers, self-management, disease surveillance, mood/depression detection, social support for patients with chronic diseases. Social media as platforms for collaboration. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

835 Patient-Provider Communication: Strategies & Practices. 3 cr. G.

Communication techniques including technological skills, social media skills, intercultural skills and the ability to understand the new and evolving empowered patients. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

865 Financial Management for Health Care Organizations. 3 cr. G.

Skills in analysis, synthesis and evaluation of advanced financial management theories, principles, concepts and techniques important to health management. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

866 Leading Change & Innovation in a System. 3 cr. G.

Management of innovation business projects, including multi-tier contracting, virtual manufacturing, quality targeting and pursuit, and global operations. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

867 Leading Strategic Innovation in a Competitive Global Market. 3 cr. G.

Overview of healthcare in 11 developing/industrialized countries. Integrated approach and synthesis-based organizational framework explored. Leadership strategies for analysis and solutions to current issues developed Prereq: grad st; admis to MHA major; or cons instr.

868 Health Law. 3 cr. G.

Critical examination for healthcare specific issues and differences from other industries; financial and accounting practice; legal requirements and constraints; ethical issues facing healthcare managers. Prereq: grad st; admis to MHA major; or cons instr.

870 Internship in Health Management & Informatics. 3 cr. G.

Fieldwork placement in a staff or administrative position. Includes initiation of capstone project. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

890 Health Care Informatics Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's major professor. Prereq: grad st, cons instr.

891 Health Care Informatics Professional Project. 3 cr. G.

Preparation of a professional project under the supervision of the student's major professor. Prereq: grad st; cons instr.

909 Guided Teaching Experience in Health Sciences. 3 cr. G.

This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of BMS (C L Sci) 909. Prereq: grad st; Occ Thpy 900(P); cons instr

990 Research and Dissertation. 1-6 cr. G.

Research in HealthCare Administration and Informatics. Prereq: grad st

Healthcare Administration

Healthcare Administration

School/College: College of Health Sciences
Degrees Conferred:

- Master of Healthcare Administration

Overview

The Department of Health Informatics and Administration offers the Master of Healthcare Administration (MHA) to provide evidence-based training in micro and macro theory and practice to advance the health of individuals and communities—local, national, and international. The program enables students to understand the complex interrelationships between health organizations, societal and cultural contexts, and biological systems, and emphasizes the well-being of the individuals and populations affected by these complex interrelationships. The curriculum is designed for accreditation by the Commission on Accreditation Healthcare Management Education (CAHME.)

Graduate Faculty

Professors

Cisler, Ron Ph.D., University of Wisconsin-Milwaukee

Associate Professors

Trinh, Hanh Ph.D. Virginia Commonwealth University

Wu, Min Ph.D. University of North Carolina
Patrick, Timothy Ph.D. University of Missouri-Columbia

Kate, Rohit Ph.D., University of Texas at Austin

Nambisan, Priya Ph.D., Rensselaer Polytechnic Institute

Assistant Professors

Fink, Jennifer Ph.D., University of Wisconsin-Milwaukee

Luo, Jake Ph.D., Queen's University, Belfast, UK

Master of Healthcare Administration

Admission

An applicant must meet [Graduate School requirements](#) and submit GRE, GMAT, or other graduate entrance exam scores taken within the past five years. Exceptions to the entrance exam requirement will be determined on a case-by-case basis for exceptional prior professional experience or exceptional academic performance. Credits earned in these courses do not count toward the degree.

Major Professor as Advisor

A student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Initially the director of the HCI Program advises and

supervises newly admitted students. Students are then assigned faculty advisors according to faculty advising loads.

Credits and Courses

There are three options for the MHA:

Option 1: Face-to-face program (39 credits required for graduation)

All courses are offered in face-to-face sections; 30 credits of required courses, a 3-credit internship, and 6 credits of electives are required.

Option 2: Online program (39 credits required for graduation)

All courses are offered online; 30 credits of required courses, a 3-credit internship, and 6 credits of electives are required.

Option 3: Executive Online program (33 credits required for graduation)

All courses are offered online; 30 credits of required courses and a 3-credit internship are required. Admission to the Executive Online program requires previous health related administrative experience and an advanced professional degree. Examples of acceptable degrees include MBA, PharmD, PhD, MD, JD, DO, DPT, and APRN.

Required Courses (30 credits)

HIA 801 Design of Health and Human Service Systems (3) (TBD)

Kin 702 Statistical Analysis in the Health Sciences (3)

HIA 821 Operations Management in Healthcare Organizations (3) (TBD)

or Bus Adm 755 Health Care Administration and Delivery Systems (3)

HIA 822 Human Resource Management in Health Care Organizations (3) (TBD)

HIA 823 Strategic Planning in Health Care Organizations (3) (TBD)

or Bus Mgmt 720 Strategic Management in Health Care Organizations (3)

HIA 865 Financial Management for Health Care Organizations (3) (TBD)

HIA 866 Leading Change and Innovation in Systems (3) (TBD)

HIA 867 Leading Strategic Innovation in a Competitive Global Marketplace (3) (TBD)

HIA 813 Health Regulatory Policy and Politics (3) (TBD)

Bus Mgmt 727 Health Care Accounting, Law, and Ethics (3)

or HIA 721 Law for Health Care Consumers and Professionals (3) (TBD)

or HCA Legal, Ethical and Social Issues in Health Care Informatics (3)

Required Internship (3 credits)

HIA 799 Internship in Health Management and Informatics (3) (TBD)

Electives (6 credits)

HIA 844 Data and Text Mining (3) (TBD)

HIA 815 Consumer Health Informatics (3) (TBD)

HCA 700 Introduction to Health Care

Informatics (2)

HIA 860 Topics in Health Management and Biomedical and Health Informatics (3) (TBD)

HIA 803 Epidemiology for the Health Sciences II (3) (TBD)

HIA 804 Information Security (3) (TBD)

Bus Adm 783 Supply Chain Management (3)

Bus Adm 785 Project Management and Innovative Operations (3)

HIA 814 Health Regulatory Science (3) (TBD)

HIA 850 Healthcare Quality Management (3) (TBD)

HCA 760 Biomedical and Healthcare

Terminology and Ontology (3)

HIA 761 Biomedical Ontologies and Controlled Terminologies II (3) (TBD)

Bus Adm 757 Managed Care and Integrated Health Networks (3)

HCA 742 Computational Intelligence in Health Informatics (3)

HS 917 Seminar in Health Outcomes

Assessment (3)

HIA 843 Health Data Analytics (3) (TBD)

Time Limit

All degree requirements must be completed within seven years of the first enrollment semester as a degree student.

Courses

444 Introduction to Text Retrieval and Its Applications in Biomedicine. 3 cr. U/G.

Introduction to text retrieval, text classification and their biomedical applications; topics include: indexing, query processing, and document retrieval methods. Jointly offered with & counts as repeat of CompSci 444, CompSci 744, & HCA 744. Prereq: jr st; CompSci 351(P) or HCA 442(P).

497 Study Abroad. (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance to Study Abroad Prog.

521 Advanced Systems Thinking for Healthcare Leaders. 3 cr. U/G.

An in-depth view of systems theory, Deming's system of profound knowledge, and Goldratt's theory of constraints and how these theories can improve healthcare organizations. Prereq: jr st; HCA 340(P) & Bus Adm 330(P).

537 Introduction to Healthcare Databases and Technologies. 3 cr. U/G.

Introduction to origins, sources and content of healthcare data; technologies used to manage and control healthcare databases. Prereq: jr st in Hlth Sci or minor in HCA or HCI cert or cons

Healthcare Administration

instr; HS 224 (HCA 224)(P) or L&I Sci 110(P) or Bus Adm 230(P).

541 Healthcare Information Systems Analysis and Design. 3 cr. U/G.

Overview of health facility computerized information systems. Information systems theory, systems analysis, and implementation of computer systems from a managerial/planning perspective. Prereq: jr st, HCA 537(P); or grad st.

542 Healthcare Database Design and Management. 3 cr. U/G.

Study of database structure, data models, and operations issues. Emphasis on data security, integrity, integration, and access. Healthcare database applications. Prereq: jr st, HCA 541(P); or grad st.

590 Topics in Health Sciences: (Subtitled), 1-3 cr. U/G.

Topics of current interest within the field of health sciences. The theme for each semester's offering will be posted. May be repeated with change in topic to max of 9 cr for grad students. Prereq: jr st; cons instr for grad cr.

699 Advanced Independent Study: 1-3 cr. U/G.

May be retaken with change in topic. Prereq: U: jr st, 2.5 gpa, writ cons instr; G: grad st; writ cons instr.

700 Introduction to Health Care Informatics. 2 cr. G.

An introduction to the history, theory, applications, and organizational context of health informatics. Prereq: grad st or cons instr.

721 Health Information Technology Procurement. 3 cr. G.

A study of the concepts related to acquisition of information technology, including evaluation, selection, and contracts. Emphasis on integration of information technology and strategic planning. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

722 Legal, Ethical and Social Issues in Health Care Informatics. 3 cr. G.

Legal, ethical and social issues in the use of health care computer-based technology and information systems. Prereq: grad st

723 Health Care Systems Applications - Administrative and Clinical. 3 cr. G.

A study of the administrative and clinical applications of health information systems with emphasis on content, functional and technical requirements. Prereq: grad st; Bus Adm 749(C) or CompSci 557(C) or HCA 442 (HIA 442)(C) or cons instr.

741 Essential Programming for Health Informatics. 3 cr. G.

Study of programming topics and skills necessary to perform commonly encountered computational tasks in the field of biomedical and health informatics. Prereq: grad st.

742 Computational Intelligence in Health Informatics. 3 cr. G.

Study of computational intelligence as applied to biomedical and health care informatics. Prereq: grad st.

743 Predictive Analytics in Healthcare. 3 cr. G.

Study of predictive analytics methods and their healthcare applications. Prereq: grad st or cons instr.

744 Text Retrieval and Its Applications in Biomedicine. 3 cr. G.

Fundamental issues and current research in text retrieval, text classification and their biomedical applications; programming and use of indexing, query processing, and document retrieval methods. Not open to students who have cr in COMPSCI 744, COMPSCI 444 or HCA 444. Prereq: grad st; COMPSCI 351 (P) or HCA 442 (P) or cons instr

745 Health Big Data Processing Platforms. 3 cr. G.

Study of big data processing techniques in healthcare. Prereq: HCA741; grad st or cons instr.

760 Biomedical and Healthcare Terminology and Ontology. 3 cr. G.

Theory and application of ontology, controlled terminology, and coding to health information systems. Prereq: grad st

776 Biomedical Natural Language Processing. 3 cr. G.

Study of basic and essential concepts, techniques, and tools of Natural Language Processing for its application to the biomedical domain. Prereq: grad st; B or better in HCA 741 or cons instr. Computer and internet access required.

789 Biomedical Information Extraction. 3 cr. G.

Applications of Natural Language Processing Methods to Biomedical Information Extraction Tasks. Prereq: grad st; B or better in HCA 776 or cons instr. Counts as a repeat of HCA 590 with same topic.

813 Health Regulatory Policy and Politics. 3 cr. G.

Social and political foundations of healthcare regulations including legal factors affecting patient/client care, operations, the administration of healthcare facilities and systems. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

821 Operations Management in Healthcare Organizations. 3 cr. G.

Fundamental principles, concepts, and approaches regarding health care operations management, quality management, and process improvement. Prereq: grad st; admis to MHA major; or cons instr

822 (effective 09/05/2017) Human Resources Management for Healthcare Executives. 3 cr. G.

Human resources management functions, processes and systems within healthcare organizations including recruitment, selection, training of personnel and the legal and regulatory environment. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr.

830 Social Media & Healthcare: Opportunities & Pitfalls. 3 cr. G.

Social media for healthcare providers, self-management, disease surveillance, mood/depression detection, social support for patients with chronic diseases. Social media as platforms for collaboration. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

835 Patient-Provider Communication: Strategies & Practices. 3 cr. G.

Communication techniques including technological skills, social media skills, intercultural skills and the ability to understand the new and evolving empowered patients. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

865 Financial Management for Health Care Organizations. 3 cr. G.

Skills in analysis, synthesis and evaluation of advanced financial management theories, principles, concepts and techniques important to health management. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

866 Leading Change & Innovation in a System. 3 cr. G.

Management of innovation business projects, including multi-tier contracting, virtual manufacturing, quality targeting and pursuit, and global operations. Counts as repeat of HCA 590 of same topic. Prereq: grad st; admis to MHA major; or cons instr

867 Leading Strategic Innovation in a Competitive Global Market. 3 cr. G.

Overview of healthcare in 11 developing/ industrialized countries. Integrated approach and synthesis-based organizational framework explored. Leadership strategies for analysis and solutions to current issues developed Prereq: grad st; admis to MHA major; or cons instr.

868 Health Law. 3 cr. G.

Critical examination for healthcare specific issues and differences from other industries; financial and accounting practice; legal requirements and constraints; ethical issues facing healthcare managers. Prereq: grad st; admis to MHA major; or cons instr.

870 Internship in Health Management & Informatics. 3 cr. G.

Fieldwork placement in a staff or administrative position. Includes initiation of capstone project. Prereq: grad st; admis to MHA or MS-HCI program; or cons instr

890 Health Care Informatics Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's major professor. Prereq: grad st, cons instr.

891 Health Care Informatics Professional Project. 3 cr. G.

Preparation of a professional project under the supervision of the student's major professor. Prereq: grad st; cons instr.

909 Guided Teaching Experience in Health Sciences. 3 cr. G.

This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of BMS (C L Sci) 909. Prereq: grad st; Occ Thpy 900(P); cons instr

990 Research and Dissertation. 1-6 cr. G.

Research in HealthCare Administration and Informatics. Prereq: grad st

History

History

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in History
- Ph.D. in History

Overview

The Department of History offers M.A. and Ph.D. programs that prepare students for careers in teaching, in historical research, and in archives, historical agencies, museums, libraries and government. The Department offers a wide array of geographically, chronologically and thematically defined courses.

At the master's level, the Department offers four options: (a) a general degree in History; (b) a specialization in Public History for those interested in areas such as museum work, archival administration and historic preservation; (c) a coordinated Master of Arts/Master of Library and Information Science degree program; (d) a specialization in Urban Historical Studies for students who intend to pursue a Ph.D. in Urban Studies or in Urban History.

At the doctoral level, the Department offers the Ph.D. in History.

The Department also participates in the interdisciplinary master's and doctoral programs in Urban Studies. For more information, see the [Urban Studies](#) page.

Graduate Faculty

Distinguished Professors

Anderson, Margo J., Ph.D., Rutgers University
Hoeverler, J. David, Jr., Ph.D., University of Illinois
Wiesner-Hanks, Merry E., Ph.D., University of Wisconsin-Madison

Professors

Buff, Rachel, Ph.D., University of Minnesota
Carlin, Martha, Ph.D., University of Toronto
Howland, Douglas, Ph.D., University of Chicago
Levine, Marc V., Ph.D., University of Pennsylvania
McBride, Genevieve, Ph.D., University of Wisconsin – Madison
Pease, Neal H., Ph.D., Yale University
Pycior, Helena M., Ph.D., Cornell University
Rodriguez, Joseph A., Ph.D., University of California-Berkeley
Seligman, Amanda I., Ph.D., Northwestern University, Chair

Associate Professors

Alinder, Jasmine, Ph.D., University of Michigan
Austin, Joe, Ph.D., University of Minnesota
Carter, Greg, Ph.D., University of Texas

Chu, Winson, Ph.D., University of California-Berkeley
Eichner, Carolyn, Ph.D., University of California-Los Angeles
Kim, Nan, Ph.D., University of California-Berkeley
McGuinness, Aims, Ph.D., University of Michigan
Miller, Cary, Ph.D., University of North Carolina
Renda, Lex, Ph.D., University of Virginia
Silverman, Lisa, Ph.D., Yale University
Smith, Robert, Ph.D., Bowling Green State University
Vang, Chia, Ph.D., University of Minnesota

Assistant Professors

DiValerio, David, Ph.D., University of Virginia
Evans, Christine, Ph.D., University of California-Berkeley
Filippello, Marcus Ph.D., University of California-Davis
Paugh, Katherine, Ph.D., University of Pennsylvania

Master of Arts in History

Admission

To be considered for admission, an applicant must meet [Graduate School requirements](#) plus these departmental requirements:

1. An undergraduate minor or 18 credits in history or equivalent preparation.
2. Two letters of recommendation from persons familiar with the applicant's scholastic achievement and potential.
3. A sample of the applicant's written work that demonstrates his or her ability to conduct historical research and/or the ability to analyze critically the work of others.
4. Scores on the [Graduate Record Examination](#) (General Test only).

Please visit the History department's website for information on the [History Department Application](#).

Applicants may be admitted with course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted toward the degree.

Advising

The Director of Graduate Studies provides initial advising for students in selecting courses and assists in selecting a Major Professor for long-term advising; the Director may assign a provisional graduate advisor before students select a Major Professor. Students are required to consult periodically with, and have their

schedules approved by, the Director of Graduate Studies, the provisional advisor, or the Major Professor. The Major Professor normally serves as the chair of the student's academic review and supervises either the writing of the student's thesis or the student's reading for the comprehensive exam.

General History Option A: Thesis Option

Credits and Courses

Minimum degree requirement is 30 graduate credits, at least 24 of which must be taken in History. Required credit distribution: 3 credits in 712 (Historiography and Theory of History) or 713 (Historical Research Methods); 6 credits in two colloquia; 6 credits in two seminars; 6 credits for thesis; remaining 9 credits in electives selected in consultation with the student's advisor. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Academic Review and Thesis Prospectus

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), Option A students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor and two other members of the History Graduate Faculty who will serve as secondary readers of the student's thesis. With the assistance of his or her Major Professor, the student must prepare a thesis prospectus in advance of the Review. The Review involves an evaluation of the student's academic progress in master's coursework, two unrevised course papers, and the thesis prospectus.

Thesis

The student must write an acceptable thesis.

Thesis Defense

The student must pass an oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

General History Option B: Non-Thesis Option

Credits and Courses

Minimum degree requirement is 30 graduate credits, 24 of which must be taken in History. Required credit distribution: 3 credits in 712 (Historiography and Theory of History) or 713 (Historical Research Methods); 6 credits in two colloquia (800 numbers); 6 credits in two seminars (900 numbers); 15 credits in electives selected in consultation with the student's

History

advisor. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Academic Review and Comprehensive Examination Reading List

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), Option B students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor and two other members of the History Graduate Faculty who will serve as examiners for the student's comprehensive exam. With the assistance of his or her Major Professor, the student must prepare a reading list for the comprehensive exam in advance of the Review. The Review involves an evaluation of the student's academic progress in master's coursework, two unrevised course papers, and the reading list for the comprehensive exam.

Thesis

Not required.

Comprehensive Examination

The student must pass a written and oral comprehensive examination.

Time Limit

The student must complete all degree requirements within five years of initial enrollment

Public History Specialization

Credits and Courses

Minimum degree requirement is 36 graduate credits, 18 of which must be taken in general history courses, the remaining 18 in public history courses. The 18 credits in general history must be distributed in the following way: 6 credits in colloquia, 6 credits in seminars, 3 credits in History 715 (Research Methods in Local History), and 3 credits in electives. Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Of the 18 credits in public history courses, the following 9 credits are required: 3 credits in History 700 (Introduction to Public History) and either 6 credits in History 701 (Internship in Public History) or 6 thesis credits (to be taken by students in the thesis track; see tracks below). Public history students must take History 700 in the first semester of their first year. The remaining 9 credits in public history must be selected from courses that pertain to the area in which the student wishes to specialize.

Students must select from one of the following tracks: museum studies, archives, historic preservation, or thesis.

Museum Studies Track

Students in Museum Studies must account for the 3 elective credits in general history and the 9 elective credits in Public History by taking the Anthropology four-course museum sequence, Anthro 720 (History and Theory of Museums), 721 (Administration and Organization of Museums), 722 (Museum Exhibits), and 723 (Museum Curation).

Archives Track

For students interested in careers as archivists, the 9 credits of electives should be selected from the following courses:

InfoSt 650 Introduction to Modern Archives Administration, 3 cr
InfoSt 850 Seminar in Modern Archives Administration, 3 cr
InfoSt 750 Arrangement and Description in Archives, 3 cr
InfoSt 752 Archival Outreach: Programs and Services, 3 cr
InfoSt 759 Fieldwork in Archives and Manuscripts, 3 cr

Historic Preservation Track

For students interested in careers in historic preservation, the 9 credits of electives in public history should be selected from the following courses:

ArtHist 459 American Architecture
Arch 531 Historic Concepts of Architecture
Arch 551 American Vernacular Architecture
Arch 560 Introduction to Historic Preservation
Arch 760 History of Building Technology

Within the historic preservation track, students may elect to complete a multi-disciplinary historical preservation option. For this option, the minimum degree requirement is 48 graduate credits, 24 of which must be in history courses, with the remaining 24 selected from historic preservation courses in Art History and Architecture.

The 24 credits in history must be distributed as follows: 6 credits in colloquia, 6 credits in seminars, 3 credits in History 700 (Introduction to Public History), 3 credits in History 715 (Research Methods in Local History), and 6 credits in History 701 (Internship in Public History). Students may take 3 credits of either Hist 716 (Professional and Pedagogical Issues in History) or Hist 717 (History and the New Media) as a substitute for 3 credits in one colloquium.

Of the 24 credits in historic preservation courses, 12 credits are required:

Arch 300 Architectural History and Theory, 3 credits;
Arch 531 Historic Concepts of Architecture, 3 credits;
Arch 551 American Vernacular Architecture, 3 credits;
Arch 560 Introduction to Historic Preservation, 3 credits.

The remaining 12 credits must be selected from the following courses:

ArtHist 459 American Architecture, 3 credits;
Arch 533 Topics in Architectural Theory, 3 credits;
Arch 561 Measured Drawing for Architects, 3 credits;
Arch 562 Preservation Technology Laboratory, 3 credits.

Thesis Track

Students in the thesis track write a thesis in public history instead of pursuing an internship. Students are required to take 6 thesis credits instead of 6 credits in Hist 701, and they are required to take 9 credits in interdisciplinary courses in the humanities and/or social sciences that focus on culture and politics in public history instead of 9 credits in specialized professional courses.

The following are recommended interdisciplinary courses (others may be chosen with the approval of the Public History coordinators):

Anthropology

349 Seminar in Ethnography and Cultural Processes, 3 cr
803 Survey of Cultural Anthropology, 3 cr

Architecture

302 Architecture and Human Behavior, 3 cr

Art History

363 Modern Sculpture: 1880-1945, 3 cr
458 A Comparative History of Architecture and Urbanism, 3 cr
901 Problems in Art History, 3 cr

English

630 Seminar in Literature and the Other Arts, 3 cr
741 Approaches to the Modern II, 3 cr
885 Seminar in Critical Theory, 3 cr

Film

420 Intermediate Media Arts Module, 3 cr

Journalism, Advertising, and Media Studies

560 History of Mass Media, 3 cr
562 Media Studies and Culture, 3 cr
815 Mass Media and Cultural Studies, 3 cr

Information Studies

650 Introduction to Modern Archives Administration, 3 cr
655 Information and Records Management, 3 cr

History

Sociology

927 Seminar in Sociology of Contemporary Institutions, 3 cr
928 Seminar in Social Organization, 3 cr

Urban Studies

921 Seminar: Research Methods in Urban Studies, 3 cr

Within the first semester after completing 9 credits (including two of the following courses: Hist 700, Hist 715, a colloquium, and/or a seminar), public history students who choose to write a thesis are subject to an academic review. The review is a one- to two-hour meeting involving the student, the student's major professor, and two other members of the History Graduate Faculty who will serve as secondary readers of the student's thesis. With the assistance of his or her major professor, the student must prepare a thesis prospectus in advance of the review. The review involves an evaluation of the student's academic progress in master's coursework, two unrevised course papers, and the thesis prospectus.

Internship

All internships must be approved by the Public History Coordinator and are to be supervised and evaluated by the Coordinator and the host institution. All students must write a substantial paper as a part of their internship experience.

Thesis Option for Students in Non-Thesis Tracks

A thesis is not required for students in the museum studies, archives, and historical preservation tracks, but with the approval of the Public History Coordinator these students may write a thesis in public history, which will add 6 credits to the 36-credit Public History specialization. Public History students who write a thesis are subject to the Academic Review and Thesis Prospectus requirements outlined above for the General History Option A.

Comprehensive Examination

Not required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Urban Historical Studies Specialization

This specialization combines historical approaches with those of the social sciences in studying urban processes, organizations, and society. It is designed to meet the needs of students who intend to enter the interdisciplinary Urban Studies Ph.D. program or a similar program after completion of the Master of Arts degree.

Coursework

The minimum degree requirement is 33 graduate credits distributed in the following manner:

- History 712 Historiography and Theory of History or History 713 Historical Research Methods
- History 595 The Quantitative Analysis of Historical Data
- 6 credits in History colloquia (800 numbered courses)
- 6 credits in History seminars (HIST 971 and one other 900 numbered course)
- 6 credits in HIST 985 Master's Thesis Research
- Three of the following four courses:
 - Urb Std 901 Seminar: Urban Social Structure
 - Urb Std 913 Seminar in Urban Political Process
 - Urb Std 945 The Internal Structure of the City
 - Urb Std 921 Seminar: Research Methods in Urban Studies

Thesis

A thesis is required in this specialization.

Thesis Defense

The student must pass an oral defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Coordinated M.A./MLIS Program

Students in this program concurrently pursue a Master of Arts in History and a Master of Library and Information Science degree, which are awarded simultaneously.

Credits and Courses

Within the coordinated degree program, the minimum requirement for the M.A. in History is 30 graduate credits. Course distribution requirements are the same as those for General History Option A or Option B above, but the 3 elective credits for Option A and 6 of the elective credits for Option B can be selected from InfoSt 650 (Introduction to Modern Archives Administration), InfoSt 850 (Seminar in Modern Archives Administration), L&S Sci 778 (Archival Outreach: Programs and Services), L&S Sci 779 (Arrangement and Description in Archives), and InfoSt 790 (Fieldwork in Archives and Manuscripts). These elective credits also can be used to satisfy degree requirements for the MLIS. For both Option A and Option B, at least 24 credits must be taken in History graduate courses.

Academic Review and Comprehensive Examination Reading List (Option B)

Within the first semester after completing 9 credits (including two of the following courses: 712, 713, a colloquium and/or seminar), M.A./MLIS students are subject to an academic review. The Review is a one- to two-hour meeting involving the student, the student's Major Professor, and two other members of the History Graduate Faculty who will serve as examiners for the student's comprehensive exam. With the assistance of his or her Major Professor, the student must prepare a reading list for the comprehensive exam in advance of the Review. The Review involves an evaluation of the student's academic progress in master's coursework, two unrevised course papers, and the reading list for the comprehensive exam.

Comprehensive Examination

The student must pass a written and oral comprehensive examination.

Thesis (Option A)

Not required, but with the approval of the Director of Graduate Studies in History, the student may substitute a thesis for the comprehensive examination requirement. M.A./MLIS students who write a thesis are subject to the Academic Review and Thesis Prospectus requirements outlined above for Option A.

Time Limit

The student must complete all requirements for the coordinated degree within seven years of initial enrollment.

Doctor of Philosophy in History

Admission

To be considered for admission, an applicant must meet Graduate School admission requirements plus these departmental requirements:

1. A master's degree in history or a related field
2. Three letters of recommendation from persons familiar with the applicant's intellectual achievement and potential.
3. A sample of the applicant's written work that demonstrates his or her ability to conduct historical research and/or the ability to analyze the work of others critically.
4. Scores of the [Graduate Record Examination](#).

Please visit the History department's website for information on the [History Department Application](#).

Course of Study

To earn the Ph.D., a student must have accumulated at least 54 graduate credits, at least 30 of them taken at the post-master's level.

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(Precise numbers of credits and actual course requirements while in Ph.D. status will be determined after a review of the applicant's previous coursework.) Doctoral students may not accumulate more than 6 credits in U/G courses, nor more than 6 credits in independent study without the approval of the Director of Graduate Studies. Of the 54 credits, at least 9 must be in fields other than history. No more than 18 credits in courses outside of History may be counted toward the doctoral degree.

Courses Required

All students must take three method courses selected from the following, at least one of which must be Hist 712 or Hist 713:

- Hist 712 Historiography and Theory of History, 3 credits
- Hist 713 Historical Research Methods, 3 credits
- Hist 715 Research Methods in Local History, 3 credits
- Hist 716 Professional and Pedagogical Issues in History, 3 credits
- Hist 717 History and the New Media, 3 credits

All students must also take History 990, Dissertation Research (6 credits minimum), and 12 credits of electives (may include additional dissertation credits).

Advising

The Director of Graduate Studies provides initial advising for the student in selecting courses and assists in selecting a Major Professor for long-term advising; the Director may assign a provisional graduate advisor before students select a Major Professor.

Students are required to consult periodically with, and have their schedules approved by, the Director of Graduate Studies, the provisional advisor, or the Major Professor. The Major Professor helps the student to define a dissertation topic and assists the student in choosing appropriate courses and in selecting members of the student's Preliminary Examination and Doctoral Committees. The Major Professor normally chairs the student's Preliminary Examination and Doctoral Committees.

Foreign Language or Data Analysis Proficiency

Students must demonstrate proficiency in one or more relevant foreign languages by passing a written examination in the translation of source materials or historical analysis. If a student's Major Professor considers proficiency in more than one language necessary to the student's specific plan of study, exams in more than one language may be required.

With the approval of the Major Professor, a student may substitute proficiency in another skill relevant to historical study; in these cases, proficiency will be demonstrated through relevant coursework.

Minor

Students are not required to elect a minor field, but they may wish to supplement their chosen specialty in this way. Depending on the particular course array, students may need to take more than 54 credits to complete both the major and minor requirements. Those who wish to take a minor have three options:

Option A: Minor In One Field

Working with a minor professor, students take 8-12 credits in a single department, leading to a minor examination.

Option B: Interdisciplinary Minor

Students take 8-12 credits in two or more departments, selected for their relevance to the student's area of specialty. The minor will be defined in consultation with the student's Major Professor and the Director of Graduate Studies.

Option C: Minor in Public History

This 21-credit minor is appropriate for students planning a career in archives, museums, historic preservation, or other related specialties. It is not available to students who already have a specialization or degree in public history at the master's level. Students in this minor are required to take 12 credits as follows:

History 700 Introduction to Public History, 3 credits
History 701 Internship in Public History, 6 credits
History 715 Research Methods in Local History, 3 credits

Students must take History 700 in the first semester of their first year. The remaining 9 credits in public history must be selected from courses that pertain to the area of public history in which the student wishes to specialize.

For students interested in careers as archivists, electives should be selected from the following courses:

InfoSt 650 Modern Archives Administration, 3 credits
InfoSt 850 Seminar in Modern Archives Administration, 3 credits
InfoSt 753 Archival Outreach: Programs and Services, 3 credits
InfoSt 750 Arrangement and Description in Archives, 3 credits
InfoSt 759 Fieldwork in Archives and Manuscripts, 3 credits

Students interested in careers in museums are advised to take at least three of the following courses:

Anthro 720 History and Theory of Museums, 3 credits
Anthro 721 Administration and Organization of Museums, 3 credits
Anthro 722 Museum Exhibits, 3 credits
Anthro 723 Museum Curation, 3 credits

Students interested in careers in historic preservation are advised to take at least three of the following:

Arch 560 Introduction to Historic Preservation, 3 credits
Arch 760 History of Building Technology, 3 credits
Arch 835 Studies in Architectural History and Precedent: (Historic Preservation), 3 credits
Arch 531 Historic Concepts of Architecture, 3 credits
Arch 533 Topics in Architectural Theory, 3 credits

Doctoral Preliminary Examination

The doctoral preliminary examination includes written and oral components designed to demonstrate the breadth of a student's knowledge and the ability to conduct advanced historical research. It must be taken within five years of enrollment in the Ph.D. program.

Students who fail the doctoral preliminary examination may not proceed to the dissertation. The exam may be retaken only once. The Director of Graduate Studies provides specific guidelines for selecting the Doctoral Preliminary Examination Committee and preparing the doctoral preliminary examination proposal.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to historical scholarship. In consultation with the Major Professor, the student chooses a dissertation committee, which must approve the prospectus. The student's Major Professor provides guidance in preparing the prospectus and in developing and writing the dissertation.

Dissertation Defense

The candidate must pass an oral examination in defense of the dissertation.

Time Limit and Residence

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program. To meet the continuous-year portion of the residence credit requirement, students must complete 8 to 12 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, including summer sessions. In exceptional cases, modifications of the residence requirement may

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be requested, subject to the approval of the History Department and the Graduate School.

Courses

302 History of Christianity, East and West Since 1500. 3 cr. U/G.

Development of the institutional church; major church leaders, theological and doctrinal changes; worship, liturgy and arts of Christendom; Christianity and social change. Prereq: jr st; satisfaction of GER English Composition competency req.

303 A History of Greek Civilization: The Greek City-State. 3 cr. U/G.

Greek history from prehistoric times to the death of Alexander the Great. Prereq: jr st; satisfaction of English Composition competency req.

304 A History of Greek Civilization: The Age of Alexander the Great. 3 cr. U/G.

The Macedonian state to the death of Alexander the Great; the Hellenistic states. Prereq: jr st; completion of GER English Composition competency req.

307 A History of Rome: The Republic. 3 cr. U/G.

Roman history from the beginnings of the Roman state to the death of Julius Caesar. Prereq: jr st; satisfaction of English Composition competency req.

308 A History of Rome: The Empire. 3 cr. U/G.

Roman history from the death of Julius Caesar to the fall of the empire in the west. Prereq: jr st; satisfaction of English Composition competency req.

318 Medieval Civilization: The High Middle Ages. 3 cr. U/G.

The intellectual development of medieval Europe, from the twelfth century to the fourteenth century. Prereq: jr st; completion of GER English Composition competency req.

319 The Era of the Crusades. 3 cr. U/G.

A consideration of the relationships between western Europe and the East in the period of the Crusades. Prereq: jr st; satisfaction of English Composition competency req.

320 History of Medieval Warfare. 3 cr. U/G.

Evolution of warfare in the Middle Ages; technology, tactics, strategy, and interaction with politics and culture. Prereq: jr st; completion of GER English Composition competency req.

325 The Renaissance. 3 cr. U/G.

Culture and society in Europe from the fourteenth to the sixteenth century; early Italian Renaissance to Elizabethan England; the Age of Discovery. Prereq: jr st; satisfaction of English Composition competency req.

326 The Reformation. 3 cr. U/G.

Major religious movements and leaders of the sixteenth century; social and intellectual history of the Protestant and Catholic Reformations. Prereq: jr st; satisfaction of English Composition competency req.

329 The Roman Catholic Church, 1500 to the Present. 3 cr. U/G.

History of the Catholic Church from the Renaissance to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

330 The Papacy in History. 3 cr. U/G.

Examination of the papacy, the world's most visible and influential religious office, from its origins to the present. Not open to students w/cr in Hist 600 w/same topic. Prereq: jr st; satisfaction of GER English Composition competency req.

341 Imperial Russia. 3 cr. U/G.

Development of autocracy and expansion of Russia's multi-ethnic empire; Russian economic, political, and intellectual developments under the tsars; reform and revolution. Prereq: jr st; satisfaction of GER English Composition competency req.

343 Russia Since 1917. 3 cr. U/G.

Russian cultural, social, and political history since the revolutions of 1917. Prereq: jr st; satisfaction of GER English Composition competency req.

345 The Modern Balkans: Nationalism, War, and Democracy. 3 cr. U/G.

Fall of the Ottoman Empire; revolutionary movements; emergence of national states; socio-political and cultural developments; Second World War; socialist regimes; civil wars and democratic transitions. Prereq: jr st; completion of GER English Composition competency req.

346 Poland and Its Neighbors, 1914-1945. 3 cr. U/G.

The effects of two world wars in East-Central Europe. The independence and subjugation of Poland, Czechoslovakia, Hungary and the Baltic States. Prereq: jr st; satisfaction of GER English Composition competency req.

348 Poland and Its Neighbors, 1945 to the Present. 3 cr. U/G.

Developments in Poland, East Germany, Czechoslovakia, and Hungary since the Second World War. The origins, development, decline, and fall of communist rule in Central Europe. Prereq: jr st; satisfaction of GER English Composition competency req.

353 Ireland Since 1600: Colony to Independent State. 3 cr. U/G.

Irish history from 1600 to the present. Topics include the famine, nationalism, and relationship with England. Prereq: jr st;

satisfaction of GER English Composition competency req.

358 The Jews of Modern Europe: History and Culture. 3 cr. U/G.

History of the Jews in Europe from the middle of the eighteenth century to the present, with an emphasis on their cultural production. Hist 358 & Jewish 358 are jointly offered; they count as repeats of one another. Prereq: jr st.

363 Germany: Hitler and the Nazi Dictatorship. 3 cr. U/G.

Rise and fall of Third Reich; Weimar Republic and collapse; Hitler's conquest of power, national socialist state, World War II; catastrophe and reconstruction. Prereq: jr st; satisfaction of GER English Composition competency req.

364 The Holocaust: Anti-Semitism & the Fate of Jewish People in Europe, 1933-45. 3 cr. U/G.

The rise of Nazism; anti-Semitism; annihilation of Jews and other ethnic and religious minorities; Jewish responses and resistance; legacy of persecution. Not open for cr to students with Hist 295 'Historical Encounters: The Holocaust.' Prereq: jr st; satisfaction of English Composition competency req.

370 Topics in the History of Religious Thought: (Subtitled). 3 cr. U/G.

Selected topics in the history of religious thought, for graduate and advanced undergraduate students. Intensive reading and student reports will be stressed. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of English Composition competency req.

371 Topics in European History: (Subtitled). 3 cr. U/G.

Selected themes and issues in European history. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

372 Topics in Global History: (Subtitled). 3 cr. U/G.

Selected issues in global history. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

373 Topics in Gender and History: (Subtitled). 3 cr. U/G.

Selected topics in the history of gender, family, and sexuality. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of English Composition competency req.

374 Europe: The Age of the Dictators, 1914-1945. 3 cr. U/G.

Fascism, communism, and the decline of democracy; origins and consequences of the First and Second World Wars. Prereq: jr st;

History

satisfaction of English Composition competency req.

375 Contemporary European History, 1945 to the Present. 3 cr. U/G.

The Cold War; the recovery of Europe; student revolutions and spiritual crisis; economic stagnation; moves toward European unification; breakup of the Soviet bloc. Prereq: jr st; satisfaction of GER English Composition competency req.

376 History of Ancient China, Earliest Times to 220 A.D. 3 cr. U/G.

History of China through First Unification and Great Empire of Han Dynasty; attention to development of distinctive qualities of Chinese philosophy, politics, society, and material culture. Prereq: jr st; satisfaction of English Composition competency req.

377 Modern China. 3 cr. U/G.

China in the nineteenth and twentieth centuries, from the Opium Wars to the establishment of People's Republic in 1949. Major political, economic and social issues. Prereq: jr st; satisfaction of English Composition competency req.

378 Revolution in China. 3 cr. U/G.

History of the socialist revolution in China. Background examination of the Chinese communist movement, but major emphasis on People's Republic from 1949 to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

380 Buddhism: A Cultural History. 3 cr. U/G.

Development of Buddhist culture in Asia and contemporary globalized world; intertwining themes of individual purification and Buddhist visions of just and unjust societies. Prereq: jr st; completion GER English Composition competency req.

382 Southeast Asia: The Age of Imperialism and Revolution Since 1800. 3 cr. U/G.

A survey of the region beginning with the European occupation of the mainland and ending with the Vietnam War. Prereq: jr st; satisfaction of GER English Composition competency req.

383 North Africa from the Arab Conquest to the Present. 3 cr. U/G.

The process of Islamization, Arabization, and urbanization of North Africa from the seventh century to the present, including the Spanish-North African interrelationship. Prereq: jr st; satisfaction of GER English Composition competency req.

385 Political Islam to Zionism: Middle Eastern Intellectual History, 1789-1990. 3 cr. U/G. Modern Middle Eastern political ideas; Napoleon's 1798 invasion of Egypt to 1979 Iranian Revolution and its aftermath; feminism,

radical Islam, Arab socialism, Zionism, nationalism, colonialism. Counts as repeat of Hist 401 w/similar topic. Prereq: jr st; satisfaction of GER English Composition competency req.

386 Africa: The Age of Empires to 1880. 3 cr. U/G.

Survey of the highlights of early African history; empires black and white; religion; slavery; material culture. Prereq: jr st; satisfaction of English Composition competency req.

387 Africa: Imperialism and Independence Since 1880. 3 cr. U/G.

The phases of colonial relationships and the parties involved; conquest, pacification, and independence of African states. Prereq: jr st; satisfaction of GER English Composition competency req.

392 The History of Southern Africa. 3 cr. U/G.

Surveys the history of South Africa and Zimbabwe with special reference to the twentieth century, comparing their struggles for majority rule. Prereq: jr st; satisfaction of GER English Composition competency req.

393 History of Mexico. 3 cr. U/G.

An upper-division survey course spanning all periods of Mexican history, with special emphasis on the historical origins and development of major contemporary issues. Prereq: jr st or cons instr; satisfaction of GER English composition competency req.

394 History of Japan to 1600. 3 cr. U/G.

Japanese political, economic, and social development, cultural change, and major historical figures, from ancient times to 1600. Prereq: jr st; completion of GER English Composition competency req.

395 History of Japan Since 1600. 3 cr. U/G.

Japan's rise as modern nation-state and economic power; evolution of social, political, cultural institutions from establishment of Tokugawa shogunate through Meiji restoration to present. Prereq: jr st; completion of GER English Composition competency req.

400 Topics in Latin American and Caribbean History: (Subtitled). 3 cr. U/G.

Selected themes and issues in the history of South America, Central America, and the Caribbean Islands. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

401 Topics in Middle Eastern History: (Subtitled). 3 cr. U/G.

Selected themes and issues in Middle Eastern history. Retakable w/chg in topic to 9cr max. Prereq: jr st; completion of GER English Composition competency req.

402 Topics in Asian History: (Subtitled). 3 cr. U/G.

Selected themes and issues in the history of Asia. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

404 Topics in American History: (Subtitled). 3 cr. U/G.

Selected themes and issues in the history of the United States. Retakable w/chg in topic to 9 cr max. Prereq: jr st; completion of GER English Composition competency req.

405 The Age of the American Revolution, 1750-1789. 3 cr. U/G.

Background to revolution; British policy and American protest; political, social, diplomatic, and military phases of the War for Independence; Articles of Confederation; Constitution of 1787. Prereq: jr st; satisfaction of GER English Composition competency req.

409 Causes of the Civil War, 1828-1861. 3 cr. U/G.

Examination of the relationship between sectional conflict and political and social developments; the explanation of the causes and timing of the Civil War. Prereq: jr st; satisfaction of GER English Composition competency req.

410 Civil War and Reconstruction: The United States, 1861-1877. 3 cr. U/G.

The military conflict from Sumter to Appomattox; policies of Lincoln, Reconstruction and aftermath of slavery. Prereq: jr st; satisfaction of GER English Composition competency req.

418 America in Prosperity, Depression and War, 1921-1945. 3 cr. U/G.

The Twenties as a transition period; the Great Depression; Franklin D. Roosevelt and the New Deal; foreign policies and U.S. participation in World War II. Prereq: jr st; satisfaction of GER English Composition competency req.

419 America Since 1945. 3 cr. U/G.

Postwar America, including social and economic developments, Cold War rivalries, and the changing political scenes from the Truman years to the present. Prereq: jr st; satisfaction of English Composition competency req.

420 The History of the American Presidency: A Biographical Approach. 3 cr. U/G.

A biographical study of American presidents from Washington to Nixon; their backgrounds, leadership styles, successes, failures, and legacies. Prereq: jr st; satisfaction of GER English Composition competency req.

430 American Constitutional Development, 1876 to the Present. 3 cr. U/G.

Problems of government and the economy, civil rights and civil liberties in war and peace as

History

reflected in controversies over meaning of the federal constitution. Prereq: jr st; satisfaction of GER English composition competency req.

434 The United States as a World Power in the 20th Century. 3 cr. U/G.

How the United States became involved in two world wars and a cold war, while spreading its interests and influence across the globe. Prereq: jr st; satisfaction of GER English Composition competency req.

435 Ethnic America: To 1880. 3 cr. U/G.

Survey of the conflict between cultural diversity and the melting pot, included are theories about and experiences of ethnic groups in America, particularly the bad west. Prereq: jr st; satisfaction of GER English composition competency req.

439 The Italian-American Experience in the United States. 3 cr. U/G.

Italian-American cultural history, including the arts, religion, entertainment, family relationships and discrimination encountered; Italian-American experience in the context of the global diaspora. Prereq: jr st; completion of GER English Composition competency req.

440 History of the American Working Classes. 3 cr. U/G.

The social and occupational composition of the American working classes and their response to capitalism, socialism, and the organized labor movement. Prereq: jr st; satisfaction of GER English Composition competency req.

445 African Americans from Slavery to Freedom. 3 cr. U/G.

African-American history from shores of Africa through Atlantic slave trade to plantation slavery and formation of an African-American community in the New World. Prereq: jr st; satisfaction of English Composition competency req.

446 African Americans Since the Civil War. 3 cr. U/G.

The search for justice and equality, from emancipation in 1865 to the civil rights revolution of the 1960's and beyond. Prereq: jr st; satisfaction of English Composition competency req.

448 Baseball in American History. 3 cr. U/G.

The origins and development of baseball in the United States, its rise as a spectator sport, and its place in American life and culture. Prereq: jr st; satisfaction of GER English Composition competency req.

449 Popular Culture in America, 1800 to the Present. 3 cr. U/G.

Popular culture seen through artifacts and the mass media: popular music, newspapers, magazines, dime novels, film, comics, TV, radio, folk heroes, sports, and 'stars.' Prereq: jr

st; satisfaction of GER English Composition competency req.

450 Growth of Metropolitan Milwaukee. 3 cr. U/G.

History of the city and county of Milwaukee and Milwaukee suburbs, emphasizing population patterns; government; economic change; social, cultural and educational institutions; and spatial relationships. Prereq: jr st; satisfaction of GER English Composition competency req.

451 History of Wisconsin. 3 cr. U/G.

Political, economic and social development of Wisconsin, especially since 1815, with attention to such major personalities as the La Follettes, Kohlers, Turner, Hoard, Wright, and Gale. Prereq: jr st; satisfaction of GER English Composition competency req.

452 History of Religion in American Life to 1870. 3 cr. U/G.

Development of different religions in America; role of religion in American society, politics; church attitudes on race and war; lives of religious leaders; theology. Prereq: jr st; satisfaction of English Composition competency req.

453 History of Religion in American Life Since 1870. 3 cr. U/G.

Development of different religions in America; role of religion in American society, politics; church attitudes on race and war; lives of religious leaders; theology. Prereq: jr st; satisfaction of GER English Composition competency req.

456 The Human Side of History: American Biographies. 3 cr. U/G.

The study of American history through biography, emphasizing a variety of figures who represent major historical issues, ideas, and movements. Prereq: jr st; satisfaction of GER English Composition competency req.

460 The History of Poverty in America. 3 cr. U/G.

Social welfare policies and programs (including evolution of social work profession), 1620-present, in light of major developments in American social and intellectual history. Prereq: jr st; satisfaction of GER English Composition competency req.

463 History of the American City. 3 cr. U/G.

Character of American urbanization and its social and political consequences; responses to 'urban problems' from the early nineteenth century to the present. Prereq: jr st; satisfaction of GER English Composition competency req.

468 The American Feminist Movement. 3 cr. U/G.

History of the American feminist movement from colonial times to the present. Prereq: jr st;

satisfaction of GER English Composition competency req.

469 Manhood in America. 3 cr. U/G.

A gendered exploration of the history of masculinity in the United States; how various styles and functions of manhood changed over time. Counts as repeat of Hist 373 w/topic 'Manhood in America.' Prereq: jr st, satisfaction of GER English Composition competency req; or grad st.

473 History of Wisconsin Indians. 3 cr. U/G.

History of Wisconsin tribes from their earliest years to the present, including European contacts, treaties, the fur trade, and wars. AIS 473 & Hist 473 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of English Composition competency req.

474 Topics in North American Indian History: (Subtitled). 3 cr. U/G.

Detailed examination of such topics as Indian legal status, culture change, Indian education, Pan-Indianism and gender roles. Retakable w/chg in topic to 9 cr max. AIS 474 & Hist 474 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req.

475 American Indian History, Law, and Government. 3 cr. U/G.

American Indian political systems; their interaction with U.S. Indian policy. Indigenous systems of governance; European Legal justification for colonization; American Indian sovereignty; Federal-Tribal relationship. No cr for students w/cr in Hist 474 w/similar topic. AIS 475 & Hist 475 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before coursework level, content and credits are determined and/or in specially prepared program coursework. Retakable w/chg in topic. Prereq: jr st; satisfaction of English Composition competency req; acceptance for Study Abroad Prog.

594 Methods and Theory in the Historical Study of Religion: (Subtitled). 3 cr. U/G.

Methods and historiography in the history of religion; focus on a particular religious-historical complex. Retakable w/chg in topic to 9 cr max. Prereq: jr st; satisfaction of GER English Composition competency req.

595 The Quantitative Analysis of Historical Data. 3 cr. U/G.

Statistical methods and the computer in analysis of historical problems: statistics through regression; use of social science computer package; special techniques for handling historical data. Prereq: jr st; completion of Oral

History

and Written Communication (OWC) Competency Part A & Quantitative Literacy (QL) Competency Part A GERs.

596 Maps as Historical Sources. 3 cr. U/G. Introduction to maps, both as historical artifacts and as instruments for reinterpreting historical realities. Prereq: jr st; completion of GER English Composition competency req.

597 Fields and Methods in Public History. 3 cr. U/G. Career opportunities for historians in historical agencies, focusing on the work and methods of archivists, museum curators, historic preservationists, oral historians, and administrators. Prereq: jr st; completion of GER English Composition competency req; cons coord of public hist.

700 Introduction to Public History. 3 cr. G. Seminar on community history, relations between academic history and public history, and uses of material culture and oral history. Prereq: grad st.

701 Internship in Public History. 1-6 cr. G. Requirements determined and evaluation arranged on an individual basis. Total of 6 cr required for the public history specialization of the M.A. degree and the optional public history minor in the PhD degree. Prereq: grad st; cons coord of public history.

712 Historiography and Theory of History. 3 cr. G. Seminar on history of historical writing and thought, including such theoretical problems as objectivity, generalization, the nature of historical explanation, and the value of history. Prereq: grad st.

713 Historical Research Methods. 3 cr. G. Seminar addressing evaluation of evidence, quantitative methods, and application of social science methodology to historical research. Prereq: grad st.

715 Research Methods in Local History. 3 cr. G. Seminar on history and methodology of studying small towns, rural areas, cities, and neighborhoods in the United States. Prereq: grad st.

716 Professional and Pedagogical Issues in History. 3 cr. G. Seminar on professional and pedagogical aspects of historical work, including course management, lecture writing, grading, and grant writing. Prereq: grad st.

717 History and the New Media. 3 cr. G. Seminar on uses of new forms of technology in historical research and teaching. Prereq: grad st.

740 Approaches to the Modern I. 3 cr. G. Seminar on major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MALLT 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 Approaches to the Modern II. 3 cr. G. Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MALLT 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

800 Colloquium on U.S. History: (Subtitled). 3 cr. G. Seminar on issues and problems in U.S. history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

805 Colloquium: The Age of Jackson. 3 cr. G. Studies in basic aspects of American history between 1815 and 1848 with emphasis on changing interpretations. Prereq: grad st; cons instr.

809 Colloquium on Readings in the Gilded Age, 1877-1901. 3 cr. G. Seminar that surveys historical literature on politics, culture, and society in late 19th century United States. Prereq: grad st.

813 Colloquium: Twentieth-Century Problems in American History. 3 cr. G. A study of selected aspects of the American domestic scene and of important contemporary historians and their interpretations of the recent past. Prereq: grad st; cons instr.

825 Colloquium in the History of the South. 3 cr. G. Studies of aspects of the history of the south with emphasis on changing interpretations. Prereq: grad st; cons instr.

831 Colloquium on U.S. Labor History. 3 cr. G. Seminar on topics in the history of the working classes in the U.S. since 1800. Prereq: grad st.

833 Colloquium on Urban History: (Subtitled). 3 cr. G. Seminar on issues and problems in urban development and institutions. Specific topics announced in Schedule of Classes each time course is offered. Retakable w/ chg in topic to 9 cr max. Prereq: grad st.

835 Colloquium-Literature of Milwaukee. 3 cr. G. Examination and analysis of the documentation of Milwaukee's history, biography, memoirs, fiction, newspapers and periodicals, government documents and reports, manuscripts, maps, iconographic materials, and physical survivals. Prereq: grad st; cons instr.

839 Approaches to Global History. 3 cr. G. Seminar on historiography and practices of global and comparative history. Prereq: grad st.

840 Colloquium on Global History: (Subtitled). 3 cr. G. Seminar on historical developments from a global or comparative perspective. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

841 Colloquium on Modern Studies: (Subtitled). 3 cr. G. Seminar on historical developments from a modern studies perspective. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

850 Colloquium on European History: (Subtitled). 3 cr. G. Seminar on issues and problems in European history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

859 Colloquium in Medieval Economic History. 3 cr. G. Studies in the economic and social history of the middle ages. Prereq: grad st; cons instr.

862 Colloquium in the History of Renaissance and Reformation Europe: 3 cr. G. Introduction to important primary and secondary sources for the period; historiographical problems; different periods and/or problems are dealt with from semester to semester. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

868 Colloquium in Modern British History. 3 cr. G. Review basic historical literature on development of British economy, social structure and relations, political institutions, and cultural values since industrial revolution. Prereq: grad st; cons instr.

880 Colloquium: European Diplomatic History. 3 cr. G. Studies in modern European diplomatic history, emphasizing historiography, interpretation, and archival sources. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G. Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

894 Colloquium in Tropical History: Colonial Rule. 3 cr. G. The colonial period both from the point of view of the European rulers and the colonized peoples of the third world. Prereq: grad st; cons instr.

History

898 Colloquium in Modern Chinese History. 3 cr. G.

Studies in 19th and 20th century Chinese history with emphasis on the main thematic approaches employed by Chinese, Japanese, European, and American historians. Prereq: grad st; cons instr.

900 Seminar on U.S. History: (Subtitled). 3 cr. G.

Topics in U.S. history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

903 Seminar: American Political Hist in Revolutionary & Early National Periods. 3 cr. G.

Studies in American political history in the age of the founding fathers. Prereq: grad st; cons instr.

904 Seminar in Modern America. 3 cr. G.

Research in United States history since 1921. Prereq: grad st.

907 Seminar on U.S. Intellectual and Cultural History. 3 cr. G.

Intellectual and cultural figures and movements in U.S. history. Prereq: grad st.

924 Seminar In American Economic History. 3 cr. G.

Problems in the economic history of the United States. Prereq: grad st; cons instr.

940 Seminar on Global History: (Subtitled). 3 cr. G.

Historical developments from a global or comparative perspective. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

950 Seminar on European History: (Subtitled). 3 cr. G.

Topics in European history. Specific topics announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

970 Seminar on European Political History. 3 cr. G.

State, society, revolution, war and empire in European history. Prereq: grad st.

971 Seminar on the History of American Urban Problems. 3 cr. G.

Historical analysis of the current problems of housing, race relations, the powers and functions of municipal government, law enforcement, and city planning in the United States. Hist 971 & Urb Std 971 are jointly offered; they count as repeats of one another. Prereq: grad st.

973 Seminar on Non-Western History: 3 cr. G.

Significant themes and eras in the history of non-Western peoples and nations. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

980 Growth of Urban Society. 3 cr. G.

Seminar in historical, social, and ecological growth and development of urban agglomerations. Comparative framework will be used to examine the urban process. Hist 980 & Urb Std 980 are jointly offered; they count as repeats of one another. Prereq: grad st.

985 Master's Thesis Research. 1-6 cr. G.

For students in the thesis option. Retakable to 6 cr max. Prereq: grad st; cons instr.

989 Master's Level Independent Work. 1-3 cr. G.

Independent study on topics selected in agreement with supervising professor. Retakable to 9 cr max. Prereq: grad st; cons instr.

990 Dissertation Research. 1-6 cr. G.

Research or dissertation work for students in the doctoral program in History. Retakable as necessary to fulfill dissertation requirements. Prereq: grad st; cons instr.

999 Doctoral Level Independent Work. 1-3 cr. G.

Independent study on topics selected in agreement with supervising professor. Prereq: grad st; cons instr.

Information Science and Technology

This degree program is currently offered as an online program only, and therefore cannot accept students who need a visa (F1 or J1) to study at UWM.

School/College: School of Information Studies
Degrees Conferred:

- Master of Science in Information Science and Technology

Related Certificates

- [Certificate of Advanced Study in Archives and Records Administration](#)
- [Certificate of Advanced Study in Digital Libraries](#)

Overview

The Master of Science in Information Science and Technology (MSIST) is a professional graduate degree program for those who seek advanced training to meet the ever increasing need for information technology (IT) professionals. The degree will be composed of 36 credit hours and will supplement our Bachelors of Science in Information Science and Technology.

The MSIST will provide essential skills and knowledge in the following areas:

- **User interface (UI) design and human computer interaction (HCI):** Equips students with the necessary knowledge and abilities to develop interaction design that supports and enables users of the mobile applications.
- **Web and mobile design and development:** Equips students with advanced technical knowledge and skills to develop mobile applications.
- **Data management and data science:** Provides students with advanced knowledge and skills to manage data sets generated by applications.
- **Information security:** Focuses on techniques on ensuring the security of all data captured, stored and analyzed through applications.
- **Generalist:** For students who require a customized program to meet their educational and employment needs.

Graduate Faculty

Professors

Aman, Mohammed, Ph.D., University of Pittsburgh
Britz, Johannes, D.D., University of Pretoria
Lipinski, Tomas, Ph.D., University of Illinois at Urbana-Champaign

Smiraglia, Richard, Ph.D., University of Chicago
Wolfram, Dietmar, Ph.D., University of Western Ontario
Xie, Hong, Ph.D., Rutgers University
Zhang, Jin., Ph.D. University of Pittsburgh

Associate Professors

Du Plessis, Jacques, Ph.D., Utah State University
Haigh, Maria, Ph.D., Drexel University
Haigh, Thomas, Ph.D., University of Pennsylvania
Henderson, Laretta, Ph.D., University of Iowa
Kipp, Margaret, Ph.D., University of Western Ontario
Latham, Joyce, Ph.D., University of Illinois at Urbana-Champaign
Lee, Hur-Li, Ph.D., Rutgers University
Mu, Xiangming, Ph.D., University of North Carolina-Chapel Hill
Zimmer, Michael, Ph.D., New York University

Assistant Professors

Babu, Rakesh, Ph.D., The University of North Carolina, Greensboro
Force, Donald, Ph.D., University of British Columbia
Kozak, Nadine, Ph.D., University of California – San Diego
Peekhaus, Wilhelm, Ph.D., University of Western Ontario
Ponelis, Shana, Ph.D., University of Pretoria

Master of Science in Information Science and Technology

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

- A resume.

Prerequisites:

Preference will be given to those students who have a baccalaureate degree in information sciences, computer information systems, computer science, engineering, statistics, or a related field. Students with sufficient background gained through work experience or professional training in information technologies, such as networks, web services, and database development, will also be considered for admission to the program. Those who have neither of the aforementioned qualifications will be encouraged to take the following prerequisites, or their equivalents, before taking related courses:

INFOST 240 Introduction to Web Design
INFOST 410 Database Information Retrieval Systems

INFOST 440 Web Application Development

If taken, these courses must have been completed within the last five years with a grade of B or better (B- not acceptable).

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses

The program requires 36 graduate-level credits, including eight, 3-credit core courses and 12 credits of electives.

Core Courses:

INFOST 581 User-Centered Interaction Design
INFOST 582 Data Science
INFOST 583 Information Security
INFOST 584 Web and Mobile Development
INFOST 790 Project Design, Implementation, and Evaluation
COMPST 701 Mathematical and Computing Fundamentals
COMPST 702 Software Development in Python
COMPST 703 Software Engineering Principles

Electives

Twelve hours of electives from one of the transcript designated tracks below is also required.

Electives for the User Interaction & Human Computer Interaction Track

Infost 465 Legal Aspects of Information Products and Services (G)
Infost 670 Instructional Technologies
Infost 685 Electronic Publishing and Web Design
Infost 691 Special Topics in Information Science
Infost 717 Information Architecture
Infost 788 Information Systems: Analysis and Design
Arch 583 Emerging Digital Technology
Arch 781 Virtual Modeling
Arch 782 Visualization 1
Arch 783 Visualization 2
Art 411 Advanced Digital Art
Art 423 Experimental Typography
Art 496 Sequence and Structure
Art 929 Advanced Research-Design & Digital Media
CompSci 459 Fundamentals of Computer Graphics
CompSci 522 Computer Game Design
CompSci 713 Computer Vision
CompSci 718 Advanced Computer Graphics: Modeling and Animation
CompSci 737 Project Management
CompSci 743 Intelligent User Interfaces
CompSci 747 Human-Computer Interaction 3
Geog 403 Remote Sensing; Environmental and Land Use Analysis

Information Science and Technology

Geog 405 Cartography
Geog 525 Geographic Information Science
Geog 703 Advanced Remote Sensing

Electives for the Web and Mobile

Application Design Track

Infost 465 Legal Aspects of Information Products and Services (G)
Infost 691 Special Topics in Information Science
Infost 717 Information Architecture
Infost 788 Information Systems: Analysis and Design
Art 325 Multimedia Design Introduction
Art 302 Art and Design Workshop
Art 524 Professional Practice in Design
Bus Adm 810 Development of Web-Based Solutions
Bus Adm 747 Service Oriented Analysis and Design
CompSci 481 Server Side Internet Programming (G)
CompSci 482 RICH Internet Applications (Client Side)
Geog 525 Geographic Information Science

Electives for the Information Security Track

Infost 465 Legal Aspects of Information Products and Services (G)
Infost 691 Special Topics in Information Science
Infost 761 Information Privacy
Infost 788 Information Systems: Analysis and Design
Bus Admin 817 Infrastructure for Information Systems
CompSci 469 Introduction to Computer Security
CompSci 520 Computer Networks

Electives for the Data Science Track

Infost 465 Legal Aspects of Information Products and Services (G)
Infost 691 Special Topics in Information Science
Infost 714 Metadata
Infost 716 Thesaurus Construction
Infost 719 Advanced Topics in Information Organization
Infost 780 XML for Libraries
Infost 783 Information and Storage Retrieval
Infost 785 Database Management for Information Professionals
Infost 788 Information Systems: Analysis and Design
Bus Adm 749 Data and Information Management
Bus Adm 816 Business Intelligence Technologies & Solutions
Bus Adm 810 Development of Web-Based Solutions
Bus Adm 741 Web Mining and Analytics
Geog 525 Geographic Information Science
HCA/CompSci 744 Text Mining
HCA 644 Data and Text Mining
HCA 760 Biomedical and Healthcare Ontology and Controlled Terminology I

HCA 643 Health Data Analytics

Electives for the Generalist Track

12 credit hours selected with the faculty advisor's guidance.

Time Limit

All degree requirements must be completed within seven years from the date of initial enrollment in the Master's program.

MSIST/MLIS Coordinated Degree Program

Students have the option of combining the MSIST degree with the [Master of Library and Information Sciences \(MLIS\)](#) for a Coordinated Degree plan. Thirty hours will be required for the MLIS and 24 for the MSIST. SOIS reduces the MLIS by 6 credit hours of electives in consideration of another master's degree. The requirements for the MSIST are its 8 core courses for 24 hours. In sum, for 54 credit hours a student can complete both the MLIS and MSIST degrees. Degrees will be awarded simultaneously.

Courses

Courses numbered 300-699 are Undergraduate/Graduate. Courses numbered 700 and above are Graduate only.

Below are links to other programs offering courses approved for the M.S. in Information Science and Technology. Note: Of these courses, only those listed above or approved by the student's advisor can count toward the MSIST degree.

- [Architecture](#)
- [Art](#)
- [Business Administration](#)
- [Computer Science, Computer Studies](#)
- [Geography](#)
- [Healthcare Administration](#)
- [Information Studies](#)

Kinesiology

School/College: College of Health Sciences
Degrees Conferred:

- M.S. in Kinesiology
- Ph.D. in Kinesiology

Overview

"Kinesiology is an academic discipline which involves the study of physical activity and its impact on health, society, and quality of life."

— *American Kinesiology Association*

M.S.

The Master of Science degree in Kinesiology provides students with an understanding of how physical activity (including sport and exercise) impact and are affected by various physiological, mechanical, and psychosocial aspects of human health and performance.

The degree offers focused study in Exercise and Nutrition in Health and Disease, Integrative Human Performance, or Neuromechanics and prepares students for careers in higher-education, research, and practice through didactic coursework in the areas of Biomechanics, Exercise Physiology, Motor Behavior, Rehabilitation, Sport & Exercise Psychology, and Psychosocial Aspects of Health Behavior.

Knowledge and skills in research-related and discipline-specific coursework helps prepare students to address complex real-world health and performance issues and utilize critical thinking skills to generate knowledge and make sound decisions to support continued personal and professional development.

Ph.D.

With a focus on the interrelationships between movement and health, the foundation of the Ph.D. in Kinesiology curriculum provides students with both the classroom and experiential training that is critical to becoming a successful scholar. The Kinesiology doctoral program includes balanced and comprehensive doctoral-level training in Kinesiology theory, research methodology, and statistics that culminates in an innovative and publishable dissertation reflecting an integration of scientific discovery and application. The program focuses on developing scholars in areas of emphasis that align with faculty expertise.

The Kinesiology doctoral program provides students with excellent research training for academic and professional careers that require theory-driven basic and/or applied research skills, such as faculty and/or administrative positions within colleges and universities;

careers in nonprofit service and research organizations; policy-making positions in government agencies and institutions; and careers in for-profit businesses.

Graduate Faculty

Professors

Greenleaf, Christy, Ph.D., University of North Carolina-Greensboro

Meyer, Barbara B., Ph.D., Michigan State University

Swartz, Ann M., Ph.D., University of Tennessee-Knoxville

Strath, Scott J., Ph.D., University of Tennessee-Knoxville

Associate Professors

Cobb, Stephen, Ph.D., Georgia State University

Earl Boehm, Jennifer, Ph.D., Pennsylvania State University

Ebersole, Kyle, Ph.D., University of Nebraska Huddleston, Wendy, Ph.D., PT, Medical College of Wisconsin

Keenan, Kevin, Ph.D., University of Colorado-Boulder

Klos (Neighbors), Lori, Ph.D., Cornell University

Moerchen, Victoria, Ph.D., PT, University of Wisconsin-Madison

O'Connor, Kristian M., Ph.D., University of Massachusetts-Amherst

Wang, Jinsung, Ph.D., Arizona State University
 Zalewski, Kathryn R, Ph.D., PT, University of Wisconsin-Milwaukee

Assistant Professors

Arvinen-Barrow, Monna, Ph.D., University of Northampton

Non-Faculty

Clinical Professors

Susan Cashin, Ph.D., Southern Illinois University Carbondale

Clinical Associate Professors

Carlynn Alt, Ph.D., PT, Marquette University

Master of Science in Kinesiology

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. A bachelor's degree in kinesiology, biology, nursing, occupational therapy, physical education, psychology, sociology, physical therapy, zoology or equivalent preparation.
2. Students must have successfully (B or better) completed undergraduate coursework (or equivalent) in statistics, human anatomy (with lab), and human physiology (with lab), as well as the coursework below corresponding to the student's chosen area of study.

3. Exercise and Nutrition in Health and Disease
 - Exercise physiology or medical physiology
 - Exercise testing and prescription or performance assessment
 - Psychological or sociological aspects of human behavior (or equivalent)
 - Introduction to nutrition or eating behavior

Integrative Human Performance

- Exercise physiology or medical physiology
- Exercise testing and prescription or performance assessment
- Sport & exercise psychology

Neuromechanics

- Biomechanics or physics
- Motor behavior or a psychology course including human movement

4. Submission of scores on the General Test of the [Graduate Record Examination](#).
5. Two letters of recommendation to the Department's Kinesiology Graduate Program Director from persons familiar with applicant's academic ability and achievement.

For more specific information about departmental requirements for admission, please visit the [Kinesiology Department website](#).

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses. The student is expected to satisfy deficiency requirements within three enrolled semesters.

The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Applicants with undergraduate majors in areas other than those noted in this section may be admitted on a similar basis.

Applicants should visit the [UWM M.S. Kinesiology website](#) for additional information and deadlines.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise and approve the program of study before registering for courses. Each student will be assigned an advisor upon admission based on the declared area of concentration.

Credits and Courses

The minimum degree requirement is 33 graduate credits for Option A and B. Option A and B students must take 6 credits of core courses: Statistical Analysis in the Health Sciences (KIN 702) or equivalent, and Survey of Kinesiology Research (KIN 703) or Foundations of Clinical Research (KIN 705), or equivalent.

Students are expected to identify an area of study and complete a minimum of nine credits of coursework in that area. Students will also be required to take a minimum of 12 credits (thesis) or 15 credits (capstone project) of electives that will serve as specialization courses. Elective courses may be selected from inside and outside the Department of Kinesiology.

Option A: Thesis Option

Students prepare a research thesis, which will earn 6 credits within the required 33 graduate credit minimum. Each student is responsible for identifying a major professor and a thesis committee before completing 12 graduate credits. The thesis committee should consist of a minimum of three graduates Faculty: the major professor from the student's primary area of study, a departmental faculty member from the primary area of study, and one other departmental or other UWM graduate faculty member. The thesis committee approves a program of studies designed to lead the student into the thesis research area. To make subsequent changes, the student must petition the departmental Graduate Faculty Committee prior to any intended change.

Comprehensive Examination

The student must pass a comprehensive oral examination in defense of the completed thesis.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Option B: Non-Thesis Option

Of the 33 graduate credits required, students must successfully complete a minimum of 3, repeatable to a maximum of 6 credits of KIN 890 – Research Project

Comprehensive Examination

The student must pass comprehensive oral examination in defense of the completed project.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Kinesiology

Admission

In addition to meeting the UWM Graduate School's criteria for admission, applicants to the Ph.D. program in Kinesiology must also:

1. Possess, or be in the process of completing, a M.S. degree in Kinesiology or closely related field. In exceptional cases, applicants with a B.S. degree in Kinesiology or closely related field who demonstrate significant involvement in research and exceptional academic achievement may be considered for admission.
2. Submit a curriculum vitae that includes all academic institutions attended, degrees achieved, and academic and professional accomplishments (e.g., publications, presentations).
3. Submit verbal, quantitative, and analytical writing scores from the GRE General Test taken within five years of the application date.
4. Demonstrate, through submission of official transcripts from all institutions attended, a minimum grade point average of 3.0 for the highest degree program in which the student enrolled and/or completed. Particular attention will be paid to grades in classes that are relevant to the selected area of emphasis for the Ph.D. Kinesiology program. Applicants currently enrolled in a baccalaureate program must demonstrate a minimum undergraduate grade point average of 3.0.
5. Solicit two confidential letters of recommendation from previous university instructors and/or faculty advisors. These letters should be sent directly from the letter writer to the program director.
6. Submit a writing sample from a research project in which the applicant was involved. Acceptable writing samples include, but are not limited to, submitted/published manuscripts, submitted/published abstracts, review of literature, report of a completed research project, research proposal, etc.
7. Submit a letter of intent that addresses the applicant's research interests (including intended area of emphasis and advisor at UWM) conducted research, ongoing research and career goals.

The final admission decision is contingent upon the availability of a faculty member to serve as primary advisor for the student.

Major Professor as Advisor

The Graduate School requires that each doctoral student have a major professor to advise, supervise and approve the program of study before registering for courses. The major professor also serves as a research mentor, the

chair of the dissertation committee, and chair of the committee hearing the dissertation defense. Each student will be assigned an advisor upon admission based on area of research interest. The major professor must have graduate faculty status.

Course of Study

The program requires students to complete a minimum of 58 graduate credits beyond the master's degree, or a minimum of 79 credits beyond the bachelor's degree. The curriculum is comprised of five main components: (1) Core curriculum, (2) Area of emphasis curriculum, (3) Cognate, (4) Electives, and (5) Dissertation. All coursework will be decided upon and approved by the student and their Ph.D. committee.

Credit distribution will be as follows:

	Students entering with a M.S.	Students entering with a B.S.
Core Curriculum	16 credits	22 credits
Area of Emphasis Curriculum	15 credits	21 credits
Cognate	9 credits	12 credits
Electives	6 credits	12 credits
Dissertation	12 credits	12 credits
TOTAL	58 credits	79 credits

All credits listed are minimum required credits for the program.

Core Curriculum

The core curriculum focuses on developing the knowledge and skills necessary for students to conduct sound and innovative research, and to develop as a scholar. Coursework included in the core curriculum focuses on research methodology and design, statistical analysis, ethical conduct of research, professional development, and teaching and learning coursework.

Focus	Courses	Credits
Seminar	KIN 901 or other comparable option	1 credit repeated 4 times
Teaching and learning course	KIN 909; OST 990	3 credits
Research methodology and design	KIN 705 or comparable option	3 credits
Statistics	Possible eligible courses include, but are not limited to: KIN 702, SocWrk 961, SocWrk 962, SocWrk 963, SocWrk 964.	6 credits (minimum)

Area of Emphasis Curriculum

Students will propose an area of emphasis in consultation with their advisor and take an array of courses, offered within and outside the

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Department of Kinesiology, that explore the main dimensions of that area. The academic area of specialization within Kinesiology will be identified prior to the student's entry into the program. The student's doctoral committee will be charged with reviewing their program of study to ensure that sufficient doctoral level coursework will be/has been completed.

Cognate

The cognate area, within or outside Kinesiology, will complement the student's area of concentration (e.g., Area of emphasis: Exercise Physiology; Cognate: Nutrition), and will be identified by the end of the first year of coursework. Coursework in the cognate may include classes offered within and/or outside the Department of Kinesiology. As with the area of emphasis curriculum, the student's doctoral committee will be charged with reviewing the program of study to ensure that sufficient doctoral level coursework will be/has been completed.

Electives

Students will have the opportunity to broaden their knowledge by taking supplemental courses in teaching and learning, grantsmanship, manuscript preparation, professional development, and other areas that complement their program of study.

Dissertation

The completion of a dissertation, consisting of original research, will be the final step in earning a Ph.D. in Kinesiology from the University of Wisconsin-Milwaukee.

In addition to formal coursework, students are required to successfully complete a preliminary examination, a dissertation proposal, and a dissertation defense. It is expected that this degree will take an average of four to five years for a full-time student to successfully complete.

Preliminary Exam

After students successfully complete the required credits of didactic coursework in the Core, Area of Emphasis, and Cognate areas, the student will sit for the preliminary examination. The preliminary examination will assess the level of knowledge and understanding related to coursework taken in the area of emphasis, cognate area, as well as research methodology and statistics. Specifically, the purpose of the preliminary exam is to provide the student with an opportunity to demonstrate their current knowledge, and ability to apply and integrate knowledge gained in classes with the current body of literature and in their own research. The preliminary examination process must be successfully completed before a student can formally become a dissertator, and must be completed within five years of initial doctoral program enrollment.

The preliminary exam format will consist of the following:

Area of Emphasis Examination

One written exam where the student will not have access to notes or other materials. The exam will require students to demonstrate their understanding of fundamental ideas, theories, and/or concepts within their area of emphasis.

Cognate Examination

One written exam where the student will not have access to notes or other materials. The exam will require students to demonstrate their understanding of fundamental ideas, theories, and/or concepts within their area of emphasis.

Integrative Examination

The student will prepare a grant proposal (format approved by doctoral committee) and orally defend their grant proposal to their doctoral committee. This written and oral exam will focus on a topic related to their area of emphasis, but not the student's primary dissertation research question. The topic must be agreed upon by the student and their committee. The Integrative examination will provide the student an opportunity to demonstrate their ability to analyze, evaluate, and hypothesize on research and theory pertaining to a selected area of Kinesiology.

Appeals Process

Any appeal (grades, preliminary exam decision, dissertation proposal decision, etc.) initiated by the student must follow the [appropriate steps for appeals](#) as outlined by the Graduate School.

The Dissertation Process

Dissertation Proposal and Proposal Hearing

Upon successful completion of the preliminary examinations, the student submits a written dissertation proposal to the doctoral committee and conducts a public oral presentation of the proposed research. Notification of the oral presentation will be publicly posted ten business days (two calendar weeks) prior to the presentation. The committee then votes on whether to allow the student to move forward with the plan presented. Committee approval of the dissertation proposal establishes agreement on the plan and confirms that the student has adequate preparation to complete the research.

Per [UWM Graduate School guidelines](#), "Any significant changes to the dissertation as presented in the proposal hearing must be approved. A new proposal and proposal hearing are required."

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to the existing body of knowledge. The student's major professor and doctoral

committee provide guidance in completing the dissertation. The final written document may follow a traditional or manuscript format.

- For dissertations following the traditional dissertation format, the formatting of the dissertation document will follow [guidelines](#) published by the UWM Graduate School and consist of an introduction, review of literature, method, results and discussion sections.
- For dissertations following the manuscript format, the dissertation document will follow [guidelines](#) published by the UWM Graduate School and consist of an introduction to the content area and line of research, two to four manuscripts, a summary of the impact of the current work on the existing body of literature, and an overall conclusion.

Dissertation Defense

The student must present and defend the dissertation in a public forum. Successful completion of the dissertation defense will require approval by a majority of doctoral committee members.

Time Limit

In accordance with Graduate School policy, all degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

520 Neuromechanics Research Methods. 3 cr. U/G.

Introduction to biomechanics and motor behavior experimental methods and instrumentation. Emphasis on understanding the research literature and research process, from study design to data analysis. Prereq: jr st; grade of C or better in Kin 320(P), Math 117(P), Physics 110(R) or 120(R); or grad st or cons instr.

522 Qualitative Analysis of Human Movement. 3 cr. U/G.

Exploration of systematic qualitative analysis of human movement focusing on detecting and correcting faults in technique. Counts as repeat of Kin(HMS) 590 with same title. Prereq: jr st; grade of C or better in Kin 320(P); or grad st or cons instr.

525 Human Gross Anatomy. 6 cr. U/G.

A comprehensive consideration of the human anatomy including both neuro-musculoskeletal components and internal organ systems. Prereq: grad st; good standing in DPT prog or cons instr

526 Introduction to Physical Therapy Practice and Examination Techniques. 3 cr. U/G.

Students will learn roles, professional behavior expectations, and patient examination

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techniques. Prereq: grad st; good standing in DPT prog or cons instr

527 Kinesiology & Biomechanics of Normal & Abnormal Movement. 4 cr. U/G.

Principles & theories of the biomechanics of human motion presented to develop analytical skills to assess normal & abnormal movement. Prereq: DPT student in good standing or grad st & cons instr; grad level Human Gross Anatomy w/lab, 8 cr undergrad Physics.

530 Advanced Exercise Physiology. 3 cr. U/G.

Advanced study of the physiological responses to exercise and the adaptations to physical training. Prereq: jr st; grade of C or better in Kin 330(P); Kinesiology major or intended major; or grad st.

532 Electrocardiography Interpretation. 3 cr. U/G.

In depth study of the 12 lead EKG and selected cardiovascular medications encountered in preventative and rehabilitative exercise programs. Counts as repeat of Kin 590(HMS 590) with similar title. Prereq: jr st; grade of C or better in Kin 330(P); 430(R); or grad st or cons instr.

536 Physiological Regulation in Exertion & Disease. 2 cr. U/G.

Overview of the physiological basis of activity. Prereq: grad st; good standing in DPT prog or cons instr

540 Introduction to Physical Therapy Practice. 2 cr. U/G.

The multiple roles of the physical therapist as a professional. Prereq: grad st; good standing in DPT prog or cons instr

541 Clinical Foundations of the Physical Therapy Examination. 5 cr. U/G.

Instruction in the techniques of examining patients/clients. Prereq: grad st; good standing in DPT prog

542 Physical Agents. 3 cr. U/G.

The physiological basis, scientific rationale for, and clinical application of thermal, electrophysiology/ electrotherapy and electromagnetic physical agents. Prereq: grad st; good standing in DPT prog or cons instr

550 Psychological Aspects of Human Movement. 3 cr. U/G.

Study of the relationships between psychological factors and human physical activity. Introduction to research relevant to sport and exercise psychology. Prereq: jr st; must have obtained a grade of C or better in Kin 350(P) or cons instr.

551 Psychology of Injury/Illness/Disease: Implications/Strategies for Rehab. 3 cr. U/G. Explores the psychological aspects of health enhancement, disease prevention, and

rehabilitation as well as the integration of behavioral and biomedical sciences in treating illness. May be used by undergrads to repeat Kin 590 with same title. Prereq: Psych 101(P).

552 Psychology of Personal Excellence. 3 cr. U/G.

Research on elite athletes, performing artists, and corporate executives is used to discuss characteristics of peak performance and identify strategies to facilitate personal excellence. Counts as repeat of Kin 590 w/same topic. Prereq: jr st, grade of C or better in Kin 350(P); or grad st or cons instr.

553 Medical Physiology. 4 cr. U/G.

Physiological principles related to rehabilitation in physical therapy practice setting and interaction of physiological systems during normal activities and after injury or disease. Prereq: grad st; good standing in DPT prog or cons instr

555 Exercise Psychology. 3 cr. U/G.

Psychological antecedents and consequences of physical activity in relation to mental health and public health. Counts as repeat of Kin 590 with same topic. Prereq: jr st; Grade C or better in Kin 350(P) or cons instr.

556 Multilevel Approaches to Changing Physical Activity and Eating Behaviors. 3 cr. U/G.

An introduction to key theoretical and conceptual frameworks for understanding health-related behavior and evidence-based practical approaches for promoting behavior change. Counts as repeat of Kin 590 w/same topic. Prereq: Admis to Kin major or Ath Trng major or Nutr major; Grade C or better in Kin 350(P); or grad st or cons instr.

561 Neuromechanics of Voluntary Movement. 3 cr. U/G.

An introduction to the major theoretical and empirical perspectives used to examine how the nervous system and musculoskeletal system work cooperatively to produce human movement. Prereq: jr st; a grade of C or better in Kin 461(P) or cons instr.

566 Functional Neuroanatomy. 3 cr. U/G.

The anatomical basis of neuroscience in physical therapy. Prereq: grad st; good standing in DPT prog or cons instr

570 Sociological Aspects of Physical Activity. 3 cr. U/G.

Relationships between sociological factors and human physical activity. Introduction to research relevant to the sociology of sport and other forms of physical activity. Prereq: jr st; must have obtained a grade of C or better in Kin(P) or cons instr.

573 Body Image: Influences and Health-Related Implications. 3 cr. U/G.

In-depth examination of the multidimensional body image construct: body image development, assessment, and modification; impact on health and behavior; body image in special populations. Counts as repeat of Kin 590 with same topic. Prereq: jr st; Psych 101(P).

574 Obesity and Weight Management. 3 cr. U/G.

Examination of the epidemiology of obesity, genetic and environmental contributors, body weight regulation, health and psychosocial consequences, and approaches to assessment, prevention, and treatment. Counts as repeat of Kin 590 with same topic. Prereq: jr st; grade of C or better in BMS 232(P) or Nutr 235(P).

575 The Social Construction of Obesity. 3 cr. U/G.

Examines how obesity is socially constructed and how it shapes conceptions of fitness and physical activity. Counts as repeat of HMS 590 with same topic. Prereq: jr st; grade of C or better in Kin 351(P); or cons instr.

590 Current Topics in Human Kinetics: (Subtitled). 1-3 cr. U/G.

The specific topic will be announced in the Schedule of Classes each time the course is offered. May be repeated to max of 9 cr. Prereq: jr st, cons instr for grad cr.

635 Pathophysiology. 2 cr. U/G.

The general inflammatory and specific pathologies of the various organ systems. Prereq: grad st; good standing in DPT prog or cons instr

640 Scientific Principles of Interventions. 5 cr. U/G.

The basic therapeutic interventions used to treat impairments and functional limitations in the different biological systems that lead to movement dysfunction. Prereq: grad st; good standing in DPT prog; graduate level Human Gross Anatomy course with lab; Anatomy/physiology, physics, 8 cr each with labs.

641 Cardiopulmonary Evaluation & Treatment. 3 cr. U/G.

The normal and abnormal structure and function of the cardiovascular, pulmonary and lymphatic systems with emphasis on medical and other therapeutic strategies. Prereq: grad st; good standing in DPT prog or cons instr

642 Professionalism and Ethos of Care. 3 cr. U/G.

The ethics of professional practice, fiduciary relationships, rights, duties associated with the patient/therapist relationship, and the role character plays in ethical decision-making. Prereq: grad st; good standing in DPT prog

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643 Integument System. 2 cr. G.

Exploration of factors predisposing skin to breakdown; preventative measures, specific examination, and intervention techniques utilized in treating burns, wounds, and amputations. Prereq: Grad st, admis to DPT program; or cons instr.

680 Clinical Fieldwork I. 1 cr. U/G.

The student will be assigned to a clinically based learning experience with an emphasis on practicing recently learned clinical skills on a patient population. Prereq: grad st; good standing in DPT prog or cons instr

681 Fieldwork II: Basic Skills Experience. 2 cr. G.

Clinically based learning experience focusing on patient evaluation and treatment skills while fostering professional behavior through clinical mentorship. Prereq: grad st, admis to DPT program; Kin 680(P); or cons instr.

699 Physical Therapy Clinical Internship Elective. 1-3 cr. U/G.

Clinical experience with practice skill acquisition, decision making, and ethical professional behaviors consistent with ethical and legal PT practice. Contact hours determined by instructor to include clinical facility work as well as any needed didactic instruction. May not be retaken for cr. Prereq: DPT student in good st & cons instr.

701 Seminar in Human Movement Sciences. 1-3 cr. G.

Research in the Human Movement Sciences subdisciplines including critical review of theories, perspectives and methods. Faculty, student presentations of current work. Retakable to 3 cr max. Prereq: grad st

702 Statistical Analysis in the Health Sciences. 3 cr. G.

Univariate, bivariate, and multivariate analyses as they apply to health science research. Prereq: grad st; intro level statistics course at U/G or G level.

703 Survey of Research in the Human Movement Sciences. 3 cr. G.

Methods for multi-disciplinary human movement inquiry; problem/statistical design; critique of available literature; preliminary thesis/project design. Prereq: grad st; Kin 702(P).

705 Foundations of Clinical Research. 3 cr. G.

Research methodology course with emphasis on the use of clinical research to determine best physical therapy practice. Prereq: grad st; good standing in DPT prog or cons instr

706 Research & Applied Statistics in Physical Therapy. 3 cr. G.

Specific quantitative research designs and statistics with an emphasis on clinical research;

methods for critically evaluating research literature. Prereq: grad st, admis to DPT program; or cons instr.

709 Research Practicum. 3 cr. G.

Development of strategies for evaluating and contributing to the evidence for physical therapy practice. Students will select and critically review evidence, develop, execute and present a case report to inform best practice. Prereq: grad st; good standing in DPT program or cons instr.

710 Evidence Based Practice: Levels of Evidence. 1 cr. G.

Strategies for evaluating the evidence underlying physical therapy practice as a framework for creating and evaluating best practice decisions. Prereq: grad st, admis to DPT Program; or cons instr.

711 Evidence Based Practice: Interventions. 1 cr. G.

Focus on information access and retrieval from research literature used to inform physical therapy interventions for treatment of movement disorders. Prereq: grad st; admis to DPT Program or cons instr.

712 Evidence Based Practice: Tests & Measures. 1 cr. G.

Focus on the critical analysis of published clinical research related to physical therapy tests and measures. Prereq: grad st; admis to DPT program or cons instr.

713 Professional Issues in Physical Therapy. 1 cr. G.

Strategies for growth & adaptation of physical therapy practice in the context of a changing health care environment. Prereq: grad st; valid license to practice physical therapy or cons instr

714 Evidence for Practice I. 3 cr. G.

Provides clinicians with a rubric for searching & evaluating the published literature supporting physical therapy practice & informing best practice decisions. Prereq: grad st; valid license to practice physical therapy or cons instr

715 Evidence for Practice II. 3-6 cr. G.

Synthesis of prior coursework in the development and presentation of a clinical practice decision supported with best evidence practices. Retakable to 6 cr max. Prereq: grad st; valid license to practice physical therapy.

716 Seminar: The Culture of Evidence. 1 cr. G.

The role of evidence in physical therapy clinical decision making with application to current interventions. Prereq: grad st; valid license to practice physical therapy or cons instr

717 Pharmacology In Rehabilitation. 2 cr. G.

Pharmacologic agents encountered in physical therapy rehabilitation settings focusing on pharmacodynamics, pharmacokinetics,

biotransformation of drugs, and clinical application for relevant drug classifications. Prereq: grad st, admis to DPT Program; or cons instr

718 Clinical Radiology. 1-2 cr. G.

Medical diagnostics emphasizing indications & implications for imaging studies used to augment information obtained from the physical therapy examination. Prereq: grad st, admis to DPT Program; or cons instr

720 Biomechanics Research Methods. 3 cr. G.

Introduction to advanced biomechanics collection techniques. Course focuses on basic programming, data collection/analysis, and presentation skills. Counts as repeat of Kin 590 with same topic. Prereq: grad st; Kin 520(C); or cons instr

725 Interdisciplinary Themes in Biomechanics. 3 cr. G.

Emphasis on biomechanical research themes of an interdisciplinary character. Readings drawn from primary research literature. Prereq: grad st; Kin 520(P) or cons instr.

732 Physical Activity and Health Across the Lifespan. 3 cr. G.

The role of physical activity in the prevention and treatment of various chronic conditions and diseases. Prereq: grad st; Kin 330(P) w/ grade of C or better or cons instr.

733 Advanced Physiological Assessment. 3 cr. G.

Designed to introduce students to advanced physiological testing techniques. Assumes knowledge of basic exercise testing skills, exercise physiology principles. Prereq: grad st; Kin 530(C) or cons instr.

740 Musculoskeletal: Spine. 3 cr. G.

Evaluation and treatment techniques for spinal dysfunction and injury including mechanical assessment, postural training, therapeutic exercise, manual therapy, and modalities. Prereq: grad st, admis to DPT Program; or cons instr

741 Musculoskeletal System: Lower Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of lower extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st, admis to DPT Program; or cons instr.

742 Musculoskeletal: Upper Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of upper extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st; admis to DPT Program or cons instr.

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743 Health Systems Review. 2 cr. G.
Provides systems overview of screening procedures necessary to provide a comprehensive physical therapy diagnosis with an emphasis on screening for referral. Prereq: grad st; valid license to practice physical therapy or cons instr

745 Health Promotion/Wellness for Physical Therapy Practice. 2 cr. G.
Explores many aspects of health / wellness. Prereq: grad st; good standing in DPT prog or cons instr

746 Case-based Clinical Decision Making. 2 cr. G.
Clinical decision-making in physical therapy including formulation of a diagnosis and plan of care supported by evidence from literature. Prereq: grad st; admis to DPT Program or cons instr.

761 Concepts of Human Motor Control. 3 cr. G.
A systematic examination of neuromotor control mechanisms and critical review of research in human motor behavior focusing on variables limiting or facilitating performance and/or skill acquisition. Prereq: grad st, Kin 561(P) or cons instr.

762 Research Practicum in Motor Control. 3 cr. G.
Demonstration/participation laboratory focused on human motor control experimental design. Topics include sampling, subject protection, techniques for quantification of motor performance characteristics and neuromuscular correlates. Prereq: grad st; Kin 561(P) or cons instr.

763 Neural Control of Movement. 3 cr. G.
Fundamental concepts and current issues in how the brain and other neurological structures contribute to the control of movement. Prereq: grad st, Kin 561(P) or cons instr.

764 Neurophysiology of Human Movement. 3 cr. G.
A neurophysiologic perspective on key areas of human motor control. Counts as repeat of Kin(HMS) 590 with same topic. Prereq: grad st, Kin 561(P) or cons instr.

765 Neuromuscular: Adult. 4 cr. G.
Application of motor control and learning, neuroanatomy, and neurophysiology to physical therapy examination and treatment of adults with neurological diagnosis. Prereq: grad st, admis to DPT Program; or cons instr.

766 Neuromuscular: Pediatric. 4 cr. G.
Pediatric onset diagnosis, related examination, interventions, clinical management, and legislation impacting pediatric physical therapy practice. Prereq: grad st; admis to DPT Program or cons instr.

780 Clinical Teaching. 2 cr. G.
Exploration of patient education intervention focusing on patient adherence in the context of learning theory, adult learning, and learning domains. Prereq: grad st, admis to DPT Program; or cons instr.

798 Independent Project. 1-6 cr. G.
Student research in consultation with and supervised by a graduate faculty member. Retakable w/ chg in topic to 6 cr max. Prereq: grad st; cons instr

799 Independent Reading. 1-3 cr. G.
Independent study of a topic selected by the student in consultation with the supervising graduate faculty member. May be repeated with change in topic to max of 6 cr. Prereq: grad st; cons instr.

830 Physiological Adaptations to Exercise. 3 cr. G.
Physiological factors related to performing physical activity and exercise on a chronic basis; various environmental influences on physical performance. Prereq: grad st; a grade of C or better in Kin 530(P).

850 Seminar in Psychological Aspects of Physical Activity: (Subtitled). 3 cr. G.
Advanced seminar on selected topics in the psychology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Kin 550(P) or cons instr.

871 Socialization and Physical Activity. 3 cr. G.
Advanced seminar on research relevant to the development/lack of development of physically active lifestyles. Prereq: grad st; Kin 870(P) or cons instr.

880 PT Clinical Internship I. 8 cr. G.
The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: DPT student in good st.

881 PT Clinical Internship II. 8 cr. G.
The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: DPT student in good st.

882 PT Clinical Internship III. 8 cr. G.
The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: Kin 881(P); DPT student in good st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

889 Professional Physical Therapy Credential Preparation. 1 cr. G.
Guidance in preparing for the Federation of State Boards of Physical Therapy licensing exam. Course is offered in a distance learning

format. Prereq: DPT student in good standing or grad st & cons instr.

890 Capstone Project. 1-6 cr. G.
Preparation of a research project under the supervision of the student's major professor. Not open to students selecting options A. Prereq: grad st.

891 Research Seminar. 3 cr. G.
Advanced seminar on the synthesis and critique of research literature within the student's primary and secondary subdisciplines. Not open to option A or C students. Prereq: grad st; completion of all or conc reg in remaining coursework for degree.

895 Research and Thesis. 1-6 cr. G.
Preparation of a thesis under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr

909 Guided Teaching Experience in Health Sciences. 3 cr. G.
This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of BMS 909, HCA 909, OccThpy 909, and ComsDis 909. Prereq: grad st; Occ Thpy 900 (P); cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G.
Faculty, graduate students, and invited guests will present their research and engage in discussion around themes of broad interest, e.g., public health. Retakable to 4 cr max. Prereq: grad st

930 Practicum and Seminar in Exercise Physiology. 3 cr. G.
Evaluation of current research and methodology in exercise physiology. Prereq: grad st; cons instr

930 (effective 09/05/2017) Seminar in Exercise Physiology. (Subtitled). 1-3 cr. G.
Evaluation of current research and methodology in exercise physiology. Retakable to 9 cr max w/change in topic. Prereq: grad st; cons instr

990 Research and Thesis. 1-6 cr. G.
Preparation of a thesis under the direction of the student's primary and secondary advisors. May be repeated to max of 6 cr. Not open to students selecting options B or C. Prereq: grad st.

991 Doctoral Dissertation. 1-12 cr. G.
Dissertation research Prereq: grad st; admit to Ph.D. candidacy

999 Advanced Independent Study. 1-6 cr. G.
Independent study on topic selected by student and supervising graduate faculty member. Prereq: grad st; cons instr

Language, Literature, and Translation

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Language, Literature, and Translation

Related Certificates:

- [Graduate Certificate in Translation](#)

Overview

The M.A. in Language, Literature, and Translation (MALLT) is an interdisciplinary MA degree program focused on global languages, literatures and translation. With over 50 faculty from five different departments, MALLT offers a flexible program of study tailored to your professional goals. Three departments—French, Italian and Comparative Literature, Foreign Languages and Literature and Translation & Interpreting Studies cooperate in offering this interdepartmental, interdisciplinary master's program designed for the student who wishes to focus on language, literature, and translation on a cross-cultural basis. Students may complete one of the following concentrations: Comparative Literature; French and Francophone Language, Literature, and Culture; German Language, Literature, and Culture and Translation (Professional Track or Research Track). In addition to these specific concentrations, students may pursue coursework in Classical Greek; Classics; Hebrew Studies, Italian Studies, Latin; and Slavic Languages. MALLT also allows students interested in Linguistics or Spanish to complete double concentrations, or the joint MLIS/MALLT of MBA/MALLT (Translation) coordinated degrees.

Inquiries concerning this program should be directed to the Coordinator of the Language, Literature, and Translation program.
 Email mallt-program.edu for more information.

Graduate Faculty

Arabic

Assistant Professors

Ouali, Hamid, Ph.D., University of Michigan

Classics

Associate Professors

Cova, Elisabetta, M Phil, University of Cambridge
 Muse, Kevin, Ph.D., University of North Carolina, Chapel Hill

Assistant Professors

Porter, Andrew, Ph.D., University of Missouri-Columbia

Comparative Literature

Professors

Pickering-Iazzi, Robin, Ph.D., University of Washington

Associate Professors

Alkhas, Anita, Ph.D., Michigan State University
 Paik, Peter, Ph.D., Cornell University
 Pitt, Kristin, Ph.D., University of Wisconsin - Madison
 Seymour-Jorn, Caroline, Ph.D., University of Chicago
 Williams, Demetrius, Th.D., Harvard Divinity School
 Xu, Jian, Ph.D., University of Iowa

French

Professors

Davies-Cordova, Sarah, Ph.D., University of California, Los Angeles

Associate Professors

Alkhas, Anita, Ph.D., Michigan State University
 Bolduc, Michelle, Ph.D., University of Oregon
 Kuiper, Lawrence, Ph.D., Michigan State University

Assistant Professors

Nicolas Russell, Ph.D., University of Virginia

German

Professors

Schwertfeger, Ruth, B. Litt., Oxford University
 Davis, Garry W., Ph.D., University of Michigan

Assistant Professors

Wiplinger, Jonathan, University of Michigan

Hebrew Studies

Professors

Berkowitz, Joel, Ph.D., City University of New York Graduate Center
 Mazor, Yair, Ph.D., Tel Aviv University

Italian

Professors

Pickering-Iazzi, Robin, Ph.D., University of Washington

Associate Professors

Konewko, Simonetta Milli, Ph.D., University of Wisconsin-Milwaukee

Japanese

Assistant Professors

Aragorn Quinn, Assistant Professor, Ph.D. Stanford University.

Korean

Assistant Professors

Song, Sooho, Ph.D., University of Wisconsin-Milwaukee

Slavic Languages

Professors

Mikos, Michael J., Ph.D., Brown University

Associate Professors

Peschio, Joseph, Ph.D., University of Michigan

Translation

Associate Professors

Terando, Lorena, Ph.D., State University of New York at Binghamton

Assistant Professors

Bilić, Viktorija, Ph.D., Heidelberg University, Germany
 Leone, Leah, Ph.D., University of Iowa

Senior Lecturer

Kathryn Scholz MA, University of Minnesota, 2001

Master of Arts in Language, Literature, and Translation

Admission

An applicant must meet [Graduate School requirements](#) plus these program requirements to be considered for admission to the program:

1. Knowledge of a language other than English. Entrance competencies for specific concentrations are as follows:
 - **Language concentrations:** an undergraduate major in the language, or comparable background, such as coursework, a significant immersion experience, or native fluency combined with appropriate academic training.
 - **Translation tracks:** competence on a qualifying examination.
 - **Comparative Literature concentration:** an undergraduate major in comparative literature, including advanced study of a language other than English, or equivalent literary and language preparation.
 - **Linguistics concentration:** an undergraduate major in linguistics or in a related field, such as English, a foreign language, psychology, philosophy, or anthropology; and at least a basic-level familiarity with a language other than English, as evidenced by coursework, immersion experience or native fluency.
2. Submission to the MALLT Program of three letters of recommendation, at least two of which should be from instructors acquainted with the student's academic work.
3. Submission to the MALLT Program of a well-developed statement of approximately 500 words outlining the applicant's academic background and

Language, Literature, and Translation

interests, reasons for graduate study in the MALLT program, intended concentration and professional goals.

Applicants who meet general Graduate School requirements (an undergraduate grade point average of at least 2.75) and the above program requirements may be admitted in good standing.

Upon recommendation of the Coordinating Committee, an applicant lacking in course background may be admitted with specified deficiencies in the above on the condition that the deficiencies be made up by the end of the first full semester (9-12 credits). Credits earned in making up deficiencies do not count toward the degree. If an applicant furnishes substantial evidence of capacity to do satisfactory graduate work despite a deficiency in GPA on admission, probationary admission may be recommended.

Transfer of Credits

Any course submitted for transfer must be no more than five years old at the time of the student's admission to the MALLT Program, must have been taken at the graduate level in a recognized institution, and must have been completed with a grade of B or better. Since Graduate School regulations allow the transfer of only 12 non-degree graduate credits to a master's program, students are advised to apply for degree candidacy in the MALLT program before completion of 12 credits of coursework.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations.

The Coordinating Committee refers each incoming student to a temporary advisor, normally the Graduate Advisor in the student's chosen concentration, as stated in the application. The Graduate Advisor assists in assessing the student's competencies, interests, and future academic or professional needs. Normally, the Graduate Advisor recommends a Major Professor after his/her initial meeting with the student.

The Major Professor and the student establish a plan of study by the end of the student's first semester of graduate work. The plan will be reviewed by the Major Professor and the student after the successful completion of 12 credits and the removal of any deficiencies that may have been assessed at admission. At the time of the review, the student may request another Major Professor in the event that his/her programmatic needs have been modified or altered. Subsequent minor changes must be approved by the Major Professor.

The Major Professor evaluates and updates the student's progress after completion of every six (6) credits or every semester of subsequent

work. The student may not register for any courses without this advisor's prior approval.

Credits and Courses

No credits carrying a grade below B- may be counted toward meeting the MALLT degree requirement of 30 credits.

The MALLT degree offers two tracks: the Standard Track within which students may complete one of eight concentrations and the Translation track, which will be designated as a concentration on the student's transcript. Students are not obligated to elect a concentration, but many will find it beneficial to do so. They also have the option of completing two concentrations, but, in doing so, students must complete all requirements for each concentration and a minimum of 36 credits for the degree.

Standard Track

Thirty graduate credits are required, 6 of which must be in core seminars in the language, literature, and linguistics areas. The student develops a program of study in consultation with the Major Professor, normally including the following:

1. Two core seminars as a foundation in basic aspects of languages, literatures, and linguistics.
2. Five to eight courses in a language, literature, or linguistics area to permit concentration in the student's major area of interest.
3. Up to three courses in related areas to give the program breadth.

The following are the minimum course requirements for a concentration within the Standard Track:

- **Classical Greek:** at least 15 graduate credits in Greek
- **Classics:** at least 18 credits of graduate-level coursework consisting of an equal number of credits in classical Greek and in Latin
- **Comparative Literature:** at least 15 graduate credits in Comparative Literature
- **French and Francophone Language, Literature, and Culture:** at least 15 graduate credits in French
- **German Language, Literature, and Culture:** at least 15 graduate credits in German
- **Latin:** at least 15 graduate credits in Latin
- **Linguistics:** the two core seminars selected from *Linguis* 708(701), MALLT 706, *CurrIns* 800, and *Philos* 681; five courses in *Linguis*, including 460, 464, and three additional linguistics courses in or

outside the Department of Linguistics; 9 cr electives selected in consultation with the student's advisor (may include up to 6 cr in MALLT 790 Thesis)

- **Spanish and Hispanophone Language, Literature, and Culture:** at least 15 graduate credits in Spanish

Translation Track

Translation Track: Professional

The Professional track is designed for those considering careers as in-house or freelance translators who are not necessarily interested in further study at the doctoral level.

Students must earn thirty graduate credits, as indicated below; they may not count undergraduate credits earned in the Translation Certificate Program. Admission is based in part on a qualifying examination that consists of a 300-word translation from the source to the target language and one 150-word essay in the target language.

Required Courses (15 credits)

MALLT/Trnsln 709 Seminar in Literary and Cultural Translation
Trnsln 710 Comparative Systems for Translation (or, for German concentrators, German 672 German for Professional Purposes)
Trnsln 726 Computer-Assisted Translation
Trnsln 730 Translation Internship
CompLit/Trnsln 820 Translation Theory
Language-Specific Courses (6 credits)—select one of the following concentrations:
French to English
French/Trnsln 415 Introduction to Translation: French to English
French/Trnsln 515 Seminar in Advanced Translation: French to English
German to English
German/Trnsln 425 Introduction to German Translation
German/Trnsln 525 Seminar in Advanced German Translation
Spanish to English
Spanish/Trnsln 707 Introduction to Translation: Spanish to English
Spanish/Trnsln 717 Seminar in Advanced Translation: Spanish
English to Spanish
Spanish 348/Trnsln Introduction to Translation: English to Spanish
Spanish 448/Trnsln Seminar in Advanced Translation: English to Spanish

Work in other languages may be possible with the approval of the coordinator, depending upon the availability of appropriate faculty members for language-specific independent study.

Electives (9 credits)

Select three courses from the following. Additional appropriate courses may be selected with the consent of the program coordinator.

Language, Literature, and Translation

MALLT/Translation Courses
Linguis/MALLT 708(701) Proseminar in Linguistics
MALLT 790 Thesis (up to 6 cr)
Spanish/Trnsln 349 Introduction to Interpreting Spanish/Trnsln 449 Advanced Court Interpreting
Trnsln 530 (FLL 525) Business and Professional Aspects of Translation
Trnsln 720 Topics in Translation: (Subtitle)
A course in the student's area of translation specialization, 3 cr
Translation course(s) in another language, 3-6 cr
Other Approved Electives
English 434 Editing and Publishing
English 439 Document Design
English 708 Advanced Professional Writing
English 709 Rhetoric, Writing and Information Technology

Translation Track: Research

The Research track is designed for those considering further study at the doctoral level.

Students must earn thirty graduate credits, as indicated below; they may not count undergraduate credits earned in the Translation Certificate Program. Admission is based in part on a qualifying examination that consists of a 300-word translation from the source to the target language and one 150-word essay in the target language.

Required Courses (15 credits)
CompLit/Trnsln 820 Translation Theory
Trnsln 710 Comparative Systems in Translation
Trnsln 730 Translation Internship
MALLT/Trnsln 799 Thesis
Critical Theory (offered by MALLT, Trnsln or another department, with approval of student's major professor)

Required Language-Specific Courses (6 credits)—select one of the following concentrations:

French to English

French/Trnsln 415 Introduction to Translation: French to English
MALLT/Trnsln 709 Seminar in Literary and Cultural Translation

German to English

German/Trnsln 425 Introduction to German Translation
MALLT/Trnsln 709 Seminar in Literary and Cultural Translation

Spanish to English

Spanish/Trnsln 707 Introduction to Translation: Spanish to English
MALLT/Trnsln 709 Seminar in Literary and Cultural Translation

English to Spanish

Spanish 348/Trnsln Introduction to Translation: English to Spanish
MALLT/Trnsln 709 Seminar in Literary and Cultural Translation

Work in other languages may be possible with the approval of the coordinator, depending upon the availability of appropriate faculty members for language-specific independent study.

Electives (9 credits)

Select three courses from the following, in consultation with student's major professor according to the student's area of interest.

Additional appropriate courses may be selected with the consent of the program coordinator or major professor. The list below is not exhaustive.

A course in Reading Literature in Translation: Case Studies

A literature course in the student's source language area

A translation course(s) in the student's C language

A course in translation or other critical theory (including courses offered by other departments and in languages other than English)

Trnsln 726 Computer-Assisted Translation

Thesis

Up to 6 graduate credits may be earned by presentation of a satisfactory thesis. The student's Major Professor, in consultation with the student, will recommend the names of a Thesis Director and two readers who, upon approval by the Coordinating Committee, will constitute the ad hoc Thesis Committee.

Comprehensive Examination

The student must pass both written and oral examinations, prepared and administered by an Examining Committee. The composition of the committee is approved by the Coordinating Committee. If the student fails the examination, s/he may repeat it once, but no sooner than three months from the date of the first examination.

Comparative Literature students must demonstrate a reading knowledge of a second language other than English prior to taking their Comprehensive Examinations. Reading knowledge may be demonstrated by coursework in the specific language program or by written examination, to be determined with the Major Professor.

Interpreting Track

The Interpreting Track is designed for those considering careers as professional language interpreters. Students must earn thirty graduate credits, as indicated below. Admission is based in part on a qualifying examination.

Core courses (6 cr)

Trnsln 820 Translation Theory

Trnsln 709 Seminar in Literary and Cultural Translation

Required courses (18 cr)

Trnsln 700 Consecutive Interpreting

Trnsln 710 Comparative Systems for Translation

Trnsln 711 Ethics and Procedures in Interpreting
Trnsln 722 Introduction to Simultaneous Interpreting (under development)
Trnsln 730 Internship in Translation
Trnsln 750 Other Modes of Interpreting (under development)
Electives (6 cr)
Elective courses may include:
Trnsln 530 Business and Professional Aspects of Translation
Trnsln 727 Project Management in Translation
Trnsln 728 Editing for Translation
Introduction to Translation (French, German, Spanish, Russian, Arabic and Italian to English or English to Spanish)
Advanced Seminar in Translation (French, German, Spanish, Russian, Arabic and Italian to English or English to Spanish)

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

MALLT/MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the College of Letters & Science offers a MALLT/MLIS program to prepare students for specialized positions in libraries. Students enrolled in this program will concurrently pursue a M.A. degree in Language, Literature, and Translation and a MLIS degree. Candidates for the coordinated degree program will be expected to fulfill the degree requirements of both graduate programs. Degrees will be awarded simultaneously.

Students interested in the MALLT/MLIS program will be expected to follow all of the requirements and standards as described in this section of the Bulletin. Nine of the 30 credits normally required for a MALLT degree will be satisfied by courses taken in SOIS. In the coordinated degree program, MALLT thesis option credits will be in addition to the 21 required MALLT credits. Courses in related areas must be approved by the Coordinator of MALLT.

Master of Arts in Language, Literature, and Translation (Translation Professional Track)/Master of Business Administration

The College of Letters and Science and Lubar School of Business collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving language services industry theory and practices, and to provide high level management and administrative skills needed to work in business, industry, governmental, and nonprofit organizations.

Language, Literature, and Translation

Admission

Students are admitted to both graduate programs separately, and admission requirements are consistent with those specified by the UWM Graduate School, the Master of Arts in Language, Literature, and Translation (MALLT), Translation Professional Track in the College of Letters and Science, and the MBA program of the Lubar School of Business.

Credit and Courses

Students accepted into this MALLT/MBA program complete the following courses:

Translation and Interpreting Studies

Trnsln 820 Translation Theory
Trnsln 710 Comparative Systems
Trnsln 70x Introduction to Translation Workshop (language-specific)
Trnsln 71x Advanced Translation Workshop (language-specific)
Trnsln 709 Literary and Cultural Translation (language-specific)
Trnsln 726 Computer-Assisted Translation Tools
Trnsln 730 Internship in Translation OR
BusMgmt 729 MBA Internship
Electives (9 shared cr) Selected in consultation with faculty advisors from among all approved Trnsln or MBA elective courses.

Comprehensive Exam. 0 cr.

Total Trnsln credits: 21 + 9 shared

Master of Business Administration

BusMgmt 735 Advanced Spreadsheet Tools
BusMgmt 736 Understanding and Using Financial Statements
BusMgmt 737 Business Strategy and Economics
BusMgmt 738 Critical Thinking in Business
BusMgmt 704 Accounting Analysis and Control
BusMgmt 705 Corporate Finance
BusMgmt 706 Managing in a Dynamic Environment
BusMgmt 707 Information Technology Management in Contemporary Businesses
BusMgmt 708 Marketing Strategy: Concepts and Practice
BusMgmt 709 Analytic Models for Managers
BusMgmt 711 Supply Chain Strategies & Competitive Operations
BusMgmt 712 Strategic Management *capstone
Electives (9 shared cr) Selected in consultation with faculty advisors from among all approved Trnsln or MBA elective courses.

Total MBA credits: 31 + 9 shared

Total Credits for Coordinated Program: 61

The 61 credits for the coordinated program typically would be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all

requirements for an individual program to receive a degree.

Time Limit

Students in the coordinated MALLT/MBA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Classics

Courses

304 The Graeco-Roman World: (Subtitled). 3 cr. U/G.

Life and literature (in translation) of the ancient Greco-Roman world. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Classic 301(R), 302(R), or 303(R).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

Comparative Literature

309 Great Works of Modern Literature: (Subtitled). 3 cr. U/G.

Literature of the twentieth and twenty-first centuries, with emphasis on theme, movement, trend, genre, or mode. Retakable w/chg in topic to 9 cr max. Prereq: jr st; CompLit 207(R) or 208(R).

320 Mediaeval Literature and Culture: (Subtitled). 3 cr. U/G.

Major genres, themes, and figures of the Middle Ages through representative literary works, devotional writings, visual art, architecture, and other examples of cultural production. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

321 Renaissance Literature and Culture: (Subtitled). 3 cr. U/G.

Major genres, themes, figures, tenets, aspects, influences, and trends in Renaissance literature through representative literary works, visual art, architecture, and other examples of cultural production. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

333 Dante's Divine Comedy in Translation. 3 cr. U/G.

Close reading of the Inferno, Purgatorio, and Paradiso, including their connections to the visual arts. CompLit & Italian 333 are jointly offered; they count as repeats of one another. Prereq: jr st.

340 Studies in Literary Genres and Modes: (Subtitled). 3 cr. U/G.

Literary genres and modes from at least one international cultural context. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

350 Topics in Comparative Literature: (Subtitled). 3 cr. U/G.

One or more areas of comparative literature across periods, genres, or regions. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

360 Seminar in Literature and Cultural Experience: (Subtitled). 3 cr. U/G.

How culture is expressed in literary works with specific emphasis on how dominant and marginalized groups are represented in literature. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

362 Transnational Asian Cinemas: (Subtitled). 3 cr. U/G.

Critical study of the cinemas of Asia, their film masters, avant-garde genres, and movements in relation to world cinema culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

363 Chinese Literature in the Global Context: (Subtitled). 3 cr. U/G.

Modern or contemporary Chinese literature; focus on a period, theme, genre, or movement in relation to literary cultures of other countries and regions or world events. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

365 Literatures and Cultures of the Americas: (Subtitled). 3 cr. U/G.

Comparative study of the literatures and cultural expressions of three or more national, ethnic, or linguistic traditions within North and South America and the Caribbean. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

410 Classical Backgrounds of Modern Literature: (Subtitled). 3 cr. U/G.

Influences of classical literature and art upon modern literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

457 Topics in French and Francophone Studies in Translation: (Subtitled). 3 cr. U/G.

Critical reading, lectures, and discussion of important works on a topic, genre, or historical period with particular emphasis on intellectual and cultural context. CompLit 457 & French 457 are jointly offered; they count as repeats of one another. Retakable w/ chg in topic to 9 cr max. Prereq: jr st or cons instr.

461 Film-Fiction Interaction: (Subtitled). 3 cr. U/G.

Growth and development of film in conjunction with literary devices (narrative, setting, etc.), novels, plays, biographies, and poetry. Mutual influences of literary and cinematic arts. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

463 Literary Criticism: Major Authors. 3 cr. U/G.

The development of critical theories from Plato to the present. Prereq: jr st.

464 Seminar in Comparative Literary Criticism: (Subtitled). 3 cr. U/G.

Principles and theories of literary criticism in a given period; major approaches to literature. Retakable w/chg in topic to 9 cr max. Prereq: jr st, completion of OWC-A; or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

533 Seminar in Trends in Modern Literature: (Subtitled). 3 cr. U/G.

Development of important trends, ideas, and forms of world literature, and their contributions to cultural modernity. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

704 Seminar in Cultural Studies: (Subtitled). 3 cr. G.

Investigation of cultural phenomena in their socio-historical contexts and in their symbolization in folklore, literature, and art. Specific topics and any additional prereqs announced in the Schedule of Classes each time course is offered. CompLit 704 & MALLT 704 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st

707 Seminar in Methods of Literary Analysis: (Subtitled). 3 cr. G.

Two or more theoretical and methodological approaches to literature, with application to selected literary texts. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. CompLit 707 & MALLT 707(701) are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st

789 Graduate Internship in Comparative Literature. 1-31 cr. G.

Application of advanced principles of comparative literature in a business, organizational, educational, political, cultural, or other appropriate setting. Retakable to 6 cr max. Prereq: grad st; 3.0 GPA; cons supervising faculty member.

820 Translation Theory. 3 cr. G.

The role of translation in the development of languages, cultures, and societies; cultural and ideological forces shaping translations; contemporary theories of translation. CompLit 820 & Trnslt 820 are jointly offered; they count as repeats of one another. Prereq: grad st.

French

410 French Immersion: Advanced. 1 or 2 cr. U/G.

Concentrated, structured practice of spoken French; contemporary topics; small-group setting with native speakers simulates

immersion experience. Build vocabulary, improve communication skills. Weekend, interim, or short-term summer modules. Specific credits announced in Schedule whenever course is offered. Retakable to 4 cr max. Prereq: French 324(327)(P) & 325(P), or cons instr.

426 Growing Up French. 3 cr. U/G.

French civilization from the point of view of the French child, with emphasis on materials familiar to French children and adolescents. Prereq: jr st; two French courses numbered 320 or above or cons instr.

427 Advanced Written Expression. 3 cr. U/G.

Development of writing proficiency in a variety of genres through close analysis and imitation of good French writing; emphasis on usage, syntax, and authentic French expression. Prereq: jr st & French 324(327)(P) & 325(P), or grad st.

428 Castles, Cathedrals, and Common People: The Foundations of French Culture. 3 cr. U/G.

Study of major aspects of French society and its cultural expressions from the Middle Ages through the Renaissance. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

429 Royalty, Reason, and Revolution: The Golden Age of French Culture. 3 cr. U/G.

Major aspects of French society and its cultural expressions from the Renaissance through the Revolution. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

430 Reaction and Innovation: French Culture of the 19th and 20th Centuries. 3 cr. U/G.

French politics, society, and culture from Napoleon's First Empire to De Gaulle's Fifth Republic, 1804-1958. Prereq: jr st; French 332(322)(P); French 324(327)(P) or 325(P); or cons instr.

450 Institutions and Culture of Contemporary France. 3 cr. U/G.

Major political, social, cultural and economic forces shaping France today. France within the European Union and the Francophone world. Prereq: jr st; French 325(P); one add'l 300-level French course or cons instr.

451 Cinema of the French-Speaking World: (Subtitled). 3 cr. U/G.

Narrative techniques and thematic content of French-language cinema. Retakable w/chg in topic to 9 cr max. First enrollment only counts toward French major. Prereq: jr st; two of French 324(327)(P), 325(P), 332(322)(P) or cons instr.

457 Topics in French and Francophone Studies in Translation: (Subtitled). 3 cr. U/G.

Critical reading, lectures, and discussion of important works on a topic, genre, or historical period, with particular emphasis on intellectual

and cultural context. CompLit 457 & French 457 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: jr st or cons instr.

465 Introduction to Translation: English to French. 3 cr. U/G.

Translation of texts from English into French. Comparative study of French and English syntax and comparative culture. French 465 & Trnslt 465 are jointly offered; they count as repeats of one another. Counts as repeat of French 499 with "Intro to English to French Translation" topic. Prereq: jr st; grade of B or better in French 325(P); French 427(P) or cons instr.

510 Seminar on Masterpieces of Literature Written in French: (Subtitled). 3 cr. U/G.

Representative works of a major writer or writers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

520 Seminar in Contemporary French Literature: (Subtitled). 3 cr. U/G.

Trends and schools in contemporary novels, theatre, and poetry. Retakable w/chg in topic to 9 cr max. Prereq: jr st; French 325(P) & 332(322)(P); or cons instr.

592 Seminar in French Language: (Subtitled). 3 cr. U/G.

Historic, social, geographic, phonological, and lexical evolution of French. How French fits into global and regional contexts. Retakable w/chg in topic to 9 cr max. Prereq: jr st; two of French 324(327)(P), 325(P), & 332(322)(P); French 392(P); or cons instr.

697 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level.

700 (706) Practicum in French Language Teaching Methods. 1 cr. G.

Practical application within French of methods and concepts taught in MALLT(MAFL) 700. Retakable to 2 cr max. Prereq: grad st; MALLT(MAFL) 700(C) or cons instr.

706 (715) Introduction to Translation: French to English. 3 cr. G.

Introduction to basic skills necessary to professional translation. Translation of texts from French into English. Summarizing texts. Sight translation. French 706 (715) & Trnslt 706 (715) are jointly offered; they count as repeats of one another. Counts as repeat of French/Trnslt 415 (425) taken for grad cr. Prereq: grad st; admis to Trnslt Prog or cons instr.

716 (515) Seminar in Advanced Translation: French to English. 3 cr. G.

Translation from French into English; advanced grammar; techniques of documentation. French

716(515) & Trnsln 716(515) are jointly offered; they count as repeats of one another. Prereq: grad st; French 415(425)(P) or cons instr.

731 Seminar in Literature of the Francophone World: (Subtitled). 3 cr. G.
Works written in French by writers of Africa, North Africa, the Caribbean, and Quebec. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

732 Topics in French and Francophone Culture: (Subtitled). 1-3 cr. G.
Advanced study of selected topics in the cultures of France or french-speaking countries. Retakable w/chg in topic to 9 cr max. Not open for cr to students w/cr in French 432 w/same subtitle. Prereq: Grad st; cons instr.

733 Seminar in French Literature: (Subtitled). 3 cr. G.
In-depth study of important works of French literature. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

797 Study Abroad: (Subtitled). 1-6 cr. G.
Designed to enroll graduate students in UWM sponsored program before course work, level, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: acceptance for Study Abroad Prog.

799 Independent Study: (Subtitled). 1-3 cr. G.
Supervised study with a member of the graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

German

410 German Cultural History. 3 cr. U/G.
Major aspects of German culture from the Middle Ages to the end of the 18th century. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

415 Topics in German Civilization: (Subtitled). 3 cr. U/G.
In-depth study of selected topics of German civilization. Critical analysis and practical application of texts and teaching aids. Recommended for present and future high school teachers. Retakable w/chg in topic to 9 cr max. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

451 Introduction to German Linguistics. 3 cr. U/G.
The nature of linguistics; aspects of phonology, morphology, syntax, semantics; discourse and text; varieties of German; acquisition of German as a foreign language. Prereq: German 332(426)(P).

460 German Literature from 1965 to the Present: 3 cr. U/G.

Literary writers and works of the German-speaking countries from 1965 to the present. Prereq: jr st; German 332(426)(P), 333(P), & 334(P).

488 Topics in German Philology: (Subtitled). 3 cr. U/G.

Topics pertaining to advanced German language study or to the development of the German language in its spoken or written form. Retakable w/chg in topic to 6 cr max. Prereq: jr st; German 332(426)(P); German 333(R) & 334(R).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

597 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

626 Advanced German Grammar and Usage. 3 cr. U/G.

Analysis and discussion of a variety of text topics and genres. Practice in speaking and writing German; attention to written accuracy and sophistication of form. Prereq: jr st; German 332(426)(C). Generates L&S credit for demonstrated equivalent preparation (14 retro cr).

643 Seminar on Genre Studies: (Subtitled). 3 cr. U/G.

Major genres in German literature -- the drama, the novel, the novelle, poetry and film. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

643 (effective 09/05/2017) Seminar on Genre Studies: (Subtitled). 3 cr. U/G.

Major genres in German literature - the drama, the novel, the novelle, poetry and film. Retakable w/chg in topic to 9 cr max. Prereq: jr st; German 334 (P), & 6 cr German courses at the 400-level or above.

645 (effective 09/05/2017) Seminar on Representative German Authors: (Subtitled). 3 cr. U/G.

Works of representative authors. Any add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic: undergrad, unlimited; grads, 9 cr max. Prereq: jr st; German 334 (P), & 6 cr German courses at the 400-level or above.

645 Seminar on Representative German Authors: (Subtitled). 3 cr. U/G.

Works of representative authors. Any add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic: undergrad, unlimited; grads, 9 cr max. Prereq: jr st; one course from the group German 450-458(P).

647 Seminar on Themes and Motifs in German Literature: (Subtitled). 3 cr. U/G.

Recurring patterns and figures in the major genres. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

647 (effective 09/05/2017) Seminar on Themes and Motifs in German Literature: (Subtitled). 3 cr. U/G.

Recurring patterns and figures in the major genres. Retakable w/ chg in topic to 9 cr max. Prereq: jr st; German 334(P), & 6 cr German courses at the 400-level or above.

649 Seminar on Theoretical Approaches to German Literature: (Subtitled). 3 cr. U/G.

Particular theoretical ideas and methods applied to selected texts; literary movements in relation to philosophy and aesthetics. Retakable w/chg in topic to 9 cr max. Prereq: jr st; one course from the group German 450-458(C).

649 (effective 09/05/2017) Seminar on Theoretical Approaches to German Literature: (Subtitled). 3 cr. U/G.

Particular theoretical ideas and methods applied to selected texts; literary movements in relation to philosophy and aesthetics. Retakable w/chg in topic to 9 cr max. Prereq: jr st; German 334 (P), & 6 cr German courses at the 400-level or above.

671 Seminar on Phonetics. 3 cr. U/G.

Articulatory phonetics and phonemics, emphasis on English-German contrasts and pronunciation difficulties; phonetic transcription; drills in pronunciation. Prereq: jr st; German 331(P).

672 German for Professional Purposes. 3 cr. U/G.

Language and structures of Germany's professional world. Historical, political, legal, economic, social and cultural forces shaping Germany today. Prereq: jr st; German 332(426)(P), 333(P)& 334(P).

681 Seminar on the History and Structure of German. 3 cr. U/G.

Historical development of the German language from its beginnings to the present. Prereq: jr st; German 332(P).

697 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

700 (706) Practicum in German Language Teaching Methods. 1 cr. G.

Practical application within German of methods and concepts taught in MALLT(MAFL) 700. Retakable to 2 cr max. Prereq: grad st; MALLT(MAFL) 700(C) or cons instr.

Greek

501 Readings in Classical Greek Prose: (Subtitled). 3 cr. U/G.

Extensive reading in a major author, or in related authors, of ancient Greek prose; e.g., Herodotus, Thucydides, Plato, the Attic Orators, Aristotle, Lucian. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Greek 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro cr).

502 Readings in Ancient Greek Poetry: (Subtitled). 3 cr. U/G.

Extensive reading in a major author, or related authors, of ancient Greek poetry; e.g., Homer, the Greek lyric poets, the Attic tragedians, Aristophanes, Menander, Theocritus. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Greek 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro cr).

Hebrew Studies

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

597 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

697 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

Italian

333 Dante's Divine Comedy in Translation. 3 cr. U/G.

Close reading of the Inferno, Purgatorio, and Paradiso, including their connections to the visual arts. CompLit & Italian 333 are jointly offered; they count as repeats of one another. Prereq: jr st.

391 Phonetics. 2 cr. U/G.

Theory of Italian sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st & Italian 311(P) or 312(P); or grad st.

413 Introduction to Italian to English Translation. 3 cr. U/G.

Comprehensive overview of Italian to English translation; interactive learning of vocabulary and language usage through application of different translation topics; literary, technical, personal documents translation. Prereq: two of Italian 311(P), 312(P), 321(P), or 322(P) or equiv; or admis to grad prog in Translation; or cons instr.

414 Advanced Seminar in Italian to English Translation. 3 cr. U/G.

Advanced level Italian to English translation overview; interactive learning of language usage through advanced exercises covering different translation topics; medicine, technology, business/advertising, and film/subtitling. Prereq: jr st; Italian 413(P); or cons instr.

456 Topics in Italian Food Studies: (Subtitled). 3 cr. U/G.

Interdisciplinary study of a topic or period related to Italian food culture, with attention to historical and social contexts. Taught in English. Retakable w/chg in topic to 9 cr max. Prereq: jr st or cons instr.

457 Topics in Italian Literature and Culture in Translation: (Subtitled). 3 cr. U/G.

Critical reading, lectures, and discussion of major works on a topic, genre, or period; attention to cultural and historical context. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

460 The Italian Novel from Manzoni to the Present. 3 cr. U/G.

Major trends and critical problems. Prereq: jr st, Italian 321(P) & 322(P), & cons instr; or grad st.

463 Italian Poetry from Romanticism to Hermeticism. 3 cr. U/G.

Foscolo, Leopardi, Carducci, Pascoli, D'Annunzio, Marinetti, Campana, Ungaretti, Montale, Quasimodo. Prereq: jr st & Italian 321(P) & 312(P); or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

552 The Renaissance: 3 cr. U/G.

One or more aspects of intellectual, literary, and artistic production in Italy from Petrarch and Humanism to the Counter-Reformation. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

597 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate

level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

659 The Divine Comedy. 3 cr. U/G.

Lectures on the life and times of Dante and reading of selected passages from his minor works. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

660 The Divine Comedy. 3 cr. U/G.

Continuation of Italian 659. Prereq: jr st & Italian 659(P) or cons instr; or grad st.

670 Studies in Italian Literature: 3 cr. U/G.

Major movements or periods, criticism, studies in genres, relations between literature and other disciplines/arts. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Italian 311(P) & 312(P); or grad st.

697 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

729 Major Film Directors: (Subtitled). 3 cr. G.

Thematic, stylistic, and aesthetic study of outstanding figures of the Italian cinema. Retakable w/chg in topic to 9 cr max. Prereq: grad st

Language, Literature, and Translation 700 (MAFL700) Language Teaching Methods. 3 cr. G.

Introduction to practical issues of language instruction for new teaching assistants and language teachers; explores some theoretical issues related to second- and foreign language learning. Prereq: grad st

703 (MAFL 703) Seminar in Language and Communication: (Subtitled). 3 cr. G.

Survey of basic theories on the nature of language and of the modes of verbal communication, with emphasis on the socio-cultural aspects. Prereq: grad st; proficiency in a language other than English

704 (MAFL704) Seminar in Cultural Studies: (Subtitled). 3 cr. G.

Investigation of cultural phenomena in their socio-historical contexts in their symbolization in folklore, literature, and art. Specific topics and any additional prereqs announced in the Schedule of Classes each time course is offered. CompLit 704 & MALLT 704 are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st

706 (MAFL 706) Seminar in Foreign Language Methodology and Pedagogy. 3 cr. G. Nature and direction of recent developments in foreign language methodology and instructional principles. Prereq: grad st

Language, Literature, and Translation

707 (MAFL 707) Seminar in Methods of Literary Analysis: (Subtitled). 3 cr. G.

Two or more theoretical and methodological approaches to literature, with application to selected literary texts. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. CompLit 707 & MALLT 707(701) are jointly offered; they count as repeats of one another. Retakable w/chg in topic to 9 cr max. Prereq: grad st

708 (MAFL 708) Proseminar in Linguistics. 3 cr. G.

Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MALLT 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

709 (MAFL 709) Seminar in Literary and Cultural Translation. 3 cr. G.

Study and practice of literary translation in its cultural setting. Discussion of essays, analysis of published translations, translation practice, and collegial discussion of students' work. MALLT 709 & Trnsln 709 are jointly offered; they count as repeats of one another. Prereq: grad st.

712 (MAFL 712) Bibliographic and Research Methodology in Foreign Language and Literature. 3 cr. G.

Discussion of types of research in languages and literatures, bibliographic resources and sources of research support. Prereq: grad st

721 (MAFL 721) The Old Testament in Literature and the Arts. 3 cr. G.

The impact of the Old Testament on literature and the arts; its influence on major subsequent religious classics and through them on music, philosophy, and the visual arts. Prereq: grad st.

728 (MAFL 728) Literary Translation. 3 cr. G.

Seminar in literary translation focusing on various genres including prose, poetry, essays, and theater; publication and copyright matters. Prereq: grad st; admission to Translation Program.

740 (MAFL 740) Approaches to the Modern I. 3 cr. G.

Seminar on the major figures and intellectual forces that have shaped multiple approaches to the modern across the academy. English 740, Hist 740, & MALLT 740 are jointly offered; they count as repeats of one another. Prereq: grad st.

741 (MAFL 741) Approaches to the Modern II. 3 cr. G.

Seminar on major figures and intellectual forces that have shaped approaches to the modern across periods. English 741, Hist 741 & MALLT 741 are jointly offered; they count as repeats of one another. Prereq: grad st.

781 (MAFL 781) Graduate Study Abroad: Language and Culture: (Subtitled). 1-3 cr. G. Coursework in a foreign language or culture taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MALLT program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MALLT coord comm chair.

782 (MAFL 782) Graduate Study Abroad: Pre-1900 Literature: (Subtitled). 1-3 cr. G. Coursework in pre-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MALLT program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MALLT coord comm chair.

783 (MAFL 783) Graduate Study Abroad: Post-1900 Literature: (Subtitled). 1-3 cr. G. Coursework in post-1900 literature taken in a UWM exchange program at a foreign university; subject to review and evaluation of the MALLT program faculty. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons MALLT coord comm chair.

790 (MAFL 790) Thesis. 1-6 cr. G.

Independent study and research on a master's thesis under supervision of the student's advisory committee. Retakable to 6 cr max. Prereq: grad st; cons advisory committee.

791 (MAFL 791) Reading and Research - Greek or Latin. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

792 (MAFL 792) Reading and Research - Comparative Literature. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

793 (MAFL 793) Reading and Research - French or Italian. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

794 (MAFL 794) Reading and Research - German. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

795 (MAFL 795) Reading and Research - Hebrew or Arabic. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

796 (MAFL 796) Reading and Research - Language. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

797 (MAFL 797) Reading and Research - Polish or Russian or Serbo-Croatian. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

798 (MAFL 798) Reading and Research - Spanish or Portuguese. 1-3 cr. G.

Reading and research under the direction of a member of the MALLT faculty. Prereq: grad st.

799 (MAFL 799) Reading and Research. 1-3 cr. G.

Directed reading and research on a topic selected by the student in consultation with his/her advisory committee. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

888 (MAFL 888) Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

Latin

501 Readings in Latin Prose: (Subtitled). 3 cr. U/G.

Extensive reading in a major author or related major authors; e.g., Cicero, Caesar, the historians, Seneca, Pliny the Younger. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Latin 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro crs).

502 Readings in Latin Poetry: (Subtitled). 3 cr. U/G.

Extensive reading in a major or related major authors, e.g., the comic dramatists, the lyric poets, the elegists, the satirists, the writers of epic. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Latin 306(P) or equiv; equiv H.S. prep determined by placement test. Generates L&S credit for demonstrated equivalent preparation (16 retro crs)..

508 Latin Prose Composition. 3 cr. U/G.

Survey of Latin syntax and idioms, with appropriate exercises in prose composition. Required of Latin majors. Prereq: Latin 310(P) or equiv prep as judged by instr.

Linguistics

390 Fundamentals of Linguistic Analysis. 3 cr. U/G.

Introduction to the systematic analysis of language. Principles and methods of describing phonological and syntactic processes. Prereq: jr st & Linguis 350(P) or 400(P).

400 Introduction to English Linguistics. 3 cr. U/G.

Application of linguistic theory and techniques to modern English. Linguis/English 400 required of all English majors and minors in School of Education. Jointly-offered with & counts as repeat of English 400. Prereq: jr st; satisfaction of GER English Composition competency req.

406 Advanced English Grammar. 3 cr. U/G. Continuation of English 403 with emphasis on the analysis of complex sentences and discourse

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syntax. English 406 & Linguis 406 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; English 403(P).

410 Literacy, Grammar, and Methodologies in ESL Education. 3 cr. U/G.

Grammatical and other linguistic concepts relevant to ESL education; implications for teaching language, reading and composition. Topics include language acquisition and grammatical problems in language/dialect variation. Prereq: jr st & Linguis 350(P).

415 First Language Acquisition. 3 cr. U/G.

Examination of research on what individuals know about their first language at different ages and the kinds of theories offered to explain these data. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

420 Introduction to Second Language Acquisition. 3 cr. U/G.

Principles and methods of describing and comparing the structure of two or more languages with emphasis on the implications of this comparison for language learning. Prereq: jr st; Linguis 350(P) or equiv.

430 Language and Society. 3 cr. U/G.

The influence of society on language and of language on society. Language as social interaction, speech styles, social dialects; effects on language change. Prereq: jr st & Linguis 350(P).

432 Urban Dialects. 3 cr. U/G.

Study of language variation in urban areas. Structure of black English vernacular and its relation to other dialects. Social and educational implications of dialect variation. Prereq: jr st & Linguis 100 or 350.

440 Psycholinguistics. 3 cr. U/G.

A survey of the history, goals, methods, and findings of psycholinguistics. Principal topics: phonetic perception, speech production, syntactic processing, linguistic memory, meaning, and language acquisition. Prereq: jr st; Linguis 350(R) or Psych 101(R); or grad st & cons instr.

450 General Phonetics and Phonetics Practicum. 3 cr. U/G.

Study of linguistic phonetics, including articulatory physiology, acoustics, and speech perception. Practice in production and transcription of a wide variety of speech sounds. 3 hrs lec with practicum. Prereq: jr st.

460 Introduction to Phonology. 3 cr. U/G.

Basic properties of sounds, sound patterns, and sound processes of spoken language. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

464 Introduction to Syntax. 3 cr. U/G.

Study of word and sentence formation in languages. Practice in analysis and

argumentation using data from various languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

466 Semantics. 3 cr. U/G.

The study of meaning in language; its role in grammatical description. Basic concepts used in semantic analysis and discussion of their place in grammatical theory. Prereq: jr st & Linguis 260(P) or 350(P) or Philos 211(P), or grad st & cons instr.

468 Language in its Various Forms: (Subtitled). 3 cr. U/G.

Analysis and description of various language types. Topics may include language change, language development, dialectology, and language typology. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

470 Historical/Comparative Linguistics. 3 cr. U/G.

The study of language change; introduction to internal reconstruction and the comparative method; generative approaches to historical change. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

474 Language Typology and Language Universals. 3 cr. U/G.

Comparison of phonetic, syntactic, and lexical patterns of different languages, with emphasis on deriving statements about properties of all languages or of significant subclasses of languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

476 Linguistic Theory. 3 cr. U/G.

Survey of twentieth century American linguistic theories from traditionalism through American structuralism to generative grammar, including discussion of some current issues. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

490 Field Methods. 3 cr. U/G.

Work with a native speaker of a foreign language. Gathering and collation of data. Evaluation of possible phonemic and grammatical analyses. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

520 Advanced Second Language Acquisition: (Subtitled). 3 cr. U/G.

Readings, discussions, and analyses of current issues in second-language acquisition theory. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Linguis 420(P) or equiv.

550 Phonetics II. 3 cr. U/G.

Auditory phonetics; issues in speech production and speech acoustics; quantitative study of speech sounds in linguistic contexts; independent experimental research on topic selected by student. Prereq: jr st; Linguis 450(370)(P) or cons instr.

560 Advanced Phonology. 3 cr. U/G.

Fundamental issues in generative phonology; emphasis on comparing alternative models of phonological description. Prereq: jr st; Linguis 460(P).

564 Advanced Syntax. 3 cr. U/G.

Continuation of Linguis 464, with greater emphasis on the evaluation and justification of competing solutions and competing models of grammar. Prereq: jr st & Linguis 464(P).

565 Introduction to Adult/University Level TESOL. 3 cr. U/G.

Overview of the various approaches to teaching English as a second language (ESL) to adult/university-level learners. Jointly-offered w/& counts as repeat of English 565. Does not satisfy requirements in School of Educ. Prereq: jr st; satisfaction of English Composition competency req.

566 Advanced Semantics. 3 cr. U/G.

Readings, discussion, and analysis of current issues in formal semantics for natural language. Prereq: jr st; Linguis 466(P) or equiv; or grad st.

567 Materials for ESL Instruction. 3 cr. U/G.

Designed for prospective ESL/EFL teachers. Focus on planning and designing courses to meet the needs of specific populations of language learners. English 567 & Linguis 567 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

569 Practicum in Adult/University TESOL. 3 cr. U/G.

A structured, supervised practicum in language teaching to students in the adult/university TESOL certificate program. English 569 & Linguis 569 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

570 Issues in Bilingualism. 3 cr. U/G.

Study of bilingual competence, bilingual community, and second language acquisition from sociolinguistic, psycholinguistic, and general linguistic standpoints. Anthro 570 & Linguis 570 are jointly offered; they count as repeats of one another. Prereq: jr st.

590 Morphology. 3 cr. U/G.

Introduction to morphology, which is the study of word formation in human language. Counts as repeat of Linguis 763. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

708 (701) Proseminar in Linguistics. 3 cr. G.
Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MALLT 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

748 Oral Language, Cognition, and Literacy. 3 cr. G.
Psychological and linguistic bases of speaking, reading, and writing in children and adults from diverse populations. The importance of language and cognition for literacy development. Ed Psych 748 & Linguis 748 are jointly offered; they count as repeats of one another. Prereq: grad st; college-level course in language acquisition or reading or child development or linguistics or cons instr.

760 Research Methods in Linguistics and ESL. 3 cr. G.
Introduction to basic research methodology in linguistics and ESL. English 760 & Linguis 760 are jointly offered; they count as repeats of one another. Prereq: grad st; cons instr.

763 (English 763) Morphology. 3 cr. G.
A graduate-level introduction to morphological theory. Prereq: grad st; Linguis 460(P) & 464(P) or equiv.

765 (English 765) Pragmatics. 3 cr. G.
Investigation of selected topics in the relationship between linguistic expressions and those who use them. Prereq: grad st; Linguis 466(P) or cons instr.

769 Topics in Linguistics: (Subtitled). 3 cr. G.
Advanced-level study of a topic relevant to linguistics; may be contemporary or historical. Retakable w/chg in topic to 9 cr max. English 769 & Linguis 769 are jointly offered; w/same topic, they count as repeats of one another w/same topic. Prereq: grad st; cons instr.

789 Internship in Teaching ESL to Adult Learners. 1-6 cr. G.
Field experience in teaching English as a second language to adult learners. Open only to grad students in Linguis specializing in ESL. Retakable to max 6 cr. English 789 & Linguis 789 are jointly offered; they count as repeats of one another. Prereq: grad st; English/Linguis 567(P); cons instr.

798 Internship in Linguistics. 1-3 cr. G.
Application of advanced principles of linguistics in an internship experience in a business, organizational, educational, political, governmental or other appropriate setting. One cr earned for academic work based on minimum 40 hrs in internship. Paper or project req'd. Prereq: grad st.

799 Independent Reading and Research for Master's Students. 1-3 cr. G.
Independent reading and/or research under the supervision of a Linguistics faculty member on a linguistics topic relating to the student's area of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

801 Seminar in Syntax and Semantics: (Subtitled). 3 cr. G.
Advanced topics in the theory of syntax, including but not limited to, syntactic description, variation, and typology. Retakable w/chg in topic to 9 cr max. Prereq: grad st

802 Seminar in Phonology and Phonetics: (Subtitled). 3 cr. G.
Advanced topics in phonological theory, including, but not limited to, phonological description, variation, and typology. Retakable w/chg in topic to 9 cr max. Prereq: grad st

803 Seminar in Language Acquisition: (Subtitled). 3 cr. G.
Theory of adult language acquisition, including, but not limited to, interpretation of learner errors, description of acquisition strategies, and analysis of learning sequences. Retakable w/chg in topic to 9 cr max. Prereq: grad st

804 Seminar in Language Variation: (Subtitled). 3 cr. G.
Advanced topics in social dialects, including, but not limited to, language variation, social markers, and the concept of a standard language. Retakable w/chg in topic to 9 cr max. Prereq: grad st

805 Seminar in English Language: (Subtitled). 3 cr. G.
Advanced-level seminar addressing specific topics in English language, both contemporary and historical. Retakable w/chg in topic to 9 cr max. English 805 & Linguis 805 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; English/Linguis 400(P).

806 Seminar in Linguistics: (Subtitled). 3 cr. G.
Advanced-level seminar in which students do in-depth research on a particular area of linguistics through readings, class discussion, and writing a research paper. Retakable w/chg in topic to 9 cr max. English 806 & Linguis 806 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.
Available for students who must meet minimum credit requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Research in Linguistics. 1-3 cr. G.
Research and writing of the doctoral dissertation under the supervision of the major professor. Prereq: grad st

999 Independent Reading for Doctoral Students. 1-3 cr. G.
Individual work directed by a member of the graduate faculty; for doctoral students unable to secure needed content in regular courses. Prereq: grad st; cons instr

Russian
310 Advanced Russian Reading and Conversation: (Subtitled). 3 cr. U/G.
Development of advanced reading, speaking, and writing skills. Readings and films focus on Russian life and culture. Topic varies each semester. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Russian 202(P), 210(P), or cons instr. Generates L&S credit for demonstrated equivalent preparation (16 retro crs).

311 Contemporary Russian Language: (Subtitled). 3 cr. U/G.
Development of practical communication skills. Focus varies each semester. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Russian 202(P), 210(P), or cons instr. Generates L&S cr for demonstrated equiv preparation (16 retro crs).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

597 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

697 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

Spanish
348 Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 (effective 09/05/2017) Introduction to Translation: English to Spanish. 3 cr. U/G.
Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C).

Language, Literature, and Translation

377 Introduction to Galician Culture. 3 cr. U/G.

Main concepts and issues in understanding the unique culture of Galicia, in northwestern Spain, from a variety of perspectives. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C); cons instr.

443 Spanish Phonetics and Phonology. 3 cr. U/G.

Theory of Spanish sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st; Spanish 341(P).

444 Spanish Syntax and Morphology. 3 cr. U/G.

Comprehensive review of Spanish syntax and morphology; the meaning of words, sentences, and discourse. Prereq: jr st; Spanish 341(P).

446 Hispanic Sociolinguistics. 3 cr. U/G.

Critical analysis of the relationship between language and society in the Hispanic world. Prereq: jr st; Spanish 341(P).

491 (461) Topics in Hispanic Culture: (Subtitled). 3 cr. U/G.

The culture of a group of Hispanic people from a particular social and/or historical perspective, with a focus on one or more manifestations of that culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 350(P); 3 cr from Spanish 470(P) or 472(P) or 474(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, contact, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

506 Seminar in Spanish Literature: (Subtitled). 3 cr. U/G.

One or more areas of Spanish peninsular literature across periods, genres, or regions. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

507 Seminar in Spanish-American Literature: (Subtitled). 3 cr. U/G.

One or more areas of Spanish-American literature across periods, genres, or regions. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

508 Seminar in Hispanic Literature: (Subtitled). 3 cr. U/G.

A literary subject with manifestations in more than one Hispanic literature, including Latino literature, with focus on the differences between/among them. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P); Spanish 472(P) or 474(P).

541 (441) History of the Spanish Language. 3 cr. U/G.

External and internal history of the evolution of the Spanish language. Prereq: jr st; Spanish 341(P); 3 cr from Spanish 443(P) or 444(P) or 446(P), or cons instr.

545 Seminar in Hispanic Linguistics: (Subtitled). 3 cr. U/G.

One or more branches of linguistics, such as dialectology, pragmatics, sociolinguistics, historical linguistics, etc., in relation to the Hispanic languages. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 341(P); 3 credits from Spanish 443(P) or 444(P) or 446(P), or cons instr.

570 Seminar in Spanish Golden Age Literature: (Subtitled). 3 cr. U/G.

Topics on the poetry and/or the narrative and didactic prose of the late sixteenth and the seventeenth centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

571 Seminar in Spanish-American Colonial Literature and Civilization: (Subtitled). 3 cr. U/G.

Poetry, narrative, didactic prose, and dramatic literature of Spanish America up to the eighteenth century. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

572 Seminar on Cervantes: (Subtitled). 3 cr. U/G.

'Don Quixote' and/or other works by Cervantes. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

575 Seminar in 18th & 19th Century Spanish-American Literature & Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, drama and/or essay of the Spanish-American countries during the 18th and 19th centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

577 Seminar in Modern Spanish-American Literature and Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, essay, and/or drama of the Spanish American countries after 1888. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

578 Seminar in Modern Spanish Literature and Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, and/or drama of twentieth- and twenty-first-century Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

597 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate

level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

697 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

700 (706) Practicum in Spanish Language Teaching Methods. 1 cr. G.

Practical application within Spanish of methods and concepts taught in MALLT (MAFL) 700. Retakable to 2 cr max. Prereq: grad st; MALLT (MAFL) 700(C) or cons instr.

701 Historical Linguistics. 3 cr. G.

Evolution of the language from Latin to medieval Spanish and from medieval to modern Spanish, including contemporary varieties. Prereq: grad st; Spanish 341(R) or equiv.

702 Seminar in Hispanic Linguistics: (Subtitled). 3 cr. G.

Seminar in selected subfields of Hispanic linguistics. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

703 Seminar on Language and Society: (Subtitled). 3 cr. G.

Analysis and discussion of advanced issues on the interaction between language and society in the Hispanic world and/or different areas of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

705 Seminar in the Structure of the Spanish Language: 3 cr. G.

Selected problems in Spanish linguistics. Prereq: grad st.

707 Introduction to Translation: Spanish to English. 3 cr. G.

Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarizing texts; sight translation. Counts as a repeat of Trnsltn 707. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.

Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Counts as repeat of Trnsltn 717. Not open to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347 (P), or writ cons Transltn coord.

720 Approaches to Hispanic Literary Theory and Criticism. 3 cr. G.

Literary theory and criticism from and pertinent to Hispanic literatures and cultures. Prereq: grad st

751 Seminar in Medieval Literature and Related Topics: 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

755 Seminar in Renaissance Literature and Related Topics: 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

757 (753) Seminar in One or More Areas of Siglo de Oro Literature and Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

763 Seminar-Romantic Literature in Spain &/or Spanish America & Related Topics: 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

767 Sem on Realistic Literature in Spain &/or Spanish America & Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

768 Naturalism and Its Influences. 3 cr. G.

A study of Naturalism and its influences in Spain during the 19th, 20th, and 21st centuries. Prereq: grad st.

769 (765) Seminar in 20th Century Literature of Spain and/or Spanish America & Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 The Modern Spanish Novel. 3 cr. G.

A study of the novel in Spain since the death of Franco in 1975. Prereq: grad st.

771 Seminar in Early Spanish American Literature and Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Seminar in Hispanic Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Modern Spanish Women Writers. 3 cr. G.

A study of women writers of Spain during the 20th and 21st centuries. Prereq: grad st.

785 Detective Fiction of Spain. 3 cr. G.

A study of the detective genre in the literature of Spain. Prereq: grad st.

790 Thesis. 1-6 cr. G.

Independent study and research on a master's thesis under supervision of the student's advisory committee. Retakable to 6 cr max. Prereq: grad st; cons advisory committee.

791 Spanish Culture and Related Topics: (Subtitled). 3 cr. G.

An in-depth examination of the culture of Spain with special attention paid to the history of the country and to the formation of a Spanish identity. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

793 Spanish American Culture and Related Topics: 3 cr. G.

In-depth examination of the development of a Latin American culture with a focus on key aspects of that culture after independence. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

799 Independent Study. 1-3 cr. G.

Individual program of supervised study in the student's area of emphasis or interest, different from content of course offerings, supervised by a graduate faculty. Topics selected in agreement with and the approval of supervising professor. Retakable w/chg in topic to 3 cr max. Prereq: grad st; 3.0 gpa in Spanish grad courses, writ cons instr & dept chair.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

Translation

465 Introduction to Translation: English to French. 3 cr. U/G.

Translation of texts from English into French. Comparative study of French and English syntax and comparative culture. French 465 & Trnsltn 465 are jointly offered; they count as repeats of one another. Counts as repeat of French 499 with "Intro to English to French Translation" topic. Prereq: jr st; grade of B or better in French 325(P); French 427(P) or cons instr.

530 Business and Professional Aspects of Translation. 3 cr. U/G.

Practical knowledge needed to succeed as freelance or in-house translators; marketing, advertising, negotiating as well as legal and tax issues. Prereq: jr st; French 415(425)(P), or German 425(P), or Spanish 347(P) or 707(P), or Trnsltn 415(P), 425(P), or 707(P).

700 Consecutive Interpreting. 3 cr. G.

Professional protocols and practices of different modalities of consecutive interpreting; exercises for improvement of split-attention, short-term memory and information organization; ethical principles of interpreting profession. Prereq: grad st; cons Trnsltn Prog dir.

702 (348) Introduction to Translation: English to Spanish. 3 cr. G.

Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: grad st; admis to Trnsltn Prog.

703 Introduction to Translation: Japanese to English. 3 cr. G.

Basic skills for translating texts from Japanese to English; focus on articles and documents encountered in business, banking, legal, medical, and academic contexts. Prereq: grad st; admis to Trnsltn prog.

704 Introduction to Translation: Arabic to English. 3 cr. G.

Translating texts from Arabic to English, including media articles, political texts, and literary and consumer-oriented texts. Identifying and developing translation strategies; proofreading and editing own work. Prereq: grad st; admis to Trnsltn Prog or cons instr.

706 (715) Introduction to Translation: French to English. 3 cr. G.

Introduction to basic skills necessary to professional translation. Translation of texts from French into English. Summarizing texts. Sight translation. French 706 (715) & Trnsltn 706 (715) are jointly offered; they count as repeats of one another. Counts as repeat of French/Trnsltn 415 (425) taken for grad cr. Prereq: grad st; admis to Trnsltn Prog or cons instr.

707 Introduction to Translation: Spanish to English. 3 cr. G.

Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarizing texts; sight translation. Counts as a repeat of Spanish 707. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

708 Introduction to Translation: German to English. 3 cr. G.

Advanced skills for German to English translation including texts encountered in "real world;" document terminology; translation strategies and tools; researching parallel texts; translation history and methodology.

709 Seminar in Literary and Cultural Translation. 3 cr. G.

Study and practice of literary translation in its cultural setting. Discussion of essays, analysis of published translations, translation practice, and collegial discussion of students' work. MALLT 709 & Trnsltn 709 are jointly offered; they count as repeats of one another. Prereq: grad st.

710 Comparative Systems for Translation. 3 cr. G.

Comparative systems in society; how those systems relate to field of translation; how to make informed translation choices based on subtle differences in systems. Prereq: grad st.

Language, Literature, and Translation

711 Ethics and Procedures in Interpreting. 3 cr. G.

Fundamentals of providing spoken language interpreting services in various settings. Prereq: grad st; admis to Trnsltn Prog or cons instr.

712 (448) Seminar in Advanced Translation: English to Spanish. 3 cr. G.

Comparative study of Spanish and English syntax; advanced translation (English to Spanish) of texts from the humanities, social and political sciences, technical writing, advertising. Prereq: grad st; admis to Trnsltn Prog.

713 Seminar in Advanced Translation: Japanese to English. 3 cr. G.

Translation of ideas and conceptual knowledge in subject areas including economics, law, society, culture, and history. Prereq: grad st; Trnsltn 703(P).

714 Advanced Translation: Arabic to English. 3 cr. G.

Translating a variety of texts from Arabic to English, including media articles, political texts, literary and consumer-oriented texts. Identifying and developing translation strategies. Prereq: grad st; admis to Trnsltn Prog or cons instr.

716 Seminar in Advanced Translation: French to English. 3 cr. G.

Translation from French into English; advanced grammar; techniques of documentation. French 716(515) & Trnsltn 716(515) are jointly offered; they count as repeats of one another. Prereq: grad st; French 415(425)(P) or cons instr.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.

Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Counts as repeat of Spanish 717. Not open for cr to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347(P), or writ cons Trnsltn coord.

718 (525) Seminar in Advanced German Translation. 3 cr. G.

Refinement of translation skills; concentration on specific types of texts. Prereq: grad st; grade of B or better in Trnsltn 708(P); admis to Trnsltn Prog or cons instr.

719 Introduction to Translation: Russian to English. 3 cr. G.

Translation process as combination of linguistic, cultural, ethical, and logistic challenges; translation strategies for business, media, academic, legal, commercial, medical, technical, and popular culture documents.

720 Topics in Translation: (Subtitled). 1-3 cr. G.

Advanced and specialized translation skills courses targeting the translation industry. Retakable w/chg in topic to 9 cr max. Prereq: grad st; add'l prereqs depending on topic

722 (effective 09/05/2017) Simultaneous Interpreting. 3 cr. G.

Reviewing traditional modes; working with technology-assisted interpretation; and skill building in sight translation, note-taking, summary and the emerging mode SimConsec. Counts as a repeat of TRNSLTN 720 w/the same topic Prereq: grad st; cons instr

726 (MAFLL 726) Computer-Assisted Translation. 3 cr. G.

Terminology and database management for translators. Students should know D2L, Microsoft Office Suite and Explorer, how to compress files, view invisibles, format, navigate file structures. Prereq: grad st; approved grad level intro to trnsltn course or cons instr.

727 Project Management in Translation. 3 cr. G.

Principles of project management and quality assurance in the global language services industry; standards and techniques of effective project management for a variety of language service projects. Counts as repeat of Trnsltn 720 w/same topic. Prereq: grad st; admis to Trnsltn Prog.

728 (725) Editing for Translation. 3 cr. G.

Translation industry standards and best practices for quality assurance. Students edit texts in English, applying style guides and implementing effective research techniques. Counts as repeat of Trnsltn 720 w/same title. Prereq: grad st; cons Trnsltn coord.

729 Seminar in Advanced Translation: Russian to English. 3 cr. G.

Translation of ideas and conceptual knowledge in subject areas including economics, law, society, culture, and history. Prereq: grad st; Trnsltn 719 or cons instr

730 (MAFLL 730) Internship in Translation. 3 cr. G.

Internship offering on-the-job experience to students in the graduate program in translation. Retakable to 6 cr max. Prereq: Trnsltn (MAFLL) 726(P); approved grad-level adv trnsltn course.

750 Advanced Modes of Interpreting. 3 cr. G.

Practice of simultaneous & consecutive interpreting; sight translation; note-taking; technology in interpreting. Prereq: jr st; cons instr

790 Thesis. 1-6 cr. G.

Independent study and research on a master's thesis under supervision of the student's

advisory committee. Retakable to 6 cr max. Prereq: grad st; cons advisory committee

820 Translation Theory. 3 cr. G.

The role of translation in development of languages, cultures, and societies; cultural and ideological forces shaping translations; contemporary theories of translation. CompLit 820 & Trnsltn 820 are jointly offered; they count as repeats of one another. Prereq: grad st.

Liberal Studies

School/College: College of Letters and Science
Degrees Conferred:

- Master of Liberal Studies

Overview

The College of Letters and Science offers an interdisciplinary graduate program leading to a Master of Liberal Studies. The MLS curriculum consists of small introductory seminars, special topics courses conceived exclusively for the program, electives taken in specific departments, and a final thesis or independent project. All courses are taught by graduate faculty drawn primarily from the College of Letters and Science and augmented by other interested instructors from across the University. Such faculty diversity allows students to expand their cultural and intellectual horizons through a carefully structured course of study that encourages multiple perspectives on important issues and integration of knowledge across disciplines.

The MLS program is housed in the internationally respected Center for Twenty-first Century Studies, which ensures access to leading scholars, outstanding facilities, special lectures and other events. Each fall a limited class of new students is admitted in order to maintain an intimate learning environment, and all courses are offered during evenings. Although the MLS is not a traditional graduate degree that focuses on a single academic field or set of professional skills, its emphasis on critical thinking, imaginative reflection, ethical consideration, and effective communication carries substantial value in both private and public life.

Graduate Faculty

(Professors' home departments appear in parenthesis)

Distinguished Professors

Schwartz, Robert, Ph.D., University of Pennsylvania (Philosophy)
 Weisner-Hanks, Merry E., Ph.D., University of Wisconsin-Madison (History)

Professors

Clark, George, Ph.D., Florida State University (English)
 Eells, Janis T., Ph.D., University of Iowa (Health Sciences)

Associate Professors

Greene, Shelleen, Ph.D. University of California, Irvine (Art and Design)
 Hamilton, Kristie, Ph.D., University of Texas at Austin (English)
 Mello, Robin, Ph.D. Leslie University (Theatre)

Perley, Bernard, Ph.D Harvard University (Anthropology)

Master of Liberal Studies

Admission

To be considered for admission to the Master of Liberal Studies, an applicant must meet the requirements for admission to the Graduate School. For international students, demonstration of English proficiency for MLS requires a minimum internet-based TOEFL score of 79 for regular graduate admission, 68-78 for dual admission, or a minimum IELTS score of 6.5. In addition, the applicant must submit an essay (two pages) describing why s/he is interested in pursuing graduate study in an interdisciplinary program and describing the educational background and life experiences that s/he brings to the program. An interview with the director of the program also is required.

Major Professor as Advisor

As specified in the regulations of the Graduate School, a major professor will be assigned to every person enrolled in the program to advise and supervise his or her work. Those admitted to the program will consult with the Director of the Master of Liberal Studies program for assistance in identifying an appropriate advisor. The responsibility of the advisor will be to assist in selecting a cohesive sequence of courses and developing a rationale for that sequence. The major advisor must approve the program of study.

Credits and Courses

Thirty credits are required for the MLS degree, distributed as follows:

Core courses (8 cr)

All students must take a required introductory two-course sequence (4 credits for each course) designed to orient the individuals to the program, to establish a common base of knowledge in an interdisciplinary context, and to create a sense of intellectual community among the participants, many of whom may be re-entering the world of formal education.

Special topics courses (6 cr)

Participants must complete at least two courses from an array of special topics courses in a seminar format (3 credits each) offered under the LiblSt curricular area number.

Elective courses (12 cr)

Participants select elective courses to total 9-12 credits from special topics courses offered under the MLS curricular area code, graduate courses offered within departments, and independent study (LiblSt 799). Although the core and special topics courses that are designed specifically for the Master of Liberal Studies will be emphasized in all programs of study, participants may wish to take graduate courses offered by departments or to undertake

independent study in order to pursue specific interests.

Culminating project (4 cr)

Participants must complete a culminating project, undertaken in a 4 credit independent study course (LiblSt 798). This project, which must be interdisciplinary in nature, can take the form of a traditional research paper or thesis, but it also may adopt an alternative creative, performative, or occupationally related practical model. The project must be approved by the student's advisor and the program director.

Transfer credits

Individuals with prior graduate coursework may receive permission to count up to 9 credits of that work toward the Master of Liberal Studies if the Advisory Committee accepts the courses as relevant to the program of study and if the courses meet Graduate School requirements for transfer. Liberal Studies core courses and the culminating project course must be taken at the University of Wisconsin-Milwaukee.

Time Limit

All degree requirements must be completed within five years of initial enrollment.

Courses

701 Traditions and Transformations I: (Subtitled). 3 cr. G.

A fundamental contemporary issue explored through a historical perspective; emphasis on the humanities. Interdisciplinary resources, methods, theories. Required special programs outside regular class hours. Not retakable. Prereq: grad st; admis to MLS Prog.

702 Traditions And Transformations II: (Subtitled). 3 cr. G.

Continuation of LiblSt 701, exploring a contemporary issue within a more recent modern/postmodern context. Required special programs outside regular class hours emphasize course topics. Retakable w/chg in topic to 12 cr max. Prereq: grad st; LiblSt 701(P)

721 Special Topics in Liberal Studies: (Subtitled). 3 cr. G.

Topics in human culture emphasizing the pervasiveness of a particular idea, belief, process, or other cultural construct in many facets of human society. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to MLS Prog

722 Special Topics in Contemporary Cultural Studies: (Subtitled). 3 cr. G.

Topics in contemporary culture; emphasis on literature, experimental arts/film, mass culture, performance; new approaches to study of culture, including media theory, multi-culturalism, feminism, post-colonialism. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to MLS Prog

Liberal Studies

797 Special Topics In International Liberal Studies: 3 cr. G.

Examination of a belief, idea, process, or other cultural construct in an international setting. Retakable w/chg in topic to 9 cr max. Prereq: grad st; admis to mls prog

798 Liberal Studies Master's Project. 4 cr. G.

Culmination of student's studies in MLS Program; may take any form appropriate to interdisciplinary focus of student's study prog, e.g. research paper, performance, literary/exhibition project. Prereq: grad st; 20 cr in the MLS Prog.

799 Independent Work in Liberal Studies. 1-3 cr. G.

Independent reading or project; topic selected in consultation with supervising professor. Prereq: grad st; admis to MLS Prog.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

901 Seminar on Philosophical Approaches to Science. 3 cr. G.

The nature and function of sciences, the logic of the scientific method as it relates to health, and implications of research and practices in health care. C L Sci 901 & LiblSt 901 are jointly offered; they count as repeats of one another. Prereq: grad st.

Library and Information Science

School/College: School of Information Studies
Degrees Conferred:

- Master of Library and Information Science
- Doctor of Philosophy in Information Studies

Related Certificates

- [Certificate of Advanced Study in Archives and Records Administration](#)
- [Certificate of Advanced Study in Digital Libraries](#)

Overview

The School of Information Studies prepares students for careers in the information professions. The School's array of graduate programs provides students with the opportunity to develop attitudes associated with progressive information services, and to develop an understanding of the value, role, and application of modern technology as it relates to library operations and the transfer of information.

In harmony with the mission of the University of Wisconsin-Milwaukee, a major urban research institute, the School of Information Studies strives to make significant contributions towards extending and enhancing the quality of information services and the promotion of information and technological literacy to a diverse society. The School of Information Studies is committed to excellence in instruction, research, and service.

Goals of the school are:

1. To prepare professionals who are able to provide leadership and adapt to change in a technological and knowledge-based environment for careers in libraries, school media centers, information systems, and related areas, according to accepted professional standards.
2. To enrich the library and information science profession through recruitment of students with strong academic skills from diverse cultural, geographic, and subject backgrounds.
3. To enable undergraduate students to achieve qualifications to pursue careers in the information professions through the provision of degree and certificate programs.
4. To enable students to develop specializations in the information professions at the graduate level through the provision of single and dual degree programs.

Library and Information Science

5. To promote a research orientation through participation in the Doctor of Philosophy degree program.
6. To contribute to the international knowledge base of library and information science through research and publication.
7. To facilitate the development, provision, and evaluation of library and information services through consultation services to individual organizations and leadership in professional associations locally, statewide, nationally, and internationally.
8. To offer opportunities for professionals and the wider community to update their skills and knowledge through advanced and continuing education courses, workshops, and programs offered nationally and internationally.

Graduate Faculty

Professors

Aman, Mohammed, Ph.D., University of Pittsburgh
Britz, Johannes, D.D., University of Pretoria
Lipinski, Tomas, Ph.D., University of Illinois at Urbana-Champaign
Smiraglia, Richard, Ph.D., University of Chicago
Wolfram, Dietmar, Ph.D., University of Western Ontario
Xie, Hong, Ph.D., Rutgers University
Zhang, Jin., Ph.D. University of Pittsburgh

Associate Professors

Du Plessis, Jacques, Ph.D., Utah State University
Haigh, Maria, Ph.D., Drexel University
Haigh, Thomas, Ph.D., University of Pennsylvania
Henderson, Laretta, Ph.D., University of Iowa
Kipp, Margaret, Ph.D., University of Western Ontario
Latham, Joyce, Ph.D., University of Illinois at Urbana-Champaign
Lee, Hur-Li, Ph.D., Rutgers University
Mu, Xiangming, Ph.D., University of North Carolina-Chapel Hill
Zimmer, Michael, Ph.D., New York University

Assistant Professors

Babu, Rakesh, Ph.D., The University of North Carolina, Greensboro
Force, Donald, Ph.D., University of British Columbia
Kozak, Nadine, Ph.D., University of California – San Diego
Peekhaus, Wilhelm, Ph.D., University of Western Ontario
Ponelis, Shana, Ph.D., University of Pretoria

Master's Programs

The purpose of the MLIS program is to prepare librarians and information professionals who are able to manage change in an urbanized, technologically oriented, and knowledge-based

society. The MLIS program provides a systematic course of study which enables individuals with a strong service orientation to apply principles of library and information science, use current methods and tools, and recognize the value of research.

Students may elect to specialize according to the type of library or information service which best meets their needs: i.e., school, public, academic, or special; or to follow a more generalized approach. Concentrations in archival studies, information organization, information technology, and public libraries are available.

Graduates of the Master of Library and Information Science degree program are expected to demonstrate the following competencies:

1. To apply scientific principles in developing and managing information resources designed to meet user needs and interests.
2. To analyze, describe, and organize resources for effective and efficient retrieval and dissemination of information.
3. To utilize knowledge of information sources, services, and systems to meet the informational needs of users.
4. To apply management principles in planning, developing, marketing, and evaluating library and information services.
5. To work in specialized areas of library and information service, utilizing knowledge obtained from concentrations within the School and in other disciplines.
6. To build upon current knowledge of information and communication theories and technologies in planning, design, development, and delivery of information services.

The master's degree program is designed to support each of these objectives with appropriate coursework and educational experiences.

The School of Information Studies in collaboration with the School of Education offers post-bachelor's programs leading to State of Wisconsin licensing as Initial Instructional Library Media Specialist, Instructional Library Media Specialist, and Instructional Library Media Supervisor.

Students admitted to the Master of Library and Information Science degree program can incorporate in their degree program the courses for these licenses to the extent that these courses satisfy the degree requirements, either as required core courses or as electives. Licenses will be granted only to those persons who are eligible to hold a Wisconsin license to

Library and Information Science

teach in the elementary or secondary schools or who have completed an approved elementary or secondary classroom teacher preparation program. For additional information about these licenses and their relationship to the master's degree, consult the School Library Media Coordinator.

The advanced courses offered by the School of Information Studies may be elected on a non-degree basis by post-master's students who wish to continue their professional education or special competence in some phase of urban library and information services. The School's graduate courses are also open to graduate students in other fields of study, provided that they have completed the appropriate basic courses (or their equivalent).

Coordinated Degree Programs

In cooperation with the Peck School of the Arts; the College of Health Sciences; and the College of Letters and Science, the School of Information Studies offers the following coordinated degree programs:

M.S./MLIS

A Master of Science in Anthropology/Master of Library and Information Science to prepare students for positions as curators of museum libraries and as information specialists and researchers for local history collections and state historical societies, 51 credits.

M.A./MLIS

A Master of Arts in English/Master of Library and Information Science program to prepare students for positions as humanities librarians and curators of special subject collections in the humanities, 51 credits.

M.A./MLIS

A Master of Arts in Geography/Master of Library and Information Science program to prepare students for positions as map librarians, 48 credits.

M.S./MLIS

A Master of Science in Health Care Informatics/Master of Library and Information Science program to prepare students for positions as clinical informationists, 56 credits.

M.A./MLIS

A Master of Arts in History/Master of Library and Information Science program to prepare students for positions as archivists, 48 credits.

MSIST/MLIS

A Master of Science in Information Science and Technology/Master of Library and Information Science program to prepare students for positions in information technology in all types of libraries, 54 credits.

MALLT/MLIS

A Master of Arts in Language, Literature, and Translation/Master of Library and Information Science program to prepare students for positions as librarians in a variety

of libraries and curators of special subject collections, 51 credits.

M.M./MLIS Master of Music/Master of Library and Information Studies program to prepare students for positions as music librarians. Students in the M.M. degree program will pursue a concentration in Music History and Literature, 54 credits.

M.S./MLIS

A Master of Science in Urban Studies/Master of Library and Information Science program to prepare students for positions as urban information specialists, 54 credits.

M.A./MLIS

A Master of Arts in Women's Studies/Master of Library and Information Science program to prepare students for positions as information specialists in institutions of higher learning, libraries, and research centers, 54 credits.

Prerequisite to the award of either degree in these coordinated programs is the simultaneous award of its counterpart degree. For additional information on these programs, see the [Anthropology](#), [English](#), [Language](#), [Literature](#), and [Translation](#), [Geography](#), [Health Care Informatics](#), [History](#), [Music](#), [Urban Studies](#), and [Women's Studies](#) sections of this Website.

Master of Library and Information Science

Application

The student must apply to both the Graduate School and the School of Information Studies.

Admission

An applicant must meet [Graduate School requirements](#) plus the following additional requirements of the School of Information Studies to be considered for admission to the program:

1. Submission of scores on the General Test of the [Graduate Record Examination \(GRE\)](#) or the Miller Analogies Test (MAT). (GRE or MAT scores are currently required of domestic applicants and will be required of international applicants beginning with the summer 2004 admission term.) The test scores should be sent directly to the SOIS. This requirement will be waived for applicants whose overall undergraduate GPA, as calculated by the UWM Graduate School, is at least 3.00, or who already hold another master's degree or Ph.D., or the equivalent.
2. Applicants from foreign institutions are required to submit the Test of English as a Foreign Language (TOEFL) score. The minimum acceptable score is 550 PBT or 79 iBT. A score of 6.5 or higher on the International English Language Testing System (IELTS) may be submitted in lieu of the TOEFL.

3. Two letter of recommendation from persons who can testify to the applicant's likelihood of success in the master's program in library and information science. References from former teachers or employers are preferred.

No prior coursework in library/information science is required. A student whose undergraduate grade point average is below 2.75 (4.0 basis) may be considered for admission on probation. See the [Admission on Probation](#) section of this Web site.

Faculty Advisor

Each student is assigned a faculty advisor in the School of Information Studies at the time of admission to the master's program. The name of the faculty advisor is included in the student's letter of admission and may also be obtained from an academic advisor in the School of Information Studies.

Credits and Courses

The minimum degree requirement is 36 graduate credits, 30 of which must be in library and information science and up to 6 of which may be in related areas. Students who have already completed a master's or doctoral degree in a field other than library science may have the library and information science master's program reduced to 30 credits. Under special circumstances, up to 6 of these credits may be from another field in a closely allied area with advisor consent. Students who have completed library science courses at the undergraduate level may, upon request, have their coursework reviewed to determine whether the content was the equivalent of that in required courses in the School of Information Studies Program. However, the establishment of such equivalencies will not reduce the total number of credits required for the master's degree in library and information science, but merely enable the student to avoid unnecessary repetition.

The number of credits needed for each of the coordinated degree programs is 12 credits less than the sum of credits of the two programs if taken separately. All degree requirements of each component program, however, must be satisfied. This includes makeup courses for deficiencies, required courses, and graduation proficiency requirements. The MLIS component of each coordinated program includes 30 credits of SOIS courses including the 12 credits of required courses.

The following are basic required courses: INFOST 501 Foundations of Library and Information Science, 3 cr. INFOST 511 Organization of Information, 3 cr. INFOST 571 Information Access and Retrieval, 3 cr.

INFOST 591 Introduction to Research Methods in Library and Information Science, 3 cr.

Effective Fall 2016: INFOST 591 is being replaced with INFOST 799

These courses (or their equivalent) must be completed by full-time students by the end of their second semester; for part-time students, two of the courses must be completed by the end of the second semester, and all four by the end of the fifth semester for coursework in the School of Information Studies.

Minimum Grade Requirement in the Basic Required Courses

The minimum grade requirement for 501, 511, 571, and 591 is a B. Students who earn a grade of B- or lower have not met the minimum requirement and will be allowed to repeat the core course once. Students are responsible for tuition in the repeated course. Those who do not meet the minimum grade requirements upon repeating the course will be recommended for academic dismissal. Students may not register for a course for which any of the core courses is a prerequisite until the minimum grade requirement is met.

Archival Studies Concentration

The Archival Studies concentration requires 15 credits of coursework planned in consultation with the student's advisor. Credits for the concentration count as electives for the MLIS. The courses that qualify for the concentration are as follows:

Required: Students MUST take the following course

InfoSt 650 (L&ISci 681) Introduction to Modern Archives Administration

Selection: Students must take at least FOUR of the following courses in Archives and Records Management

InfoSt 655 (L&I Sci 615) Information and Records Management

InfoSt 656 Electronic Documents and Records Management

InfoSt 682 Digital Libraries

InfoSt 691 Special Topics in Information Science (with appropriate subtitle)

InfoSt 714 Metadata

InfoSt 740 Information Literacy Instruction

InfoSt 750 (L&I Sci 779) Arrangement and Description in Archives

InfoSt 752 (L&I Sci 778) Archival Outreach Programs and Services

InfoSt 753 Preserving Information Media

InfoSt 759 (L&I Sci 790) Fieldwork in Archives and Manuscripts (optional, but highly recommended for those without experience working in an archival collection)

InfoSt 791 Topics in Library and Information Science (with appropriate subtitle)

Library and Information Science

InfoSt 850 (L&I Sci 777/758) Seminar in Modern Archives Administration

InfoSt 891 Advanced Topics in Library and Information Science (with appropriate subtitle)

InfoSt 999 Independent Research

Recommended courses (do not count towards concentration):

InfoSt 680 History of Books and Printing

Information Organization Concentration

The Information Organization Concentration requires a minimum of 15 credits of coursework taken from the list of qualifying courses below.

The student's concentration program must be approved by the SOIS Information Organization Curriculum Coordinator. A fieldwork experience of 1-3 credits with a focus on information organization is required of students without practical experience.

Courses that qualify for the concentration are as follows:

INFOST 619 Topics in Information Organization. (Subtitled) (3 credits)

INFOST 711 Introduction to Cataloging and Classification (3 credits)

INFOST 712 Resource Description for Library Catalogs (3 credits)

INFOST 713 Subject Analysis in Library Catalogs (3 credits)

INFOST 714 Metadata (3 credits)

INFOST 716 Indexing and Abstracting (3 credits)

INFOST 717 Information Architecture and Knowledge Organization (3 credits)

INFOST 750 Arrangement and Description in Archives (3 credits)

INFOST 719 Advanced Topics in Information Organization. (Subtitled) (3 credits)

INFOST 990 Fieldwork in Library and Information Science Services (with a focus on information organization) (1-3 credits) OR 759 Fieldwork in Archives and Manuscripts (with a focus on information organization) (1-3 credits)

Information Technology Concentration

The Information Technology Concentration requires a minimum of 15 graduate credits from the courses listed below planned in consultation with the student's advisor. A minimum grade of "B" (3.00 grade points) is required in all SOIS courses applied toward the concentration.

INFOST 675 Information Technology and Organizations

INFOST 682 Digital Libraries

INFOST 685 Electronic Publishing and Web Design

INFOST 714 Metadata

INFOST 774 Online Information Retrieval

INFOST 780 XML for Libraries

INFOST 783 Information Storage and Retrieval

INFOST 785 Database Management Systems for Information Professionals

INFOST 786 Multimedia

INFOST 787 Library Automation

INFOST 788 Information Systems: Analysis and Design

INFOST 789 Electronic Networking and Information Services

INFOST 691 Special Topics in Information Science: (with appropriate subtitle)

INFOST 891 Advanced Topics in Library and Information Science (with appropriate subtitle)

Public Library Concentration

The Public Library Concentration requires 18 credits of coursework planned in consultation with the student's advisor. Credits for the concentration count as electives for the MLIS. The courses that qualify for the concentration are as follows:

Required: Students must take the following courses

INFOST L&I Sci 736: The Public Library (3 credits)

INFOST L&I Sci 861: Seminar in Intellectual Freedom (3 credits)

INFOST L&I Sci 864 (891 topic): Public Libraries: Philosophy, Politics and Policy (3 credits)

Electives: Students must take at least three of the following courses:

INFOST L&I Sci 520: Managing Library Collections (3 credits)

INFOST L&I Sci 524: Management of Library and Information Services (3 credits)

INFOST L&I Sci 622: Information Marketing (3 credits)

INFOST L&I Sci 661: Ethics and the Information Society (3 credits)

INFOST L&I Sci 682: Digital Libraries (3 credits)

INFOST L&I Sci 685: E-publishing and Web Design (3 credits)

INFOST L&I Sci 691: Special Topics in Information Science: (with appropriate subtitle)

INFOST L&I Sci 862: Legal Issues for Library and Information Managers (3 credits)

INFOST L&I Sci 999: Independent Research (3 credits)

Proficiency Requirement in Library and Information Science

This course of study requires students to demonstrate proficiency in the field of library and information science. There are two options for completing the proficiency requirement: passing a comprehensive examination or completing and successfully defending a thesis.

Capstone Project

The MLIS Capstone Project involves identifying an information problem in a real-world setting and developing the means to address it. There are 5 phases with deadlines throughout the term. Each phase of the project

Library and Information Science

requires a submission to D2L which will be evaluated by an instructor who has been assigned to oversee projects in specific sections. The final outcome of the Capstone Project may be in the form of a poster, a webpage, a journal article, an app, or some other product (approved by instructor).

Thesis Option

Students choosing the thesis option must take at least three credits of thesis coursework in addition to the 36 credits required for the comprehensive examination option, making the minimum credits required for the thesis option 39 credits. However, only 3 credits of thesis coursework may count towards the total degree credit requirement of 39. Those who already have a graduate degree must complete a minimum of 33 credits for this option.

Students who choose the thesis option in the coordinated master's degree programs also need to take an additional 3 credits of thesis coursework. Thus, while total degree credits vary among the coordinated master's programs, the Master of Library and Information Science component of each requires 33 credits of SOIS coursework, three of which would be taken as thesis credit. Students pursuing thesis options in both programs will be required to fulfill each program's thesis requirement and complete two separate theses.

Students in the thesis option also must take a minimum of three credits of research methods. More may be required by individual circumstances, but only the first three credits may count toward degree credit requirements. Either 540-890, Research Methods in Library and Information Science, or a comparable course chosen in consultation with the major professor, can contribute towards satisfaction of this requirement. Students must complete the five core courses in addition to the research methods requirement before defense of the thesis proposal can occur.

Students must register for a variable credit thesis research course L&I Sci 540-898: Master's Thesis (1-3 credits), during every semester of thesis work.

Students may select the thesis option at any point in their course of study, but are encouraged to make this decision and form their thesis committee as early as possible to avoid the necessity of taking additional coursework. The faculty advisor assigned to each student upon admission may serve as the student's thesis advisor, but is not required to do so. It is the student's responsibility to enter into a mutually agreed upon advising relationship with a thesis advisor in SOIS, who then serves as chair of the thesis committee.

Likewise, a student may withdraw from the thesis option and pursue the comprehensive

examination option; however, the student would need to meet the registration and other requirements for the comprehensive examination set forth in SOIS policies and procedures as published in the SOIS Bulletin.

Students must pass an oral examination in defense of the thesis. The thesis defense may be repeated once.

Time Limit

Students in the 36-credit program must complete all degree requirements within seven years of initial enrollment. Students in the 30-credit program must complete all degree requirements within five years of initial enrollment.

Library Media Certification Programs

REQUIREMENTS: 902 License

The following SOIS courses are required for Library Media Certification in Wisconsin.

Information Studies

INFOST 501 Foundations of Library and Information Science
INFOST 511 Organization of Information
INFOST 520 Managing Library Collections
INFOST 571 Information Access and Retrieval
INFOST 591 (*replaced by INFOST 799 effective Fall 2016*) Research in Library and Information Science
INFOST 642 School Library Media Programs and Resources
INFOST 644 School Library Practicum
INFOST 645 Library Materials for Children
INFOST 646 Library Materials for Young Adults
INFOST 691 Spec Topics: Information Literacy Instruction
INFOST 711 Cataloging & Classification
INFOST 745 Library Services for Children and Young Adults

Choose 3+ credits in the following technology courses to meet standard:

INFOST 670 Production and Utilization of Instructional Technology
INFOST 685 Electronic Publishing and Web Design
INFOST 691 Spec Topics: Gaming and Information Literacy
INFOST 786 Multimedia

Curriculum & Instruction

CURRINS 701 Curriculum Planning (or equivalent) Portfolio approval Proficiency Exam (MLIS requirement) We may only certify candidates who already hold a Wisconsin teaching license. Students in states other than Wisconsin must consult with their own licensing agencies to determine whether working with our program will meet that state's licensure requirements.

REQUIREMENTS: 91 Library Media Supervisor

Anyone entering this program must have 3 years experience as a school library media specialist and a Master's degree in library media.

Required coursework

Information Studies
776 Administration of School Library Media Systems

Administrative Leadership

AD LDSP 702 Educational Administration: A Survey of Theory and Practice
AD LDSP 712 Supervising Instructional Personnel
AD LDSP 812 Educational Personnel Administration

Portfolio

Based on DPI standards for this licensure

Doctor of Philosophy in Information Studies

The Doctor of Philosophy in Information Studies prepares graduates for academic and professional careers where an in-depth knowledge of research processes and evaluation is needed. The program emphasizes the study of the representation, storage, retrieval, use, and impact of information resources on society. Graduates will contribute to the knowledge base of the discipline and will take on leadership roles as scholars and administrators in the discipline and the profession.

Admission

Students begin the Information Studies doctoral program in the fall. Applications are accepted only for the fall semester.

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program in regular status:

- Have a cumulative GPA in coursework for the Master's degree of at least 3.5 and an undergraduate GPA of 3.0. Applicants possessing a Master of Library and Information Science, or a master's degree in an allied discipline, are encouraged to apply.
- Submit verbal and quantitative scores for the [Graduate Record Examination \(GRE\)](#) taken within the past five years.
- Submit three letters of recommendation from qualified persons who can attest to the applicant's aptitude for doctoral study. At least one letter must be from an academic.
- Submit a writing sample that demonstrates the applicant's analytical and critical thinking skills. This may take the form of a published research paper, term paper from

a previous graduate program, or earlier completed thesis.

- Applicants are encouraged to bring at least two years of relevant professional experience prior to entering the Ph.D. program.

Applicants lacking the requisite GPA or academic area may be considered for admission on probation, and may be required to complete preparatory coursework.

Major Professor as Advisor

Unless a student specifically requests a particular faculty member, all doctoral students initially are assigned an "interim" advisor. After the completion of 12 credits, a student is required to designate a faculty member from an approved list of major professors with specialized interests compatible with those of the student to act as the major professor. The major professor is expected to assist the student in planning the remainder of the program of studies, chair the student's preliminary examination committee, supervise the completion of the Ph.D. dissertation, and conduct the dissertation defense meeting. All students should consult the program handbook for additional details on school policies and procedures.

Residence

The student must meet minimum Graduate School residence requirements of one continuous academic year of full-time graduate studies at UWM; physical residency in Milwaukee is not necessary. This can be satisfied by completing at least 8 graduate credits in each of two consecutive semesters, or 6 or more graduate credits in each of three consecutive semesters, exclusive of summer sessions. Residence credit cannot be earned at the master's level.

Distance Students

Distance students (not located near Milwaukee, Wisconsin) are encouraged to apply. Such students will be required to attend a week-long orientation on campus at the beginning of the program, and be physically present for all major program milestones, including preliminary exam defense, dissertation proposal defense, and formal defense of the dissertation. SOIS doctoral seminars will be streamed live online for distance students to participate synchronously with local students and faculty, and students will be responsible for meeting all other program requirements via online courses or other approved means. Students begin the Information Studies doctoral program in the fall. Application materials for distance option students is June 30. An applicant whose file is incomplete will be asked to contact the Graduate School. Application requirements are the same for traditional and distance students. Distance students must also meet the UWM

Library and Information Science

Graduate School residency requirements; physical residency in Milwaukee is not necessary.

Doctoral Program Coursework

Students will need to complete a minimum of 30 credits of approved coursework at the 700-level or higher.

Standard Graduate School [minimum and maximum credit loads](#) apply. Full-time students are discouraged from taking more than 9 credits per semester.

Students, along with their major professor, should develop a plan for coursework that will prepare the student to carry out research in their areas of interest. Although an identified dissertation topic is not required upon entry to the program, students should begin to formulate ideas for potential topics as soon as possible thereafter.

Foundation Courses in Information Studies (12 credits)

All students must complete the following required courses: 901 Current Issues in Information Studies (3 credits), which surveys the key contemporary research issues in Information Studies; INFOST 910 Doctoral Seminar in the Organization of Information (3 credits), an in-depth and critical study of the historical, philosophical, theoretical, and methodological foundation of the organization of information; INFOST 960 Doctoral Seminar in Information Policy (3 credits), an examination of the conceptual, institutional and practical foundations of information policy, law, and ethics; and INFOST 970 Doctoral Seminar in Information Retrieval (3 credits), exploring advanced research concepts, methods, and applications for information retrieval (IR) and its evaluation, and current topics of research interest to the IR community.

Research Methods and Design (9 credits)

All students are required to complete a minimum of 9 credits in research methods at the 700-level or higher. A minimum of 3 credits each must be taken in quantitative and qualitative methods. It is expected that all students will fulfill these requirements by completing INFOST 903 (Qualitative Research Methods in Information Studies) and INFOST 904 (Quantitative Research Methods in Information Studies). In exceptional cases, and with the approval of the major professor, a student may satisfy these research methods requirements through courses offered in other campus units. A minimum of 3 additional credits in approved research methods coursework is required. The particular focus of

these 3 credits will be guided by the student's planned research areas and may include coursework in research design, qualitative, quantitative, or other research methods. Additional coursework may be required at the discretion of the major professor.

Specialized area (9 credits)

Students must complete a minimum of 9 credits of coursework related to the specialized area(s) of their dissertation topics. Specific courses must be approved by the major professor. These coursework requirements may be met through approved existing graduate courses within SOIS, advanced special topics classes offered within SOIS at the 700-level or higher, independent research (INFOST 999), or courses offered outside of SOIS if approved by the major professor and the director of the Ph.D. program.

Elective courses (3 credits)

Students may take 3 additional credits of electives upon the approval of the major professor. These credits may be selected from either within or outside of SOIS courses.

Preliminary Examinations / Preparatory Essays

Students will be required to complete the doctoral preparatory essays towards the end of their coursework. The purpose of the essays will be to demonstrate the student's mastery of coursework and relevant subject matter and the student's qualifications to proceed with dissertation research. The essays will consist of three areas: research methods, the major area, and the minor area. The essays will represent non-credit research papers based on topics assigned by the student's doctoral committee, which will consist of at least three members, including one representing the student's minor. The timeline for completion of the essays will be at the committee's discretion. Based on the committee's assessment of the essays, students will be recommended for advancement toward the Ph.D. or academic dismissal from the program. If the essay results are found to be unsatisfactory, the student will have one opportunity to repeat the essay in a future semester after conferral with the major professor on how to prepare for the next attempt.

The preparatory essays must be successfully completed within four years of initial enrollment.

Dissertation Proposal

A doctoral committee of five faculty members will be in place by the time the student undertakes her/his dissertation proposal. The committee will consist of three members from the School of Information Studies, a faculty member in an allied area from outside the School, and a fifth member who may come

Library and Information Science

from SOIS or another discipline. All doctoral committees shall be chaired by a major professor from the SOIS graduate faculty. Approval of the dissertation proposal, which ordinarily should occur within two semesters after successfully passing the preparatory essays, allows a student to proceed towards completion of the dissertation.

Dissertation

The candidate must write a dissertation which demonstrates her/his ability to formulate a research topic and pursue independent and original investigation that contributes to the knowledge base of the field.

Dissertation Defense

After submission of a reading copy of the dissertation to the student's doctoral committee, the candidate and the major professor will schedule a committee meeting for the purpose of undertaking an oral defense of the dissertation work by the candidate. At the conclusion of the candidate's oral remarks, the dissertation committee will vote on passing the candidate's dissertation work. A majority of the committee must vote to approve the dissertation and recommend granting of the Doctor of Philosophy degree.

Approval of the dissertation by the student's doctoral committee satisfies a final requirement for the Ph.D. degree in Information Studies from the UWM-SOIS.

Time Limit

All components of the Ph.D. program must be completed within seven years of matriculation.

Additional Information for Doctoral Students

For additional information on policies and procedures for doctoral students, please see the [Graduate School Doctoral Requirements](#) page.

Information Studies

Courses

425 (L&I Sci480) Books, Paper, and Their Preservation. 1 cr. U/G.

History, theory, and practical application of conservation solutions currently practiced by professional conservators. Prereq: jr st.

465 Legal Aspects of Information Products and Services. 3 cr. U/G.

Introduction to legal environment surrounding development and use of information products and services, including intellectual property, and issues specific to internet and other digital mediums. Counts as repeat of InfoSt 465X. Prereq: jr st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially

prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Foundations of Library and Information Science. 3 cr. U/G.

Historical introduction to library and information science (LIS); outline of the role of information agencies in disseminating knowledge to users; overview of research in LIS. Prereq: jr st.

511 Organization of Information. 3 cr. U/G.

Introduction to basic concepts in the theoretical, practical, and technological aspects of information organization. Not open for cr to students with cr in InfoSt(L&I Sci) 530. Prereq: jr st.

520 Managing Library Collections. 3 cr. U/G.

Theory and practice of collection management across formats including selection tools and criteria, acquisition and evaluation of collections, deselection, preservation, and other collection development topics. Prereq: jr st; InfoSt(L&I Sci) 501(P) or cons instr.

521 Introduction to Reference Services and Resources. 3 cr. U/G.

An investigation into reference services, reference interviews, and organization, including critical examination of basic reference sources. Prereq: jr st; InfoSt(L&I Sci) 501(P), 571(P); or cons instr.

524 Management of Libraries and Information Services. 3 cr. U/G.

The library/information center as a service organization. Management of the library/information center: planning, budgeting, decision making, leadership styles, motivation, communication, personnel and financial management. Prereq: jr st; InfoSt(L&I Sci) 501(P); or cons instr.

547 (effective 09/05/2017) User-Centered Interaction Design. 3 cr. U/G.

Introduction of human-computer interaction theories and design processes. Emphasis is on applied user experience (UX) design. Jointly offered with & counts as repeat of CompSci 547. Prereq: sr st.

571 Information Access and Retrieval. 3 cr. U/G.

An overview of the concepts and theory related to information retrieval. Prereq: jr st.

582 Introduction to Data Science. 3 cr. U/G.

Introduces basic concepts, background, theoretical, practical and technological aspects of data science. Prereq: jr st; or cons instr.

583 Survey of Information Security. 3 cr. U/G.

Introduces information security concepts, issues, and technological practices related to

privacy, trust, and protection of information and digital assets. Prereq: jr st or cons instr.

584 Survey of Web and Mobile Content Development. 3 cr. U/G.

Current best practices and theory for the development of content and applications across different platforms, systems, and devices emphasizing responsive design and frameworks. Prereq: jr st or cons instr.

603 History of Books and Printing. 3 cr. U/G.

The people, ideas, and events in the history of bookmaking from ancient times to the 1890's. Prereq: jr st.

619 Topics in Information Organization: (Subtitled). 1-3 cr. U/G.

Study of particular topics in Information Organization. Specific topics announced in Schedule of Classes each time course is offered. May be repeated with change in topic to 9 cr max. Prereq: jr st & InfoSt(L&I Sci) 511(P); or cons instr.

622 Information Marketing. 3 cr. U/G.

Concepts and principles of marketing and strategic planning as they apply to libraries and information agencies; case studies in information brokering and repackaging. Prereq: jr st.

627 Music Librarianship. 3 cr. U/G.

Examination of materials used in obtaining music information and in establishing bibliographic control. Emphasis on reference, library instruction, collection management, and organization of music collections. Prereq: jr st; InfoSt(L&I Sci) 511(531)(P), 571(P); or cons instr.

632 Microcomputers for Information Resources Management: 3 cr. U/G.

Use and applications of microcomputers in various library and information management functions. Requires 1-2 hrs of weekly laboratory time. Prereq: jr st & cons instr.

642 School Library Media Programs and Resources. 3 cr. U/G.

A study of the functions of the school library media center as an educational component including service, administration, collection development and utilization of materials. Prereq: jr st; InfoSt(L&I Sci) 511(531)(P); 520(P); 571(P); or cons instr.

644 School Library Practicum. 1-3 cr. U/G.

Field experience of 210 hours in elementary and secondary school library media services under faculty and field supervisor guidance. Prereq: jr st; school library media certification program students only; InfoSt(L&I Sci) 511(531)(P), 520(P), 571(P) & 642(672)(C); or cons instr.

Library and Information Science

645 Library Materials for Children. 3 cr. U/G.

Introduction to print and media resources available in library collections; selection procedures, evaluation criteria, access and promotion of use of materials. Prereq: jr st.

646 Library Materials for Young Adults. 3 cr. U/G.

Criteria for evaluation and selection of materials for young adults, emphasizing current resources, techniques of reading guidance and book talks. Prereq: jr st.

650 An Introduction to Modern Archives Administration. 3 cr. U/G.

An introduction to the archives profession, archives administration, main uses of primary sources in academic research, and archival issues regarding the Internet and other technologies. Prereq: jr st; InfoSt 501(C).

655 Information and Records Management: 3 cr. U/G.

Principles and practices of information and records management: organizational information needs, retention, schedules, vital records protection, micrographics, records centers and records management policy. Prereq: jr st.

656 Electronic Documents and Records Management. 3 cr. U/G.

Advanced concepts, unique challenges, and ongoing issues of electronic records management, including automated systems, information lifecycle management, access, legality, media stability, migration, and long-term preservation. Counts as repeat of InfoSt(L&I Sci) 691 w/same topic. Prereq: jr st; InfoSt(L&I Sci) 655(P) or cons instr.

660 Information Policy. 3 cr. U/G.

Explore various aspects of information policy including privacy, intellectual property, and intellectual freedom; covers applicable methodologies. Prereq: jr st.

661 Information Ethics. 3 cr. U/G.

Ethical traditions, concepts, and principles for the information professions in the global information society; ethical implications of information technologies. Counts as a repeat of L&I Sci 691 with similar topic/title. Prereq: jr st & InfoSt(L&I Sci) 110(P); 501(P) or cons instr.

670 Instructional Technologies. 3 cr. U/G.

Traditional technologies, multimedia formats, and computer-based technologies for instructional purposes. No degree cr for students with cr in InfoSt(L&I Sci) 668 or 669. Prereq: jr st; InfoSt(L&I Sci) 632(P).

674 The Search Engine Society. 3 cr. U/G.

Critical examination of the role of search engines in contemporary society, including impact on information organization and retrieval, information institutions, information

policy, law, and ethics. Counts as repeat of InfoSt(L&I Sci) 691 w/similar topic. Prereq: jr st; InfoSt(L&I Sci) 501(P) or cons instr.

675 Information Technology and Organizations. 3 cr. U/G.

Topical seminar, exploring the relationship between information technology (IT) culture, organizations and the organization of work, cultures, subcultures; sociology of IT work; enterprise systems; knowledge management; data mining and IT careers. Prereq: jr st.

682 Digital Libraries. 3 cr. U/G.

Concepts and technologies for development of digital libraries. Topics include tools for multimedia digitization, organization of digital resources, and evaluation of digital libraries and gateways. Prereq: jr st & InfoSt(L&I Sci) 110(P); 501(P); or cons instr.

685 Electronic Publishing and Web Design. 3 cr. U/G.

An introduction to principles of visual communications related to electronic media with emphasis on website development, electronic documents, and production and dissemination of electronic information. Counts as repeat of InfoSt(L&I Sci) 691 w/similar topic. Prereq: jr st.

691 Special Topics in Information Science: (Subtitled). 1-3 cr. U/G.

An exploration of current topics in information science. Specific topics and any additional prerequisites will be announced in Schedule of Classes each time course is offered. May be retaken with change in topic to max of 9 cr. Prereq: jr st; cons instr.

710 Comparative Bibliography. 3 cr. G.

Introduction to concepts of knowledge records (i.e. documents, information objects, etc.) and the artifacts that convey them. A survey of techniques of enumerative, descriptive, and analytical bibliography, and bibliometric domain analysis. Prereq: grad st; InfoSt 511(531) (P); or cons instr

711 (L&I Sci 631) Cataloging and Classification. 3 cr. G.

Introduction to principles and practices of resource description, subject cataloging, and classification in a variety of library settings. Prereq: grad st; InfoSt(L&I Sci) 511(531)(P) or cons instr

712 Resource Description for Library Catalogs. 3 cr. G.

Application of standards and rules to the construction of tools for information retrieval, primarily digital resources and catalogs in library and information environments. Prereq: grad st; L&I Sci 711(P) or cons instr

713 Subject Analysis in Library Catalogs. 3 cr. G.

Theories, principles, and major methods of subject cataloging and classification as practiced in interactive online environments. Prereq: grad st; InfoSt(L&I Sci) 711(P) or cons instr

714 (effective 09/05/2017) Metadata. 3 cr. G.

Principles and application of metadata for networked information resource organization, representation, retrieval, and interoperability using a variety of schemes; focus on cultural heritage digital repositories. Prereq: grad st; MLIS prereqs: InfoSt 501(P); InfoSt 571(R) or MSIST prereqs: InfoSt 582(P).

714 Metadata. 3 cr. G.

Principles and application of metadata for networked information resource organization, representation, retrieval, and interoperability using a variety of schemes; focus on cultural heritage digital repositories. Prereq: grad st; InfoSt(L&I Sci) 511(531)(P)

715 Music Cataloging. 3 cr. G.

Bibliographic control of music materials. Descriptive cataloging, authority control, subject analysis and classification of music materials. Structure of music catalogs and requirements for effective retrieval. Prereq: grad st; InfoSt 511(P)

716 (L&I Sci 630) Thesaurus Construction. 3 cr. G.

Overview of thesaurus construction, vocabulary control and ontology. Design and construction of thesauri, including domain analysis, vocabulary extraction, concept clustering, ordering, structural relations, thesaurus maintenance. Prereq: grad st; InfoSt(L&I Sci) 511(531)(P), 591(P).

717 Information Architecture. 3 cr. G.

Introduction to information architecture and user experience design, focusing on designing user-centered organization, labeling, navigation, search, metadata, and knowledge organization systems for websites. Prereq: grad st; InfoSt(L&I Sci) 511(531)(P).

719 Advanced Topics in Information Organization. (Subtitled). 3 cr. G.

Advanced study of a particular topic in Information Organization. May be repeated w/ chg in topic to 9 cr. max. Prereq: grad st; InfoSt(L&I Sci) 511(P) or cons instr.

722 (effective 09/05/2017) Entrepreneurship and Innovation for LIS Professionals. 3 cr. G. Introduces entrepreneurial concepts and practices in the library and information science professions, examines alternative career options, and provides an opportunity to apply entrepreneurial methods and processes. InfoSt 501(P) or cons instr.

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734 (L&I Sci 751) Library Services and Resources for Adults. 3 cr. G.

Introduction to the wide range of services and materials with which the library meets the needs of adult patrons. Prereq: grad st; InfoSt(L&I Sci) 520(C), 571(P); or cons instr

735 (L&I Sci 770) The Academic Library. 3 cr. G.

Administration of the college and university library, including a study of budgets, personnel, building and collections requirements, and cooperative programs. Prereq: grad st; InfoSt(L&I Sci) 501(C); 511(531)(P); 520(C); 524(540)(R); & 571(C); or cons instr

736 (L&I Sci 771) The Public Library. 3 cr. G.

Overview of issues and functions of american public libraries; including trends in governance, program planning and evaluation, community analysis, alternative funding, library use and users. Prereq: grad st; InfoSt(L&I Sci) 501(C); 511(531)(P); 520(C); 524(540)(P); 571(C); or cons instr.

738 (L&I Sci 470) Legal Information Sources and Services. 3 cr. G.

A study of legal sources of federal and Wisconsin law including the use of law finders, statutes, cases and digests. Prereq: grad st; InfoSt(L&I Sci) 571(P)

739 Digital Information Services. 3 cr. G.

Examination of major issues involved in digital information services. Comparison of differences and similarities between digital and face-to-face services, evaluation of DIS and current trends. Prereq: grad st; InfoSt(L&I Sci) 682(P); 510(P); & 571(P).

740 Information Literacy Instruction. 3 cr. G.

Concepts and principles involed in teaching information literacy; emphasis on organizing and developing courses and individual sessions. Prereq: grad st; InfoSt(L&I Sci) 501(P)

741 Multicultural Children's Literature. 3 cr. G.

Exploration of children's literature representing racialized groups in the United States; discussion will focus on evaluating and selecting material. Counts as repeat of 691 w/ same topic. Prereq: grad st; InfoSt(L&I Sci) 645(P) or equivalent; or cons instr.

745 (L&I Sci 757) Library Services for Children and Young Adults. 3 cr. G.

A foundation for developing, planning, and programming library services to meet the needs and interests of children and young adults; attention to content and evaluation of literature for these groups. Prereq: grad st; InfoSt(L&I Sci) 645(P) or 646(C); or cons instr

750 (L&I Sci 779) Arrangement and Description in Archives. 3 cr. G.

Development of the intellectual framework and critical evaluation skills necessary for the arrangement and description of archival collections. Prereq: grad st; InfoSt(L&I Sci) 650(681)(C) or cons instr.

752 (L&I Sci 778) Archival Outreach: Programs and Services. 3 cr. G.

An introduction to archival outreach and reference services for sustaining an archival program committed to public service. Prereq: grad st; InfoSt(L&I Sci) 650(681)(C) or cons instr.

753 Preserving Information Media. 3 cr. G.

Examines all aspects of archival preservation of multiple media formats. Includes discussions of preservation practice, policy and programming in an archives. InfoSt(L&I Sci) 791 with similar topic counts as repeat of 753. Prereq: grad st; InfoSt(L&I Sci) 650(P) or cons instr.

758 Technology Issues in Archives. 3 cr. G.

This course addresses technology issues facing archivists today and its theoretical and practical implications in collection management, arrangement and description, reference, digitization, and electronic records. Prereq: grad st; INFOST 650; or cons instr.

759 (L&I Sci 790) Fieldwork in Archives and Manuscripts. 1-3 cr. G.

Field experience of 50 to 150 hours in an archives or manuscript repository under faculty and field supervisor guidance. Student must also complete a supervised field project. May be repeated for total of 3 cr. Prereq: grad st; InfoSt(L&I Sci) 571(P), 524(540)(P); 650(681)(P) or History 775(P); or cons instr.

761 Information Privacy. 3 cr. G.

Graduate seminar on information privacy, undertaking a multi-faceted, multi-disciplinary examination of the relationships between information, technology, law and privacy in our digital society. Counts as repeat of 763 w/similar topic. Prereq: grad st

763 Topics in Information Policy. (Subtitled). 1-3 cr. G.

An array of coursework specifically related to the social, ethical, economic, legal, and philosophical aspects of information. May be repeated w/chg in topic to 9 cr max. Prereq: grad st

774 (effective 09/05/2017) Online Information Retrieval. 3 cr. G.

Study of bibliographic, non-bibliographic, full-text databases, including document delivery alternatives, evaluation and testing. Prereq: grad st; InfoSt 501(P); 571(P); or cons instr.

774 Online Information Retrieval. 3 cr. G.

Study of the organizational, operational and developmental aspects of on-line database

services, including an overview of the on-line community. Students must spend one hour per week in an On-line laboratory session. Prereq: grad st; InfoSt(L&I Sci) 501(P); 571(P); 530 or 511(531)(P); cons instr

780 XML for Libraries. 3 cr. G.

Overview of general markup languages; concepts and components of extensible markup language, and the future of publishing and libraries. Prereq: grad st

783 (L&I Sci 671) Information Storage and Retrieval. 3 cr. G.

Fundamental analysis and design principles and theories used in systems for the storage, processing, and retrieval of information. Prereq: grad st; InfoSt(L&I Sci) 571(P) or cons instr.

785 (L&I Sci 742) Database Management Systems for Information Professionals. 3 cr. G. Study of microcomputer data base management software (DBMS) and information retrieval (IR) systems and their potential applications for information services. Prereq: grad st

786 Multimedia. 3 cr. G.

Multimedia and its applications in information systems and instructional environments. Students develop essential skills in the evaluation, creation, editing, and rendering of multimedia. Counts as repeat of InfoSt(L&I Sci) 891 w/ same topic. Prereq: grad st; cons instr

787 (L&I Sci 781) Library Automation. 3 cr. G.

The current status of automation and network activities among libraries, including an exploration of problems and prospects. Prereq: grad st; InfoSt(L&I Sci) 511(531)(C) or cons instr

788 (L&I Sci 782) Information Systems: Analysis and Design. 3 cr. G.

Analysis, design, and evaluation of information systems. The information system mission, goals and objectives are used to develop measures for judging system effectiveness and efficiency. Prereq: grad st; InfoSt(L&I Sci) 501(P) or cons instr

789 (L&I Sci 710) Electronic Networking and Information Services: 3 cr. G.

Outlines basic concepts of communication technology, electronic networking, and available information resources and services for information professionals. Prereq: grad st; InfoSt(L&I Sci) 510(P), 571(P) or cons instr.

791 Topics in Library and Information Science: (Subtitled). 1-3 cr. G.

Graduate level treatment of current topics in library and information science. Specific topic and any additional prerequisites announced in Schedule of Classes each time course is offered. May be repeated w/chg in topic to 9 cr max. Prereq: grad st; InfoSt 501(P) or cons instr

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799 (591) Research Methods in Information Studies. 3 cr. G.

Knowledge of research concepts, methods, and evaluation in library and information science, and applications of research in the information professions. Prereq: grad st; InfoSt(L&I Sci) 501(P); 511(531)(P); 571(P), or cons instr.

823 (L&I Sci 840) Seminar in International and Multicultural Information Services. **3 cr. G.** Implications of global and multicultural trends for information services. Creation, diffusion and use of information in cross-cultural settings. Prereq: grad st; InfoSt(L&I Sci) 501(P), 524(540)(P), or cons instr.

832 (L&I Sci 814) Government Information Sources and Services. 3 cr. G.

Availability, selection, and use of federal, state, and local documents; international organization documents; or documents of selected foreign governments. Prereq: grad st & InfoSt(L&I Sci) 571(P).

833 (L&I Sci 816) Business Information Sources and Services. 3 cr. G.

Information services and basic sources in business and competitive intelligence. Prereq: grad st; InfoSt(L&I Sci) 571(P).

834 (L&I Sci 813) Information Sources and Services in Science and Technology. **3 cr. G.** A study of the reference literature of science and technology; the structure of the literature; and services of the various information sources in those fields. Prereq: grad st; InfoSt(L&I Sci) 571(P).

835 (L&I Sci 817) Information Sources and Services in the Health Sciences. 3 cr. G.

A survey of the basic sources used to locate information in the fields of medicine, nursing, allied health and health care administration, along with an introduction to the traditional & innovative services offered by health science libraries. Prereq: grad st; InfoSt(L&I Sci) 571(P)

845 (L&I Sci 801) Doctoral Seminar: Issues in Educational and Media Technology. **3 cr. G.** Interdisciplinary overview of research and theories in educational and media technology. Emphasizes cognitive bases of knowledge transfer and implications for instructional systems design and technology. Prereq: grad st; cons instr; Educ 701(P)

850 (L&I Sci 758) Seminar in Modern Archives Administration. 3 cr. G.

In-depth exploration of several aspects of archival work through extensive readings, discussions, practical exercises and a major seminar paper. Counts as repeat of Hist 777. Prereq: grad st; InfoSt(L&I Sci) 650(681)(P) or cons instr.

855 Advanced Appraisal. 3 cr. G.

An overview of the history of archival appraisal and manuscript collecting, surveys recent appraisal methodologies and theories, providing practical experience in the application of appraisal theory and assessing the value of organizational records. Prereq: grad st; INFOST 650; or cons instr

861 (L&I Sci 820) Seminar in Intellectual Freedom. 3 cr. G.

Principles and practices of intellectual freedom, as related to the information professions. Emphasizes, but is not limited to, current issues in the u.s. Prereq: grad st; InfoSt(L&I Sci) 520(P) or cons instr.

862 (L&I Sci 825) Legal Issues for Library and Information Managers. 3 cr. G.

Legal issues arising in various library settings, including access rights, privacy and confidentiality, copyright, intellectual freedom and information liability and malpractice. Prereq: grad st; InfoSt(L&I Sci) 501(P) or cons instr

863 Feminism, Librarianship, and Information. 3 cr. G.

The nature of librarianship as a profession, issues related to information and technology, and practices of information services from gendered perspectives using applicable feminist theories. Prereq: grad st; InfoSt 501(P); InfoSt 591(P)

864 Public Libraries: Philosophy, Policy, Politics. 3 cr. G.

Explores advanced concepts of the public library as a political institution in the public sphere. Includes investigations of legislative foundations, funding, governance and social engagement. Counts as repeat of L&I Sci 891 w/ the same topic. Prereq: grad st; L&I Sci 501(P), 591(P), 736(P) or cons instr

888 Candidate for Degree: 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

891 Advanced Topics in Library and Information Science: (Subtitled). 1-3 cr. G.

Seminar in advanced current topics in library and information science. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st; cons instr.

898 Master's Thesis. 1-3 cr. G.

Research and writing in consultation with SOIS thesis advisor for M.L.I.S. candidates pursuing the Thesis Option. May be repeated until completion and defense of the thesis. Prereq: grad st; InfoSt(L&I Sci) 890(P) or equiv; cons of thesis advisor.

899 Master's Independent Study. 3 cr. G.

Advanced study under faculty guidance, on a special aspect of library and information services. Regular faculty consultation and written report(s) required. Prereq: grad st; InfoSt(L&I Sci) 501(P), 511(531)(P), 571(P), 591(P), or cons instr. Max of 6 cr between InfoSt(L&I Sci) 899 and 999 may count toward the MLIS.

901 Current Issues in Information Studies. 3 cr. G.

Current topical issues in information studies, socializes doctoral students to research culture, and analyzes current research topics in the field. Prereq: grad st (doctoral st); or cons instr.

902 Theoretical Foundations in Information Studies. 3 cr. G.

This doctoral seminar introduces students to a range of fundamental theoretical foundations and models relevant to information studies. Prereq: grad st (doctoral st) or cons instr.

903 Qualitative Research Methods. 3 cr. G.

Qualitative research design, data collection, data analysis tools and techniques as well as theory building in the context of information study research. Prereq: grad st (doctoral st) or cons instr.

904 Quantitative Research Methods. 3 cr. G.

Quantitative research designs, data process and analysis, inferential statistical methods and theories, applications in information studies, and evaluation of quantitative research studies. Prereq: grad st (doctoral st) or cons instr.

910 Doctoral Seminar in the Organization of Information. 3 cr. G.

In-depth and critical study of the historical, philosophical, theoretical, and methodological foundation of the organization of information. Prereq: grad st; InfoSt(L&I Sci) 901(P), at least six grad credits in the organization of information, or cons instr.

960 Doctoral Seminar in Information Policy. 3 cr. G.

Examination of the conceptual, institutional, and practical foundations of information policy, law, and ethics. Prereq: grad st; InfoSt(L&I Sci) 660(P), 661(P), 862(P), 901(P), or cons instr.

970 Doctoral Seminar in Information Retrieval. 3 cr. G.

Advanced research concepts, methods, and applications for information retrieval (IR) and its evaluation, and current topics of research interest to the IR community. Prereq: grad st; InfoSt(L&I Sci) 671(P), 901(P), or cons instr

990 Fieldwork in Library and Information Science Services. 1-3 cr. G.

Fieldwork experience of 50 to 150 hours under faculty and field supervisor guidance. Student must also complete a supervised field project. May be repeated to max of 6 cr with cons

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adviser. Prereq: grad st; InfoSt(L&I Sci) 501(P), 511(531)(P), 571(P); cons instr.

997 Preliminary Examinations. 1-6 cr. G.

Available for doctoral students taking preliminary exams. May be repeated twice to a max of 6 cr with cons of adviser. Prereq: grad st.

998 Doctoral Dissertation. 1-3 cr. G.

Doctoral dissertation research and advisement for information studies PhD candidates and PhD candidates with an emphasis in library and information science. Prereq: doctoral candidacy & cons doctoral advisor.

999 Independent Research. 1-3 cr. G.

Primary research under faculty guidance, on a special aspect of library and information services. Regular faculty consultation and written research report(s) required. Carries 3 cr limit for MLIS; may be repeated to 6 cr max for advanced certificate students. Prereq: grad st; InfoSt(L&I Sci) 501(P), 511(531)(P), 571(P), 591(P), or cons instr.

Library and Information Science

Linguistics

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Linguistics
- Ph.D. in Linguistics

Related Certificates

- [Adult/University-Level TESOL Graduate Certificate](#)

Overview

The Department of Linguistics offers master's and doctoral degrees and a graduate certificate in Adult/University-Level Teaching English to Speakers of Other Languages (TESOL).

Graduate Faculty

(Home departments in parentheses, when appropriate)

Distinguished Professor

Eckman, Fred, Ph.D., Indiana University

Professors

Davis, Garry W., Ph.D., University of Michigan

Associate Professors

Ajirotutu, Cheryl, Ph.D. University of California, Berkeley (Anthropology)

Kuiper, Lawrence, Ph.D. Michigan State University (French, Italian, and Comparative Literature)

Lima, Susan, Ph.D., University of Massachusetts-Amherst (Psychology)

Mayes, Patricia, Ph.D. UC-Santa Barbara

Ouali, Hamid, Ph.D., University of Michigan

Prasad, Rashmi, Ph.D. University of Pennsylvania

Pucci, Sandra, Ph.D., University of Southern California

Rei-Doval, Gabriel, Ph.D. University of Santiago de Compostela (Galicia), (Spanish and Portuguese)

Wheatley, Kathleen, Ph.D., University of Michigan (Spanish and Portuguese)

Assistant Professors

Fleisher, Nicholas, Ph.D. University of California, Berkeley

Park, Hanyong, Ph.D., Indiana University

Pycha, Anne, Ph.D., University of California, Berkeley

Song, Jae Yung, Ph.D. Brown University

Trinh, Tue, Ph.D. Massachusetts Institute of Technology.

Master of Arts in Linguistics

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Undergraduate major in linguistics or related field (e.g. languages, psychology, anthropology, philosophy).
2. Undergraduate grade point average of 3.0 (4.0 scale).
3. Three letters of recommendation to the Department's Director of Graduate Studies from persons familiar with applicant's academic ability and achievement.
4. A sample of academic writing.
5. Though not required, submission of scores on the [Graduate Record Examination](#) may enhance the application.

Applicants may be admitted with course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Applicants should contact the Linguistics Department office for additional information and deadlines.

Major Professor as Advisor

The student must have a Major Professor to advise and supervise the student's work as specified in Graduate School regulations. The director of graduate studies serves as an initial advisor. It is recommended that the student have a permanent advisor by the end of the second semester of enrollment.

Credits and Courses

Students admitted to the master's program earn the degree by completing a minimum of 30 credits of graduate coursework, submitting a final project, and passing an oral examination on the final project. Students who demonstrate a capacity for doctoral work and wish to earn a Ph.D. at UWM are advised to proceed as rapidly as possible to doctoral status. No more than 30 credits earned at the master's level may be included in the 54 credits required for the Ph.D.

The M.A. in Linguistics requires 30 graduate credits, including:

- 18 credits in required courses covering core areas of linguistics:
 - Linguis 415 First Language Acquisition or Linguis 420 Introduction to Second Language Acquisition
 - Linguis 450(370) General Phonetics and Phonetics Practicum
 - Linguis 460 Introduction to Phonology
 - Linguis 464 Introduction to Syntax
 - Linguis 466 Semantics

- Linguis 468 Language in its Various Forms or Linguis 470 Historical/Comparative Linguistics
- 12 elective credits distributed among 400- to 800-level courses in linguistics and related fields as approved by the student's major professor.

Students who completed any of the required courses as undergraduates will substitute another course selected in consultation with their major professor.

TESOL Concentration

Students may elect to complete a concentration in Teaching English to Speakers of Other Languages as part of their M.A. studies. The TESOL concentration requires that students complete, in addition to the above courses, the following courses as part of their electives:

- Linguis /MALLT 708 Proseminar in Linguistics
- Linguis 410 Literacy, Grammar, and Methodologies in ESL Education
- English/Linguis 565 Introduction to Adult/University-Level TESOL
- English/Linguis 569 Internship in Teaching ESL to Adult Learners
- Linguis 799 Independent Reading and Research for Master's Students (TESOL-related paper/project)

The TESOL concentration will be noted on the student's transcript.

Final Project

A research paper or other project appropriate to the student's professional goals, to be defended in an individualized oral examination.

- Final project. The project is a research paper on a topic chosen in consultation with the student's advisor; for students specializing in Teaching ESL to Adult Learners, the project may take some other form as approved by the major professor.
- Oral examination. The oral examination, usually lasting an hour and a half, focuses on the final project but also covers other elements of the student's program of study.

Regulations concerning final projects and oral examinations

1. Students should consult with their advisors before completing 24 credits in order to determine a final project. Ordinarily, this is a revised and expanded course or seminar paper of at least 30 pages. The project should demonstrate the student's skills in research, analysis and argumentation. For

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students specializing in Teaching ESL to Adult Learners, the project may consist of documentation of the outcome of a pedagogical investigation undertaken during the student's internship. The project serves both as a concluding effort at the master's level and as an indication of the student's potential for doctoral study.

2. In consultation with the student, the Director of Graduate Studies appoints an M.A. Examining Committee. At least two of the three members must be Linguistics Department faculty members. The M.A. Examining Committee administers the final Oral Examination.
3. The project must be submitted and the oral examination completed within one year after the completion of 24 credits. Students should remember that a maximum of 30 credits at the master's level is applicable to the Ph.D. 54 credit requirement.
4. Students who express intent to go on for the Ph.D. are evaluated by the M.A. Examining Committee regarding their qualifications for further graduate study at the doctoral level. The Committee Chair puts the Committee's recommendation in writing and places it in the student's academic file.
5. Students who fail the oral examination may be required to revise their final project, retake the examination, or both. The oral examination may be retaken only once. Students must register for 1-3 credits when revising the final project after a failed examination; however, the additional credit(s) may not count toward the 30 credits required for the degree.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Linguistics

Admission

Students wishing to enter the Ph.D. program in Linguistics, including those who hold a master's degree from elsewhere, must satisfy the requirements for the UWM Master of Arts degree in Linguistics. Students apply to the Graduate School for admission, which, in turn, forwards completed applications to the Department. The Department faculty then evaluates the applications and decides on admissions to the Ph.D. program in Linguistics. Occasionally, an exceptionally well-qualified student will be admitted to the Ph.D. program with a baccalaureate degree. The student must complete the requirements of the M.A. degree in the course of fulfilling the requirements for the Ph.D.

New students are admitted each year typically to begin in the Fall term. To be considered, all application materials normally must be received

by the Graduate School no later than December 15. Admission materials will include:

- Completed Graduate School application.
- Official transcripts of previous work, including evidence of a master's degree either completed or in progress.
- Three letters of recommendation.
- Sample of written work.
- Statement of purpose.

In addition, students whose native language is not English must submit scores on the Test of English as a Foreign Language (TOEFL), or the equivalent. A score of at least 587 (TOEFL) is normally necessary for admission. The minimum score for the computer based TOEFL is 240, or 95 for the internet-based test (iBT).

Submission of [Graduate Record Examination \(GRE\)](#) results, though not required, is encouraged.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's work as specified in Graduate School regulations. The Director of Graduate Studies serves as an initial advisor.

The Ph.D. program requires a minimum of 54 credits beyond the B.A. The 54 credits are distributed as follows:

- Required courses
 - Linguis 415 First Language Acquisition or Linguis 420 Introduction to Second Language Acquisition
 - Linguis 450 General Phonetics and Phonetics Practicum
 - Linguis 460 Introduction to Phonology
 - Linguis 464 Introduction to Syntax
 - Linguis 466 Semantics
 - Linguis 468 Language in its Various Forms or 470 Historical/Comparative Linguistics
 - Linguis 550 Phonetics II
 - Linguis 560 Advanced Phonology
 - Linguis 564 Advanced Syntax
 - Linguis 566 Advanced Semantics
- 12 credits in 800- to 900-level linguistics seminars and independent studies, at least 9 credits of which must be in seminars;
- 12 elective credits, selected with approval of the student's major professor

General Restrictions

Doctoral students may not count more than 9 credits in independent study toward the degree without the approval of the Director of Graduate Studies. No more than 18 credits may

be counted in courses taken outside the Department of Linguistics.

Advising

Students are required to consult periodically with their Major Professor. The Major Professor helps the student to define an area of special interest within the concentration for the preliminary examination. The Major Professor also assists the student in the selection of appropriate coursework and may chair the Preliminary Examination Committee.

Foreign Language Requirement

All Ph.D. candidates are required to demonstrate proficiency (reading knowledge) in a language other than English. The choice of language, and the means of demonstrating proficiency, must be approved by the student's Major Professor in consultation with the Director of Graduate Study.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The doctoral preliminary examination consists of an oral defense of a major research paper submitted by the student typically after completing 39 to 45 credits toward the Ph.D. degree. Though the scope of the examination, which usually lasts two hours, is open-ended, its focus is on the submitted research paper, which itself is intended to demonstrate the breadth and depth of a student's knowledge and the ability to conduct advanced research in one or more areas of study. The successfully-defended research paper should lead naturally to timely preparation of the dissertation proposal.

Students cannot take the preliminary examination if they have any incomplete or unreported grades or a GPA less than 3.0. The exam must be finished within one semester after all coursework is completed, excluding summer sessions. Students may receive from the Director of Graduate Studies a one semester extension for additional coursework. Students who do not complete the exam within this time frame will be considered to have failed the exam. The exam may be retaken only once, after making appropriate revisions to the research paper. Students who fail the preliminary examination may not proceed to the dissertation. The exam must be passed within five years of initial enrollment in the doctoral program.

Dissertation

The dissertation topic, together with a comprehensive prospectus, must be approved by the student's doctoral committee in a dissertation proposal hearing that should be held not later than the semester immediately following the preliminary examination. The

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dissertation proposal is typically, albeit not necessarily, a refinement and extension of the research paper defended in the oral preliminary examination. Though no specific length requirements are imposed on the dissertation itself, the Department considers 200 pages to be reasonable and representative.

Dissertation Defense

The completed dissertation is subject to an oral defense, to be arranged by the Major Professor in coordination with the Director of Graduate Study according to Graduate School regulations. A copy of the dissertation is kept in the Department office.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

390 Fundamentals of Linguistic Analysis. 3 cr. U/G.

Introduction to the systematic analysis of language. Principles and methods of describing phonological and syntactic processes. Prereq: jr st & Linguis 350(P) or 400(P).

400 Introduction to English Linguistics. 3 cr. U/G.

Application of linguistic theory and techniques to modern English. Linguis/English 400 required of all English majors and minors in School of Education. Jointly-offered with & counts as repeat of English 400. Prereq: jr st; satisfaction of GER English Composition competency req.

406 Advanced English Grammar. 3 cr. U/G.

Continuation of English 403 with emphasis on the analysis of complex sentences and discourse syntax. English 406 & Linguis 406 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; English 403(P).

410 Literacy, Grammar, and Methodologies in ESL Education. 3 cr. U/G.

Grammatical and other linguistic concepts relevant to ESL education; implications for teaching language, reading and composition. Topics include language acquisition and grammatical problems in language/dialect variation. Prereq: jr st & Linguis 350(P).

415 First Language Acquisition. 3 cr. U/G.

Examination of research on what individuals know about their first language at different ages and the kinds of theories offered to explain these data. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

420 Introduction to Second Language Acquisition. 3 cr. U/G.

Principles and methods of describing and comparing the structure of two or more

languages with emphasis on the implications of this comparison for language learning. Prereq: jr st; Linguis 350(P) or equiv.

430 Language and Society. 3 cr. U/G.

The influence of society on language and of language on society. Language as social interaction, speech styles, social dialects; effects on language change. Prereq: jr st & Linguis 350(P).

432 Urban Dialects. 3 cr. U/G.

Study of language variation in urban areas. Structure of black English vernacular and its relation to other dialects. Social and educational implications of dialect variation. Prereq: jr st & Linguis 100 or 350.

440 Psycholinguistics. 3 cr. U/G.

A survey of the history, goals, methods, and findings of psycholinguistics. Principal topics: phonetic perception, speech production, syntactic processing, linguistic memory, meaning, and language acquisition. Prereq: jr st; Linguis 350(R) or Psych 101(R); or grad st & cons instr.

450 General Phonetics and Phonetics Practicum. 3 cr. U/G.

Study of linguistic phonetics, including articulatory physiology, acoustics, and speech perception. Practice in production and transcription of a wide variety of speech sounds. 3 hrs lec with practicum. Prereq: jr st.

460 Introduction to Phonology. 3 cr. U/G.

Basic properties of sounds, sound patterns, and sound processes of spoken language. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

464 Introduction to Syntax. 3 cr. U/G.

Study of word and sentence formation in languages. Practice in analysis and argumentation using data from various languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

466 Semantics. 3 cr. U/G.

The study of meaning in language; its role in grammatical description. Basic concepts used in semantic analysis and discussion of their place in grammatical theory. Prereq: jr st & Linguis 260(P) or 350(P) or Philos 211(P), or grad st & cons instr.

468 Language in its Various Forms: (Subtitled). 3 cr. U/G.

Analysis and description of various language types. Topics may include language change, language development, dialectology, and language typology. Retakable w/chg in topic to 9 cr max. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

470 Historical/Comparative Linguistics. 3 cr. U/G.

The study of language change; introduction to internal reconstruction and the comparative

method; generative approaches to historical change. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

474 Language Typology and Language Universals. 3 cr. U/G.

Comparison of phonetic, syntactic, and lexical patterns of different languages, with emphasis on deriving statements about properties of all languages or of significant subclasses of languages. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

476 Linguistic Theory. 3 cr. U/G.

Survey of twentieth century American linguistic theories from traditionalism through American structuralism to generative grammar, including discussion of some current issues. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

490 Field Methods. 3 cr. U/G.

Work with a native speaker of a foreign language. Gathering and collation of data. Evaluation of possible phonemic and grammatical analyses. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

520 Advanced Second Language Acquisition: (Subtitled). 3 cr. U/G.

Readings, discussions, and analyses of current issues in second-language acquisition theory. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Linguis 420(P) or equiv.

550 Phonetics II. 3 cr. U/G.

Auditory phonetics; issues in speech production and speech acoustics; quantitative study of speech sounds in linguistic contexts; independent experimental research on topic selected by student. Prereq: jr st; Linguis 450(370)(P) or cons instr.

560 Advanced Phonology. 3 cr. U/G.

Fundamental issues in generative phonology; emphasis on comparing alternative models of phonological description. Prereq: jr st; Linguis 460(P).

564 Advanced Syntax. 3 cr. U/G.

Continuation of Linguis 464, with greater emphasis on the evaluation and justification of competing solutions and competing models of grammar. Prereq: jr st & Linguis 464(P).

565 Introduction to Adult/University Level TESOL. 3 cr. U/G.

Overview of the various approaches to teaching English as a second language (ESL) to adult/university-level learners. Jointly-offered w/& counts as repeat of English 565. Does not

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satisfy requirements in School of Educ. Prereq: jr st; satisfaction of English Composition competency req.

566 Advanced Semantics. 3 cr. U/G.

Readings, discussion, and analysis of current issues in formal semantics for natural language. Prereq: jr st; Linguis 466(P) or equiv; or grad st.

567 Materials for ESL Instruction. 3 cr. U/G.

Designed for prospective ESL/EFL teachers. Focus on planning and designing courses to meet the needs of specific populations of language learners. English 567 & Linguis 567 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

569 Practicum in Adult/University TESOL. 3 cr. U/G.

A structured, supervised practicum in language teaching to students in the adult/university TESOL certificate program. English 569 & Linguis 569 are jointly offered; they count as repeats of one another. Prereq: jr st; satisfaction of GER English Composition competency req; cons instr.

570 Issues in Bilingualism. 3 cr. U/G.

Study of bilingual competence, bilingual community, and second language acquisition from sociolinguistic, psycholinguistic, and general linguistic standpoints. Anthro 570 & Linguis 570 are jointly offered; they count as repeats of one another. Prereq: jr st.

590 Morphology. 3 cr. U/G.

Introduction to morphology, which is the study of word formation in human language. Counts as repeat of Linguis 763. Prereq: jr st & Linguis 350(P); or grad st & cons instr.

708 (701) Proseminar in Linguistics. 3 cr. G.

Presents a range of linguistic constructs, demonstrating through readings, problems, and exercises how these concepts can be used in the analysis of language. Linguis 708(701) & MALLT 708 are jointly offered; they count as repeats of one another. Prereq: grad st.

748 Oral Language, Cognition, and Literacy. 3 cr. G.

Psychological and linguistic bases of speaking, reading, and writing in children and adults from diverse populations. The importance of language and cognition for literacy development. Ed Psych 748 & Linguis 748 are jointly offered; they count as repeats of one another. Prereq: grad st; college-level course in language acquisition or reading or child development or linguistics or cons instr.

760 Research Methods in Linguistics and ESL. 3 cr. G.

Introduction to basic research methodology in linguistics and ESL. English 760 & Linguis 760

are jointly offered; they count as repeats of one another. Prereq: grad st; cons instr.

763 (English 763) Morphology. 3 cr. G.

A graduate-level introduction to morphological theory. Prereq: grad st; Linguis 460(P) & 464(P) or equiv.

765 (English 765) Pragmatics. 3 cr. G.

Investigation of selected topics in the relationship between linguistic expressions and those who use them. Prereq: grad st; Linguis 466(P) or cons instr.

769 Topics in Linguistics: (Subtitled). 3 cr. G.

Advanced-level study of a topic relevant to linguistics; may be contemporary or historical. Retakable w/chg in topic to 9 cr max. English 769 & Linguis 769 are jointly offered; w/same topic, they count as repeats of one another w/same topic. Prereq: grad st; cons instr.

789 Internship in Teaching ESL to Adult Learners. 1-6 cr. G.

Field experience in teaching English as a second language to adult learners. Open only to grad students in Linguis specializing in ESL. Retakable to max 6 cr. English 789 & Linguis 789 are jointly offered; they count as repeats of one another. Prereq: grad st; English/Linguis 567(P); cons instr.

798 Internship in Linguistics. 1-3 cr. G.

Application of advanced principles of linguistics in an internship experience in a business, organizational, educational, political, governmental or other appropriate setting. One cr earned for academic work based on minimum 40 hrs in internship. Paper or project req'd. Prereq: grad st.

799 Independent Reading and Research for Master's Students. 1-3 cr. G.

Independent reading and/or research under the supervision of a Linguistics faculty member on a linguistics topic relating to the student's area of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

801 Seminar in Syntax and Semantics: (Subtitled). 3 cr. G.

Advanced topics in the theory of syntax, including but not limited to, syntactic description, variation, and typology. Retakable w/chg in topic to 9 cr max. Prereq: grad st

802 Seminar in Phonology and Phonetics: (Subtitled). 3 cr. G.

Advanced topics in phonological theory, including, but not limited to, phonological description, variation, and typology. Retakable w/chg in topic to 9 cr max. Prereq: grad st

803 Seminar in Language Acquisition: (Subtitled). 3 cr. G.

Theory of adult language acquisition, including, but not limited to, interpretation of learner

errors, description of acquisition strategies, and analysis of learning sequences. Retakable w/chg in topic to 9 cr max. Prereq: grad st

804 Seminar in Language Variation: (Subtitled). 3 cr. G.

Advanced topics in social dialects, including, but not limited to, language variation, social markers, and the concept of a standard language. Retakable w/chg in topic to 9 cr max. Prereq: grad st

805 Seminar in English Language: (Subtitled). 3 cr. G.

Advanced-level seminar addressing specific topics in English language, both contemporary and historical. Retakable w/chg in topic to 9 cr max. English 805 & Linguis 805 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; English/Linguis 400(P).

806 Seminar in Linguistics: (Subtitled). 3 cr. G.

Advanced-level seminar in which students do in-depth research on a particular area of linguistics through readings, class discussion, and writing a research paper. Retakable w/chg in topic to 9 cr max. English 806 & Linguis 806 are jointly offered; w/same topic, they count as repeats of one another. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.

Available for students who must meet minimum credit requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Research in Linguistics. 1-3 cr. G.

Research and writing of the doctoral dissertation under the supervision of the major professor. Prereq: grad st

999 Independent Reading for Doctoral Students. 1-3 cr. G.

Individual work directed by a member of the graduate faculty; for doctoral students unable to secure needed content in regular courses. Prereq: grad st; cons instr

Mathematics

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Mathematics
- Ph.D. in Mathematics

Overview

The Department of Mathematical Sciences offers graduate programs of study in mathematics with specializations in the fields of algebra, analysis, topology, applied mathematics, probability and statistics, actuarial science, atmospheric science, and industrial mathematics.

The programs of study at the master's level are designed to suit both the student intending to continue toward a Ph.D. as well as the student who wishes to begin a professional career upon completion of the master's program.

The student may prepare for a career in teaching at the secondary or college level and for a career in research in the academic, industrial, government, or business communities.

Graduate Faculty

Distinguished Professor

Roebber, Paul, Ph.D., McGill University
 Tsonis, Anastasios, Ph.D., McGill University

Professors

Ancel, Fredric D., Ph.D., University of Wisconsin-Madison
 Beder, Jay, Ph.D., George Washington University
 Brazauskas, Vytautas, Ph.D., University of Texas-Dallas
 Fan, Dashan, Ph.D., Washington University
 Ghorai, Jugal, Ph.D., Purdue University
 Guillbault, Craig R., Ph.D., University of Tennessee-Knoxville
 Kahl, Jonathan, Ph.D., University of Michigan
 Key, Eric, Ph.D., Cornell University
 Larson, Vincent, Ph.D., Massachusetts Institute of Technology
 Musson, Ian M., Ph.D., University of Warwick, England
 Okun, Boris, Ph.D., SUNY at Binghamton
 Stockbridge, Richard, Ph.D., University of Wisconsin-Madison
 Swanson, Kyle, Ph.D., University of Chicago
 Volkmer, Hans, Ph.D., University of Konstanz
 Wade, Bruce A., Ph.D., University of Wisconsin-Madison
 Willenbring, Jeb, Ph.D., University of California-San Diego
 Xie, Dexuan, Ph.D., University of Houston
 Zou, Yi Ming, Ph.D., Indiana University

Associate Professors

Bell, Allen D., Ph.D., University of Washington, Chair
 Boyd, Suzanne L., Ph.D., Cornell University
 Brucks, Karen, Ph.D., North Texas State University
 Gervini, Daniel, Ph.D., University of Buenos Aires
 Hruska, G. Christopher, Ph.D., Cornell University
 Kravtsov, Sergey, Ph.D., Florida State University
 Lauko, Istvan, Ph.D., Texas Tech University
 Lin, Tzu-Chu, Ph.D., University of Iowa
 McLeod, Kevin, Ph.D., University of Minnesota
 Pinter, Gabriella, Ph.D., Texas Tech University
 Sun, Lijing, Ph.D., Wayne State University
 Zhu, Chao, Ph.D., Wayne State University

Assistant Professors

Evans, A. Clark, Ph.D., Florida State University
 Hinow, Peter, Ph.D., Vanderbilt University
 Wang, Lei, Ph.D., University of Michigan
 Wei, Wei, Ph.D., University of Waterloo

Master of Science in Mathematics

Six options for the master's degree are offered: the standard mathematics option (A), the industrial mathematics option (B), the atmospheric sciences option (C), the statistics option (D), the actuarial science option (E), and the foundations of advanced studies option (F). Students who plan to continue for a Ph.D. degree with a focus on mathematics/statistics should elect an option from options A, B, D, and F, or the dual master's degree option; those who seek the Ph.D. with a focus on atmospheric sciences should elect option C.

A. Standard Mathematics Option

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Completion of three semesters of undergraduate calculus.
2. At least 18 credits of acceptable undergraduate preparation beyond calculus.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up

deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering graduate student is assigned a temporary advisor by the Associate Chair for Graduate Programs.

Credits and Courses

Minimum degree requirement is 24 (for students enrolled before Fall 2014), 30, or 36 credits, depending upon which option the student chooses: either 24 credits from Math and MthStat courses, at least 18 credits of which are numbered 700 or above (for students enrolled before Fall 2014); or 30 credits from Math and MthStat courses, at least 12 credits of which are numbered 700 or above; or at least 36 credits in Math and MthStat courses open for graduate credit.

Under the 36-credit option, no more than 12 credits below the 500 level from within the Department of Mathematical Sciences can be counted as program credits required for the degree.

Under the 30-credit option, up to 9 credits may be in approved courses from outside the Department. Under the 36 credit option, up to 12 credits may be taken in approved courses from outside the Department.

Thesis

A thesis is optional. A student choosing the thesis option must enroll in Math 790. A maximum of 3 credits of thesis may be counted toward the degree requirements. An acceptable thesis will represent an original contribution and may involve applications, a novel exposition, or computational aspects of a mathematical problem or theory. The student must pass an oral defense of the thesis.

Examination or Project

Each student who does not elect the thesis option must satisfy one of the following requirements:

1. Pass a written comprehensive examination.
2. Present a satisfactory oral and written report on a comprehensive project done under the supervision of a faculty advisor.

Mathematics

The project option is open only to students who complete the 36 credit graduation requirement. Students electing the project should register for 1 to 3 credits of the M.S. seminar 791. Students planning to continue for a Ph.D. should select the written comprehensive examination option.

Time Limit

Under the 24 or 30 credit option, the student must complete all degree requirements within five years of initial enrollment. Under the 36 credit option, the student must complete all degree requirements within seven years of initial enrollment.

B. Industrial Mathematics Option

Objective

The objective of the master's program in industrial mathematics is to enable students to acquire the fundamentals of applied mathematics in areas of classical and numerical analysis, differential equations and dynamical systems, and probability and statistics. At the same time, the connection of these fields to modeling of physical, biological, and engineering phenomena will be stressed by requiring credits outside of the Department of Mathematical Sciences. Students are to obtain practical experience in mathematical modeling and analysis during an internship or industrial project that will culminate in a thesis.

Admission

An applicant must meet the Graduate School requirements as well as the following departmental requirements to be considered for admission to the program:

1. A bachelor's degree in an area of mathematical science (applied or pure mathematics, actuarial science, statistics, etc.), computer science, economics or finance, physics, engineering, or a related field.
2. Completion of at least three semesters of undergraduate calculus plus at least 6 credits of acceptable mathematics courses requiring calculus.
3. Knowledge of a high-level programming language.

Students satisfying only the minimum mathematics requirements will be expected to take courses that do not count toward the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies. The entering graduate student is assigned an advisor by the chair of the Industrial Mathematics Committee. Depending on the thesis topic, the student may later change advisors.

General Requirements

A student must have completed, either prior to entering the program or by the time of graduation, courses in advanced calculus, numerical analysis, and ordinary differential equations. In addition, students must complete courses involving Fourier series, linear algebra, linear programming, mathematical modeling, partial differential equations, probability, and calculus-based statistics.

Credits and Coursework

At least 36 graduate credits in G or U/G courses at UWM are required, subject to the following regulations. A student must have:

1. At least 18 credits from the list of approved industrial mathematics courses, including Math 701, 715, and at least 6 additional credits at or above the 600 level.
2. At least 6 upper level (300 or above) credits of a coherent set of courses, approved by the advisor, in an application area (e.g., physics, engineering, business) outside of the Department. Students already proficient in an application area are expected to substitute mathematics courses.
3. Not more than 6 credits in any combination of independent study or seminar or thesis (Math 790, 791, 792, 799, or 990);
4. Not more than 12 credits below the 500 level from within the Department of Mathematical Sciences;
5. Demonstrated knowledge of an advanced scientific programming language approved by the Industrial Mathematics Committee; and
6. Advisor's prior written approval for every course.

Thesis

A thesis in which the student solves a mathematical problem with an industrial source is required. The student must work with the advisor/major professor from the start of the thesis through its completion, receiving his/her approval. The student must pass an oral defense before three faculty members.

Time Limit

Full-time students, without deficiencies, could be expected to complete the program in two years. All degree requirements must be completed within seven years of initial enrollment.

Special Recommendation

It is recommended that, by the time of graduation, students master the material presented in the following courses, either prior to enrolling or through coursework: 313, 314, 564, 571, 601, 602, 701, 702, and 715. Students must work closely with their advisors to ensure

satisfaction of the General, Coursework, and Thesis requirements for timely graduation.

Approved Industrial Mathematics Courses Applied Mathematics

Math 307/308 Theoretical Mechanics
Math 320 Introduction to Differential Equations
Math 321 Vector Analysis
Math 322 Introduction to Partial Differential Equations
Math 371 Introduction to Stochastic Models in Finance
Math 405 Mathematical Models and Applications
Math 423 Complex Analysis
Math 520 Non-Linear Differential Equations
Math 521/522 Advanced Calculus I/II
Math 525 Introductory Theory of Differential Equations
Math 535 Linear Algebra
Math 581 Introduction to the Theory of Chaotic Dynamical Systems
Math 601/602 Advanced Engineering Mathematics I/II
Math 621/622 Introduction to Analysis I/II
Math 701/702 Industrial Mathematics I/II
Math 703 Boundary Value Problems
Math 705 Mathematical Fluid Dynamics
Math 709 Differential Geometry
Math 716 Ordinary Differential Equations
Math 719 Partial Differential Equations
Math 726 Introduction to Functional Analysis
Math 727 Calculus of Variations
Math 728 Integral Equations
Math 801 Topics in Applied Mathematics: (Subtitle)
Math 816/817 Advanced Ordinary Differential Equations I/II
Math 819/820 Advanced Partial Differential Equations I/II
Math 827 Fourier Analysis

Numerical Analysis

Math 313 Linear Programming and Optimization
Math 314 Mathematical Programming and Optimization
Math 413 Introduction to Numerical Analysis
Math 414 Numerical Analysis
Math 416 Computational Linear Algebra
Math 715 Numerical Analysis
Math 793 Scientific Computational Laboratory: (Subtitle)
Math 813 Numerical Solution of Ordinary Differential Equations
Math 814 Numerical Solution of Partial Differential Equations
Math 815 Topics in Numerical Analysis: (Subtitle)

Probability and Statistics

MthStat 361/362 Introduction to Mathematical Statistics I/II
MthStat 461/462 Data Analysis and Graphing Using SAS-I/II
Math 471 Introduction to the Theory of Probability

Mathematics

MthStat 561 Analysis of Variance
MthStat 562 Design of Experiments
MthStat 563 Regression Analysis
MthStat 564 Time Series Analysis
MthStat 565 Nonparametric Statistics
MthStat 567 Statistical Methods in Reliability
MthStat 568 Multivariate Statistical Analysis
MthStat 569 Advanced Biostatistics
Math 571 Introduction to Probability Models
MthStat 761/762 Mathematical Statistics I/II
Math 768 Applied Stochastic Processes
MthStat 861/862 Decision Theory I/II
MthStat 863 Hypothesis Testing
MthStat 869 Advanced Topics in Mathematical Statistics
Classes in Biostatistics at the Medical College of Wisconsin

C. Atmospheric Sciences Option

Admission

An applicant must meet [Graduate School requirements](#) to be considered for admission to the program. Entering graduate students should have a general background in both mathematics and physics; given the intrinsic multi-disciplinary nature of the atmospheric sciences, no specific undergraduate coursework is required. However, applicants should have an adequate mathematical background that includes calculus, vector analysis, ordinary and partial differential equations, and linear algebra. Students lacking this background may be admitted provided that the deficiencies amount to no more than two courses. Deficiencies must be made up within three enrolled semesters of graduate study.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. This advisor will be assigned upon enrollment in the program by the chair of the Atmospheric Sciences Committee.

Credits and Courses

The minimum degree requirement is 30 graduate credits, 12 of which must be in the atmospheric sciences 700 number sequence, 6 of which will be approved graduate elective credits, and 6 of which will be from either the mathematics sequences 521/522 or 601/602, or Atm Sci 500 and Atm Sci 950 (if chosen, both courses in Atm Sci must be taken), or from two of the following courses: Math 703, Math 705, Math 801, and Atm Sci 750.

Thesis

A thesis is optional. Students who choose the thesis option must enroll in Atm Sci 990 for the final 6 credits of the required total. An acceptable thesis will represent an original contribution to knowledge in the atmospheric sciences. Upon completion of the thesis, students must pass an oral examination to defend the thesis.

Comprehensive Examination

In the non-thesis option, students must pass a written comprehensive examination that tests basic knowledge of the atmospheric sciences.

Time Limit

Full-time students, without deficiencies, can be expected to complete the program within two years. All degree requirements must be completed within five years of initial enrollment.

D. Statistics Option

Currently enrolled students have the option of following the old or new requirements. Students entering in **Fall 2014** or later must complete the new requirements.

Admission

An applicant must meet [Graduate School requirements](#) plus the following departmental requirements to be considered for admission to the program: completion of three semesters of undergraduate calculus and at least 18 credits of acceptable undergraduate preparation beyond calculus; these credits should include courses on probability and statistics equivalent to the sequence MthStat 361/362, and courses on advanced calculus equivalent to the sequence Math 521/522.

Applicants with deficiencies in probability and statistics may be admitted to the program but will be required to complete the sequence MthStat 361/362. Applicants with calculus deficiencies may also be admitted to the program but will be required to complete the sequence Math 521/522. Students are expected to make up deficiencies within four enrolled semesters; no course credits earned in making up deficiencies may count toward the degree credit requirement.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. Each entering graduate student is assigned a temporary advisor by the Department Graduate Program Coordinator.

Credit and Courses

The minimum requirement is 30 graduate credits. Students must complete the following:

1. Math 535 (or 631/632), 571, or 768.
2. Math 621/622 (or 711/712).
3. MthStat 563, 564, and the sequence 761/762.
4. At least one other 560-level MthStat course, such as MthStat 562, 565, or 568.

Students who already have taken some of these courses as undergraduates, or equivalent courses at another institution, should choose alternatives from the following list, subject to the advisor's approval:

- MthStat courses numbered 700 or above.
- Statistics course offered by the Division of Biostatistics of the Medical College of Wisconsin.
- Math 413, 414, 416, 711/712, 713, 714, 721, 768, or 771; MthStat 596/597.

Thesis Option

Students have the option of writing a thesis, subject to the advisor's approval. Students who write a thesis are exempt from the Master's Proficiency Exam, and they earn 3 credits toward the degree by enrolling in Math 790. Students who choose the thesis option must pass an oral defense of the thesis.

Master's Proficiency Exam

Students who do not complete the thesis option are required to pass a written comprehensive examination that tests basic knowledge of statistical theory and either mathematical analysis or algebra.

Time Limit

Students must complete all degree requirements with 5 years of initial enrollment.

E. Actuarial Science Option

Objective

The program provides a mathematically rigorous education in actuarial science, prepares students for actuarial professional exams, and develops their economics and business reasoning skills. Students obtain thorough knowledge in the fundamentals of actuarial science such as applied probability models, applied statistics, credibility, financial economics, life contingencies, loss models, and risk theory. Emphasis is placed on developing skills that are highly valued by employers and thus are essential for a successful career as actuary. This program is intended for students who will seek employment as an actuary upon completion of the degree. Those interested in entering the department's Ph.D. program should consider a different Master's option.

Admission

Students with undergraduate degrees in mathematics, statistics, actuarial science, economics or a related area are eligible for admission. Applicants should have a strong mathematical background that includes three semesters of calculus, linear algebra, probability, and mathematical statistics. Students lacking this background may be admitted provided that the deficiencies amount to no more than two courses. Although not required, having one actuarial professional exam passed would be an asset.

Major Professor as Advisor

The student must have a major professor, selected from the members of the Actuarial Science Committee, to advise and supervise the student's studies. The entering student is

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assigned an advisor by the chair of the committee. Before the start of studies, each student in the program must develop a plan of study in consultation with the Committee.

Credits and Coursework

The minimum degree requirement is 30 credits. In order to graduate, the following requirements must be completed:

- Eighteen credits among MthStat 596, 597, 691, 692, 795, and either Math 571 or 768. Students already proficient in some of these areas may substitute up to six credits of other courses in actuarial science, probability or statistics at the 700 level or above. (All substitutions have to be approved by the Actuarial Science Committee and the Graduate Program Coordinator.)
- At least 12 credits from the following list: Math 311, 790, 792, 799, MthStat 563, 564, Econ 701, 702, BusMgmt 705. Students already proficient in these areas but having less than two actuarial exams passed must substitute at least six credits of other courses in probability or statistics at the 700 level or above. Credits for Math 790, 792 and 799 can be counted toward the degree requirement only for students who have passed two actuarial professional exams and only when these courses cover topics in actuarial science, probability, or statistics.

Students who have completed program courses for undergraduate credit should discuss alternative graduate-level courses to substitute for those courses in their programs of study.

Thesis

A thesis is not required for the actuarial science option. Rather, students must pass three departmental written proficiency exams, which are based on the learning objectives of the actuarial professional exams P/1, FM/2, and one of MFE/3F, MLC, C/4. Waivers for departmental exams are granted for students who have passed the corresponding professional exams.

Professional Development

For future advancement in the field of actuarial science, "Validation by Educational Experience" (VEE) credits are required. VEE credits may be earned from the Society of Actuaries (SOA) and Casualty Actuarial Society (CAS) with a grade of B- or better in the following courses: MthStat 563, 564 (VEE-Applied Statistics); Econ 701, 702 (VEE-Economics); BusMgmt 705 (VEE-Corporate Finance). Courses taken at other universities may be used to meet the VEE requirement of the SOA/CAS.

Time Limit

Full-time students are expected to complete the program in two years. Students must complete all degree requirements within five years of initial enrollment.

F. Foundations of Advanced Studies Option

Objective

This option is designed to prepare students for advanced-level graduate programs. It is structured so that students with basic preparation from their undergraduate institutions can complete the option in no more than two years. Some students with a higher level of preparation may transfer up to 12 graduate credits from the courses they completed previously; such students may advance more quickly through the program and complete the degree in only one year.

Admission

An applicant must meet Graduate School requirements plus these departmental requirements to be considered for admission to the program:

1. Completion of three semesters of undergraduate calculus.
2. At least 18 credits of acceptable undergraduate preparation beyond calculus, including at least 3 credits of Linear Algebra (Math 535 or equivalent) and at least 3 credits of Advanced Calculus (Math 521 or equivalent).

Applicants who intend to be admitted with specific program-defined course deficiencies should consider the Standard Math Option instead.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The Associate Chair for Graduate Programs assigns a temporary advisor for the entering graduate student.

Credits and Courses

Minimum degree requirement is 30 credits from mathematics/statistics courses, including Math 621/622 and 631/632. At least 12 credits must be taken in courses numbered 700 or above. Up to 6 credits may be in approved courses from outside the Department.

Students who already have taken Math 621/622 and/or Math 631/632 (or equivalent courses at another institution) as undergraduates may request permission to take alternatives from the following list:

1. Math 711/712
2. Math 713/714

3. Math 731/732
4. Math 751/752

Examination

The student must pass a written comprehensive examination.

Time Limit

The student must complete all degree requirements within 5 years of initial enrollment. Normally, the student can complete all degree requirements within 2 years of initial enrollment. Students who have prior graduate coursework may be able to complete the degree requirements in 1 year.

Financial Support

The Department of Mathematical Sciences does not offer financial support to students enrolled in this program.

Dual Master's Program in Mathematics

Dual Master's Degree Option

In addition to multiple options available for MS in mathematics, the Department of Mathematical Sciences at UWM and the Department of Technomathematics of Fachhochschule Aachen (FHA), Germany have recently created a Dual Master's Degree Program in Mathematics. The students enrolled in this program will be able to earn Master's degrees from both institutions upon completion of the common course requirements.

The program is designed in such a way that students typically will be able to complete all the course requirements within a two-year time period (one year at each institution). Within this program students can choose courses that will allow them to concentrate in the areas of Statistics, Numerical Analysis or General Mathematics. Complete information on the admission policy and graduation requirements, including sample schedules, is available at the Department of Mathematical Sciences web page <http://uwm.edu/math/graduate/>.

Doctor of Philosophy in Mathematics

Admission

Applicant must meet [Graduate School requirements](#) plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for admission to this Ph.D. program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

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Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering graduate student is assigned a temporary advisor by the Department Graduate Program Coordinator.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student, in consultation with the major professor, must select both a primary and a secondary area of specialization. The primary area may be chosen from one of the following eight fields with minimum credit requirements as shown. The secondary area may be chosen from another of these fields or may be chosen from another appropriate department. Minimum course requirements for all work in both areas of specialization require approximately two full years of study.

Algebra field

12 credits in algebra
3 in complex analysis
3 in real analysis
3 in topology
3 in applied mathematics
3 outside the field

Analysis field

3 credits in algebra
6 in complex analysis
6 in real analysis
3 in topology
3 in applied mathematics
3 outside the field

Applied mathematics field

3 credits in algebra
6 in complex analysis
3 in real analysis
12 in applied mathematics
3 outside the field

Probability and statistics

3 credits in complex analysis
6 in real analysis
12 in probability and statistics
3 in applied mathematics

Topology field

3 credits in algebra
3 in complex analysis
3 in real analysis
12 in topology
3 in applied mathematics
3 outside the field

Industrial mathematics field

3 credits in algebra or topology
3 in complex analysis
3 in real analysis
9 in applied mathematics
6 in probability and statistics
6 in approved credits outside Math and MthStat.

Atmospheric sciences field

12 credits in atmospheric sciences (synoptic, dynamic, cloud/radiative, air pollution)
9 in applied mathematics or probability and statistics
3 in analysis

Actuarial science field

6 credits in actuarial science
6 in applied mathematics
6 in probability & statistics
6 in real analysis
3 in business or economics
NOTE: Admission to this program is limited to students who have made significant progress towards and are close to achieving a professional designation from an internationally recognized actuarial organization.

Foreign Language

Except for students in the atmospheric sciences field, each student must pass a written examination in one foreign language; the examination is administered by the Department's Language Committee. Acceptable languages are French, German, and Russian; exceptions may be permitted upon written request of advisor.

Computer Proficiency

The student shall pass an examination on a higher programming language and/or other appropriate advanced computer skills; the examinations administered by the Department's Computer Committee. The Computer Committee may accept advanced computer science coursework in lieu of the examination.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

When the student is sufficiently prepared — normally when the student has earned 24 credits in specified areas above the 700 level — a doctoral preliminary examination to determine the student's knowledge and achievement is taken. For students in mathematics, the exam evaluates the student's general knowledge of mathematics, as well as the student's knowledge of the major area of concentration. Students in atmospheric sciences are examined in three areas: at least one from Atm Sci and at least one from Math or MthStat. Students must pass this examination to continue in the program. With permission of the examination committee, the student may repeat this examination once. If the student does not have a master's degree in mathematics before this examination, the committee will determine whether the student's performance is sufficient to qualify for the master's degree.

Doctoral Dissertation Proposal Hearing

After passing the language requirements and the doctoral preliminary examination, the student

participates in a doctoral dissertation proposal hearing. At this hearing, the student is examined on the student's chosen area of research and a dissertation topic is approved.

Dissertation

The primary requirement for the Ph.D. in mathematics is the candidate's completion, under the supervision of the Department advisor, of an original and significant mathematical investigation presented in the form of a dissertation. The investigation is to be in the field of algebra, analysis, applied mathematics, probability and statistics, topology, or atmospheric sciences. A dissertation for the industrial mathematics field must involve an industrial problem requiring a mathematical solution.

Dissertation Defense

The candidate must, as the final step toward the degree, present a colloquium based on the dissertation and must pass an oral examination in defense of the dissertation. If the candidate does not successfully defend a thesis within five years of admission to candidacy, the candidate may be required to take another doctoral preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Minor Area for Other Ph.D. Majors

A doctoral student planning a physical science major other than mathematics may fulfill requirements for mathematics as the minor area of concentration by completing 12 credits of approved mathematics courses with a grade of B or better, at least 6 credits of which must be in courses 700 or above.

A doctoral student planning a non-physical science major may fulfill requirements for mathematics as the minor area of concentration by completing 12 credits with a grade of B or better in approved mathematics courses 300 or above.

For additional information on the Ph.D., see the Graduate School [Doctoral Requirements](#) page.

Atmospheric Sciences

Courses

330 Air-Pollution Meteorology. 3 cr. U/G. Pollutant sources and sinks, fundamental pollutant chemistry, monitoring techniques, averaging boundary layers and turbulence, diffusion theories, diffusion models, regional and global-scale pollution problems. Prereq: Atm Sci 240(P); Chem 102(P); stats course recom.

Mathematics

350 Atmospheric Thermodynamics. 3 cr. U/G.

Radiant energy, sensible heat, and atmospheric thermodynamics; the gas laws; hydrostatic and psychrometric equations; dry and moist convection; clouds and their physical and energy relations. Optional field exercise. Prereq: jr st; Physics 210(P); Math 232(P); Atm Sci 240(P).

351 Dynamic Meteorology I. 3 cr. U/G.

The role of dynamics in atmospheric physics; equations of motion; symmetric circulation models; gravity waves; Rossby waves, quasi-geostrophy; introduction to instability of atmospheric flows. Prereq: jr st; Atm Sci 240(P); Math 233(P).

352 Dynamic Meteorology II. 3 cr. U/G.

Circulation, vorticity, potential vorticity; shallow water equations: Poincare, Kelvin, and Rossby waves, energy and enstrophy; quasi-geostrophy for a stratified atmosphere; barotropic and baroclinic instability. Prereq: jr st; Atm Sci 351(P); Math 234(P).

360 Synoptic Meteorology I. 4 cr. U/G.

Fundamental principles; synoptic-scale structure and dynamics; equivalent barotropic model; vertical motions; introduction to and application of quasi-geostrophic theory. Prereq: jr st; Math 232(P); Physics 210(P); Atm Sci 240(P).

361 Synoptic Meteorology II. 4 cr. U/G.

Extension of quasi-geostrophic theory to Q-vectors; isentropic potential vorticity applied to mid-latitude weather systems; fronts and jets. Prereq: jr st; Atm Sci 360(P).

405 Atmospheric Science for in-Service Teachers: 1-3 cr. U/G.

Basic, advanced or new topics in atmospheric sciences for in-service teachers. Retakable w/chg in topic to 9 cr max. Prereq: in-service teacher; add'l prereqs depending on topic.

460 Mesoscale Circulations. 3 cr. U/G.

Theory, analysis and forecasting of mesoscale flows, including convective systems, polar lows, terrain and surface-forced flows, jet streams and hurricanes. Prereq: jr st; Atm Sci 360(R) or cons instr.

464 Physical Meteorology: Cloud Physics. 3 cr. U/G.

Formation of cloud droplets, droplet growth by condensation, formation of ice crystals, precipitation processes, weather radars, cloud models. Prereq: jr st; Physics 210(P); Math 232(P); Atm Sci 350(P).

470 Tropical Meteorology. 3 cr. U/G.

Dynamics and energetics of tropical circulations. Origins and evolution of equatorial disturbances and easterly waves. Structure and dynamics of tropical cyclones. Hurricane

modeling and prediction. Prereq: Atm Sci 351(P) or 360(P).

480 The General Circulation and Climate Dynamics. 3 cr. U/G.

Historical overview, the zonally symmetric circulation, momentum, heat and water budgets, stationary waves, the El Nino Southern oscillation, global warming, interpentadal variability in the North Atlantic. Prereq: jr st; Atm Sci 351(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Statistical Methods in Atmospheric Sciences. 3 cr. U/G.

Mathematical and statistical tools applicable to the investigation of atmospheric problems; the nature and treatment of atmospheric data. Prereq: jr st; Atm Sci 240(P) or 350(P), & Math 232(P) or cons instr.

505 Micrometeorology. 3 cr. U/G.

Surface energy budget; radiation balance and heat transfer; boundary-layer profiles of wind, temperature and moisture; turbulence and boundary-layer fluxes; evapotranspiration; special topics. Prereq: jr st; Atm Sci 351(P) & 330(P).

511 Seminar in Atmospheric Radiation and Remote Sensing. 3 cr. U/G.

Basic laws of radiation, absorption and scattering, weather radar, retrieval of soundings, remote sensing and climate, weather satellites. Prereq: jr st; Math 232(P); Atm Sci 350(P) & Physics 210(P).

520 Advanced Dynamic Meteorology. 3 cr. U/G.

Properties of atmospheric sound, gravity, Rossby waves. Baroclinic instability, cyclogenesis, frontogenesis, and the general circulation. Introduction to numerical prediction. Prereq: jr st; Math 234(P), Atm Sci 350(P) & 351(P) or equiv.

690 Seminar in Atmospheric Sciences: (Subtitled). 1-3 cr. U/G.

Intensive topical studies of currently active problem areas. Retakable w/chg in topic to 9 cr max. Satisfies L&S Seminar req. Prereq: jr st; cons instr.

705 Air Pollution Modeling. 3 cr. G.

Computational techniques for determining surface fluxes of heat and momentum. Numerical methods for solving advection and diffusion problems; statistical diffusion modeling. Prereq: grad st; cons instr.

711 Cloud Dynamics. 3 cr. G.

Atmospheric applications of turbulent flow theory. Nonprecipitating clouds: structure of individual cumulus clouds, stratocumulus and cumulus boundary layers. Precipitating clouds: thunderstorms, squall lines, hurricanes. Prereq: grad st; cons instr.

725 Remote Sensing of the Environment. 3 cr. G.

Remote sensing technology, data processing, and analysis in meteorology, with application to oceanography and geology. Radar and acoustic sounding. Erts, sms/goes, thermal scanner, conventional weather satellites. Prereq: grad st in Physics, Math, Geog, Geo Sci, Engr, or Atm Sci.

750 Nonlinear Time Series Analysis. 3 cr. G.

Phase space reconstruction; singular spectrum analysis; prediction; dimension estimation; application of nonlinear time series analysis techniques to selected data sets. Prereq: grad st; cons instr.

760 Advanced Cloud, Aerosol & Precipitation Principles, Processes & Interactions. 4 cr. G. (3 hr lc, 2 hr la). Theoretical & experimental look at cloud & precipitation formation, interaction & dissipation microphysics & chemistry aerosol physics & chemistry, & their application. Prereq: grad st; Atm Sci 464(C) or cons instr.

761 Advanced Synoptic/Mesoscale Meteorology. 3 cr. G.

Advanced analysis techniques for synoptic/mesoscale diagnoses, case studies of relevant circulation systems; role of planetary, synoptic, and mesoscale flows in system development. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

943 Seminar: Hydrology: 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

950 (effective 09/05/2017) Seminar on Topics in Atmospheric Sciences: (Subtitled). 3 cr. G. Selected topics in atmospheric dynamics, satellite meteorology, atmospheric & oceanic convection, air & water pollution, numerical prediction remote sensing, & others. Prereq: grad st in physical sciences or engineering. Retakable w/ chg in topic to 9 cr max.

950 Seminar on Topics in Atmospheric Sciences. 1-3 cr. G.

Selected topics in atmospheric dynamics, satellite meteorology, atmospheric & oceanic convection, air & water pollution, numerical prediction remote sensing, & others. Prereq: grad st in physical sciences or engineering.

Mathematics

990 Master's Thesis. 1-8 cr. G.

Prereq: grad st; cons instr & completed thesis proposal.

997 Doctoral Externship. 1-12 cr. G.

Prereq: grad st; admis to candidacy for the PhD.

998 Doctoral Dissertation. 1-12 cr. G.

Prereq: grad st; admis to candidacy for PhD.

999 Advanced Independent Reading. 1-4 cr. G.

Independent meteorological study. Retakable to 4 cr max. Prereq: grad st & cons instr.

Mathematical Sciences

305 Introduction to Mathematical and Computational Modeling. 3 cr. U/G.

Construction and analysis of discrete and continuous mathematical models in applied, natural, and social sciences. Elements of programming, simulations, case studies from scientific literature. Counts as repeat of Math 690(675) w/topic "Adv Math Models with Apps." Prereq: jr st; grade of C or better in Math 211(P) & one addl 200-level or higher Math or MthStat course, or grade of B or better in Math 213(P), or grade of C or better in Math 231(P), or cons instr.

313 Linear Programming and Optimization. 3 cr. U/G.

Primal and dual formulations of linear programming problems; simplex and related methods of solution; algorithms for transportation; optimization. Prereq: jr st; grade of C or better in Math/ElecEng 234(P) or Math 240(P); or grad st.

315 (314) Mathematical Programming and Optimization. 3 cr. U/G.

Introduction to operations research. Network analysis; integer programming; game theory; nonlinear programming; dynamic programming. Prereq: jr st, grade of C or better in either Math 234(P) or 240(P), & grade of C or better in either Math 211(P) or 233(P); or cons instr; or grad st.

320 Introduction to Differential Equations. 3 cr. U/G.

Elementary types and systems of differential equations, series solutions, numerical methods, Laplace transforms, selected applications. No grad cr in Math Sci. Prereq: jr st, grade of C or better in both Math 232(P) & 240(P), or grade of C or better in Math/ElecEng 234(P); or grad st.

321 Vector Analysis. 3 cr. U/G.

Topics selected from vector algebra; scalar and vector fields; line, surface, and volume integrals; theorems of Green, Gauss, and Stokes; vector differential calculus. Prereq: jr st, grade of C or better in Math 233(P); or grad st.

322 Introduction to Partial Differential Equations. 3 cr. U/G.

Partial differential equations of mathematical physics, boundary value problems in heat flow, vibrations, potentials, etc. Solved by Fourier series; Bessel functions and Legendre polynomials. Prereq: jr st, Math 320(P), & grade of C or better in Math 233(P); or grad st.

371 Introduction to Stochastic Models in Finance. 3 cr. U/G.

Elementary modeling of financial instruments for students in mathematics, economics, business, etc. Statistical and stochastic tools leading to the Black-Scholes model. Real data parameter fitting. Prereq: jr st & one of the following pairs; Econ 413(431)(P) & 506(P), Bus Adm 210(P) & 350(P), Bus Adm 701(P) & 702(P), or Math 234(P) & MthStat 361(P), or cons instr; or grad st.

405 Mathematical Models and Applications. 3 cr. U/G.

Modeling techniques for analysis and decision-making in social and life sciences and industry. Deterministic and stochastic modeling. Topics may vary with instructors. Prereq: jr st; one of: grade of C or better in Math 211(P), grade of B or better in Math 213(P), or grade of C or better in Math 231(P); & grade of C or better in either Math/ElecEng 234(P) or Math 240(P); or grad st.

413 Introduction to Numerical Analysis. 3 cr. U/G.

Root finding and solution of nonlinear systems; direct solution of linear systems; interpolation & approximation of functions; least squares; fast Fourier transform; quadrature. Prereq: jr st, grade of C or better in Math 233(C), & grade of C or better in Math/ElecEng 234(C); or grad st.

415 Introduction to Scientific Computing. 3 cr. U/G.

Nonlinear systems; iterative solution of linear systems; initial value problems in ordinary differential equations; boundary value problems in ordinary and partial differential equations. Prereq: jr st, grade of C or better in Math 233(C), & grade of C or better in Math/ElecEng 234(C); or grad st.

417 (416) Computational Linear Algebra. 3 cr. U/G.

Direct solution of linear systems; iterative solution of linear systems; least squares; eigenvalue problems. Prereq: jr st & grade of C or better in Math/ElecEng 234(P) or Math 240(P); or grad st.

423 (623) Complex Analysis. 3 cr. U/G.

Complex numbers; definition and properties of analytic functions of a complex variable; conformal mapping; calculus of residues; applications to mathematics and physics. See also Math 713. Prereq: jr st; grade of C or better in Math 233(P); or grad st.

431 Modern Algebra with Applications. 3 cr. U/G.

Groups, rings, fields, Boolean algebras with emphasis on their applications to computer science and other areas. Does not carry grad cr in math sci. Prereq: jr st & grade of C or better in Math 232(P); or grad st.

451 Axiomatic Geometry. 3 cr. U/G.

An axiomatic approach to Euclidean and non-Euclidean geometry (historic role of the parallel postulate and models). Dept cons req'd for grad cr in math sci. Prereq: jr st, grade of C or better in both Math 341(P) & Math 232(C); or grad st.

453 Transformations in Geometry. 3 cr. U/G.

Selected topics from vector geometry and geometric transformations such as the study of invariants and conics. Recom for secondary school teachers. Dept cons req'd for grad cr in math sci. Prereq: jr st, grade of C or better in both Math 341(P) & Math 232(C); or grad st.

490 Topics in Mathematics: (Subtitled). 3 cr. U/G.

Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st; grade of C or better in a Math or MthStat course at the 200 level or above; or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Symbolic Logic. 3 cr. U/G.

First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. CompSci 511, Math 511 & Philos 511 are jointly offered; they count as repeats of one another. Prereq: jr st & either Philos 212(P) or 6 cr in math at the 300-level or above.

521 Advanced Calculus I. 3 cr. U/G.

Fundamental notions of sets and functions; limits, continuity; Riemann integral, improper integral; infinite series; uniform convergence; power series; improper integrals with a parameter. Prereq: jr st; grades of C or better in Math 232(P) & 341(P); or grad st.

522 Advanced Calculus II. 3 cr. U/G.

Linear functions; differentiation of functions of several variables (implicit functions, Jacobians); change of variable in multiple integrals; integrals over curves, surfaces; Green, Gauss, Stokes theorems. Prereq: jr st, Math 521(P), grade of C or better in Math 233(P), & grade of C or better in either Math 234(P) or 240(P); or grad st.

Mathematics

531 Modern Algebra. 3 cr. U/G.

Integers; groups; rings; fields; emphasis on proofs. Prereq: jr st; grade of C or better in Math 341(P).

535 Linear Algebra. 3 cr. U/G.

Vector spaces; linear transformations and matrices; characteristic values and vectors; canonical forms; bilinear, quadratic, and Hermitian forms; selected applications. Prereq: jr st, grade of C or better in either Math 234(P) or 240(P), & grade of C or better in Math 341(P); or grad st.

537 Number Theory. 3 cr. U/G.

Number theoretic functions; distribution of primes; Diophantine approximation; partitions; additive number theory; quadratic reciprocity. Prereq: jr st, grade of C or better in both Math 232(P) & 341(P); or grad st.

551 Elementary Topology. 3 cr. U/G.

General theory of point sets in Euclidean spaces, with emphasis on topology of two-dimensional and three-dimensional spaces; elementary notions of metric spaces; applications. Prereq: jr st; grades of C or better in Math 233(P) & 341(P); or grad st.

553 Differential Geometry. 3 cr. U/G.

The theory of curves and surfaces by differential methods. Prereq: jr st, grade of C or better in all of Math 233(P), 234(P) & 341(P); or grad st.

571 Introduction to Probability Models. 3 cr. U/G.

Probability review, Markov chains in discrete and continuous time. Random walks, branching processes, birth and death processes. Queuing theory. Applications to physical sciences, engineering, mathematics. Prereq: jr st; grade of C or better in Math 233(P); grade of C or better in Math/ElecEng 234(P) or in both Math 240(P) & 320(P); & one calculus-based course in statistics or probability at the 300 level or above; or grad st.

575 High School Mathematics from an Advanced Viewpoint. 3 cr. U/G.

Number systems; algebra of polynomials; theory of equations; functions; modeling; geometric measurement; geometric transformations; connections between advanced mathematics and high school topics. Counts as repeat of Math 690(675) w/similar topic. Prereq: jr st, either Math 451(P) or 453(P), & either Math 431(P) or 531(P); or cons instr; or grad st.

581 Introduction to the Theory of Chaotic Dynamical Systems. 3 cr. U/G.

Iterated mappings, one parameter families, attracting and repelling periodic orbits, topological transitivity, Sarkovski's theorem, chaos, bifurcation theory, period doubling route to chaos, horseshoe maps, attractors. Prereq: jr

st & Math 521(P), 529(P) or 621(P), or cons instr; or grad st.

601 Advanced Engineering Mathematics I. 3 cr. U/G.

Sequences and series, elementary complex analysis; Fourier series; linear and nonlinear ordinary differential equations; matrix theory, elementary functional analysis; elementary solution of partial differential equations. Prereq: jr st; grade of C or better in both of Math 233(P) and Math/ElecEng 234(P); 3 cr Math at 300-level or above; or cons instr; or grad st.

602 Advanced Engineering Mathematics II. 3 cr. U/G.

Continuation of Math 601. Partial differential equations, Fourier and Laplace transforms, convolutions, special functions, mathematical modeling. Prereq: jr st; Math 601(P).

615 Numerical Solution of Partial Differential Equations. 3 cr. U/G.

Finite difference solution of elliptic boundary value problems and of evolution problems; solution of hyperbolic conservation laws; finite volume methods; finite element methods. Prereq: jr st; Math 413(P), 415(414)(P), or 417(416)(P); Math 322(P) or 602(P); or cons instr.

617 Optimization. 3 cr. U/G.

Unconstrained and constrained optimization: linear, nonlinear, and dynamic programming; barrier, penalty, and Lagrangian methods; Karush-Kuhn-Tucker theory, quadratic, and sequential quadratic programming; evolutionary algorithms. Prereq: jr st; Math 321(P) or 602(P); or grad st or cons instr.

621 Introduction to Analysis I. 3 cr. U/G.

Topology of Euclidean space; continuity; differentiation of real and vector-valued functions; Riemann-Stieltjes integration. Prereq: jr st; grades of C or better in Math 233(P), 341(P), & either 234(P) or 240(P); cons dept advisor; or grad st.

622 Introduction to Analysis II. 3 cr. U/G.

Continues Math 621. Sequences and series of functions; uniform convergence; power series; functions of several variables; inverse and implicit function theorems; differential forms; Stokes' theorem. Prereq: jr st; Math 621(P) or cons instr; or grad st.

631 Modern Algebra I. 3 cr. U/G.

Group theory, including normal subgroups, quotients, permutation groups, Sylow's theorems, Abelian groups; field theory; linear algebra over general fields. Prereq: jr st; grade of C or better in Math 341(P) & either Math 234(P) or 240(P); cons dept advisor; or grad st.

632 Modern Algebra II. 3 cr. U/G.

Continuation of Math 631. Ring theory, including ideals, quotient rings, Euclidean rings, polynomial rings, unique factorization;

modules, including vector spaces, linear transformations, canonical forms; bilinear forms. Prereq: jr st; Math 631(P) or cons instr; or grad st.

690 (675) Topics in Mathematics: (Subtitled). 3 cr. U/G.

Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st, at least one U/G Math or MthStat course; cons instr; or grad st.

701 Industrial Mathematics I. 3 cr. G.

Elementary functional analysis, wavelets, control theory. Use of mathematical software emphasized throughout. Prereq: grad st in nat sci discipline; Math 522(P) or 602(P) or 622(P).

702 Industrial Mathematics II. 3 cr. G.

Optimal control theory, digital signal processing, image processing, linear programming, nonlinear optimization, artificial neural networks. Use of mathematical software emphasized throughout. Prereq: grad st in nat sci discipline; Math 701(P).

703 Boundary Value Problems. 3 cr. G.

Analytic methods for PDE's in mathematical physics, emphasis on green's functions. Theory of distributions, fundamental solutions, generalized eigenfunction expansions, generalized fourier and laplace transforms. Prereq: grad st; Math 322(P) & 623(P).

709 Differential Geometry. 3 cr. G.

The theory of curves, surfaces, and manifolds in modern terminology. Global results on closed surfaces, geodesics, differential forms and tensor calculus. introduction to riemannian geometry. Prereq: grad st; Math 522(P) or 622(P).

711 Theory of Functions of a Real Variable I. 3 cr. G.

Equivalence relations; cardinal and ordinal numbers; topology of real line; cantor and borel sets; lebesgue measure on real line; baire and measurable functions; lebesgue integral. Prereq: grad st; Math 522(P) & 551(P); or Math 622(P).

712 Theory of Functions of a Real Variable II. 3 cr. G.

Lebesgue integration; modes of convergence; lp spaces; vitali covering and lebesgue density theorems; dini derivates; differentiation; fundamental theorem of the lebesgue integral calculus; fubini's theorem. Prereq: grad st; Math 711(P).

713 Theory of Functions of a Complex Variable I. 3 cr. G.

Complex numbers; linear transformations; elementary functions; conformal mapping; complex integration; infinite sequences; dirichlet problem; multivalued functions. Prereq: grad st; Math 522(P) or 621(P).

Mathematics

714 Theory of Functions of a Complex Variable II. 3 cr. G.

Continuation of Math 713. Prereq: grad st; Math 713(P).

715 Numerical Analysis. 3 cr. G.

Interpolation and approximation; differentiation and quadrature; numerical solution of ordinary differential equations; solution of linear and nonlinear algebraic equations. Prereq: grad st; Math 413(P); Math 521(P) or 621(P).

716 Ordinary Differential Equations. 3 cr. G.

Existence and uniqueness theorems for systems of ode; qualitative properties of solutions, including stability and asymptotic behavior; general theory of linear systems; sturm-liouville problems. Prereq: grad st; Math 522(P) or 622(P).

719 Partial Differential Equations. 3 cr. G.

First and second order equations; characteristics, cauchy problem; classical solutions of linear elliptic, parabolic and hyperbolic equations. Prereq: grad st; Math 522(P) or 622(P); math 320(P).

721 Abstract Measure and Integration. 3 cr. G.

General theory of measures and integration; differentiation of set functions; relation to stochastic variables; atomic measures; haar measure and integral applications to probability theory. Prereq: grad st; Math 712(P).

726 Introduction to Functional Analysis. 3 cr. G.

Basic notions of functional analysis in hilbert space will be introduced. The concepts will be illustrated by applications to elementary differential and integral equation problems. Prereq: grad st; Math 522(P) or 622(P).

731 Abstract Algebra I. 3 cr. G.

Basic course which is prerequisite for all other 700-799 level courses in algebra; groups, rings, fields, galois theory, modules, and categories. Prereq: grad st; Math 632(P); cons instr.

732 Abstract Algebra II. 3 cr. G.

Continuation of Math 731. Prereq: grad st; Math 731(P).

735 Theory of Groups. 3 cr. G.

Topics selected from permutation groups; representations of groups and algebras; group algebras; group characters; extension problems; simple groups; solvable and nilpotent groups. Prereq: grad st; Math 732(P).

736 Theory of Rings and Modules I. 3 cr. G.

Noetherian and artinian rings and modules; primitive, prime and simple rings and ideals; radicals; localization; morita theory; construction and study of special classes of rings. Prereq: grad st; Math 732(P).

737 Theory of Rings and Modules II. 3 cr. G.

Continuation of Math 736. Prereq: grad st; Math 736(P) or cons instr.

751 Introductory Topology I. 3 cr. G.

Fundamental properties and examples of topological spaces and continuous functions, including compactness, connectedness, metrizability, completeness, product and quotient spaces, homeomorphisms, embedding, extension, and euclidean spaces. Prereq: grad st; Math 522(P) or 621(P).

752 Introductory Topology II. 3 cr. G.

Continuation of Math 751. Prereq: grad st; Math 751(P).

753 Introduction to Algebraic Topology I. 3 cr. G.

Homology theory; complexes and simplicial homology theory; general homology theories; cohomology rings; applications to manifolds, fixed point theorems, etc. Prereq: grad st; Math 632(P); Math 551(P) or 751(P) or cons instr.

754 Introduction to Algebraic Topology II. 3 cr. G.

Continuation of Math 753. Prereq: grad st; Math 753(P).

767 Statistical Methods for Engineers and Scientists. 3 cr. G.

Elementary bayesian decision theory; prior posterior and predictive distributions; posterior and pre-posterior analysis of two action decision problems; concept of likelihood functions for binomial, poisson, exponential and normal distributions; simple and multiple regression analysis; introduction to autoregressive models. Not open to students who have cr in ElecEng 767, which is identical to Math 767. Prereq: grad st; Math 362(P) or math 467(P).

768 Applied Stochastic Processes. 3 cr. G.

Concepts in queueing theory; exponential channels; applications of markov chains to queueing problems; queue disciplines with priorities. Not open to students who have cr in ElecEng 768, which is identical to Math 768. Prereq: grad st; Math 361(P) or math 467(P).

771 Theory of Probability. 3 cr. G.

Measure-theoretic foundations; limit-law theorems; weak and strong laws of large numbers; central limit problem; conditional expectations, martingales; stochastic processes. Prereq: grad st; Math 471(C) or 712(C).

781 Iterated Maps as Dynamical Systems. 3 cr. G.

Periodic, recurrent and non-wandering points, kneading theory, unstable manifolds, unimodal mappings, turbulent and chaotic maps, symbolic dynamics, structural stability, topological conjugacy, topological dynamics. Prereq: grad st; Math 711(P) or cons instr.

790 Master's Thesis. 1-3 cr. G.

Cr count toward masters degree only if student completes thesis option. Prereq: grad st; cons instr.

791 Master's Seminar. 1-3 cr. G.

May not be taken for cr more than once. Prereq: grad st; cons instr.

792 Industrial Internship. 1-3 cr. G.

Students earn credits for serving in an industrial internship that involves work of an advanced mathematical nature. They must prepare a report based on the internship. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

793 Scientific Computational Laboratory: (Subtitled). 1-2 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st; Math 715(C).

799 Seminar in Mathematics: (Subtitled). 1-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

801 Topics in Applied Mathematics: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

807 Group Theory and Its Applications to Physics. 3 cr. G.

Representations of discrete and continuous groups, including rotation groups, unitary groups and crystal point and space groups. Symmetries of elementary particles. Molecular orbitals, energy bands. Counts as a repeat of Physics 807. Prereq: grad st; Physics 532(P).

809 Topics in Differential Geometry: (Subtitled). 1-3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Topics may be selected from Riemannian geometry, minimal surfaces and surfaces of prescribed mean curvature, geometric partial differential equations, or related areas of geometry. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

813 Numerical Solution of Ordinary Differential Equations. 3 cr. G.

Methods for initial value and boundary value problems; stiff equations, singular points and bifurcation. Prereq: grad st; Math 715(P).

814 Numerical Solution of Partial Differential Equations. 3 cr. G.

Finite difference and finite element methods for linear elliptic, parabolic and hyperbolic equations; nonlinear equations. Prereq: grad st; Math 715(P).

Mathematics

815 Topics in Numerical Analysis: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 715(P).

816 Advanced Ordinary Differential Equations. 3 cr. G.

Existence and uniqueness theorems; singularity of solutions; oscillation and comparison theorems; poincare-bendixon theory. Prereq: grad st; Math 716(P).

817 Advanced Ordinary Differential Equations II. 3 cr. G.

Continuation of Math 816; dynamical systems, bifurcation theory, topological methods. Prereq: grad st; Math 816(P).

821 Advanced Topics in Real Analysis: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 712(P).

825 Functional Analysis. 3 cr. G.

Basic theorems of b-spaces and f-spaces including the closed graph; Hahn-Banach and Banach-Steinhaus theorems; Banach algebras; generalized functions; spectral theory. Prereq: grad st; Math 712(P).

841 Advanced Topics in Algebra: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 732(P); cons instr.

843 Homological Algebra I. 3 cr. G.

Modules; diagrams; categories; functors; complexes; cohomology; extensions; resolutions; injective and projective systems; graded modules; homological dimension; spectral sequences; derived functors. Prereq: grad st; Math 731(P).

844 Homological Algebra II. 3 cr. G.

Continuation of Math 843. Prereq: grad st; Math 843(P).

851 Advanced Topics in Topology: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 752(P); cons instr.

873 Advanced Topics in Probability: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

881 Topics in Nonlinear Dynamics: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Math 711(P); cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

990 Reading and Research. 1-6 cr. G.

To be arranged with your instructor and department chair. Retakable. Prereq: grad st.

Mathematical Statistics

361 Introduction to Mathematical Statistics I. 3 cr. U/G.

Probability spaces; discrete and continuous, univariate and multivariate distributions; moments; independence, random sampling, sampling distributions; normal and related distributions; point and interval estimation. Not recom for grad students in math, or students not planning to take MthStat 362. Prereq: jr st; Math 233(P).

362 Introduction to Mathematical Statistics II. 3 cr. U/G.

Testing statistical hypothesis; linear hypothesis; regression; analysis of variance and experimental designs; distribution-free methods; sequential methods. Not recom for grad students in math. Prereq: jr st; MthStat 361(P).

462 Data Analysis and Graphing Using SAS-II. 2 cr. U/G.

Continuation of MthStat 461. Procedures GLM, LIFEREG, LIFETEST, LOGISTIC, PROBIT and advanced GRAPHING. Offered second half of sem. U cr does not count toward math sci major. Prereq: jr st; MthStat 461(P) or cons instr.

465 Introductory Mathematical Statistics for Social Sciences and Education. 3 cr. U/G.

Probability distributions; parameter estimation and confidence intervals; hypothesis testing; applications. Not open for cr to students w/cr in MthStat 467, 362, or for grad cr in math. Not open for cr toward major in math except in School of Education. Prereq: jr st; Math 211(P) or 232(P).

467 Introductory Statistics for Physical Sciences and Engineering Students. 3 cr. U/G.

Concepts of probability and statistics; probability distributions of engineering applications; sampling distributions; hypothesis testing, parameter estimation; experimental design; regression analysis. Not open for cr for Math majors or students with cr in MthStat 362 or 465. Prereq: jr st; Math 233(P).

469 Biostatistics. 3 cr. U/G.

Simple distributions, estimation and hypothesis testing, simple regression, analysis of variance, nonparametric methods in biology. Demography and vital statistics and bioassay and clinical trials. Not allowed as part of core curric for Math majors. Not open for cr to students with cr in MthStat 569 & not open for grad cr in Math. Prereq: jr st; an elementary stats course.

562 Design of Experiments. 3 cr. U/G.

Latin squares; incomplete block designs; factorial experiments; confounding; partial confounding; split-plot experiments; fractional replication. Prereq: jr st; MthStat 362(P); Math 234(P) or 240(P).

563 Regression Analysis. 3 cr. U/G.

Straight line, polynomial and multiple regression; multiple and partial correlation; testing hypotheses in regression; residual analysis. Prereq: jr st; MthStat 467(P) or 362(P).

564 Time Series Analysis. 3 cr. U/G.

Autocorrelation; spectral density; linear models; forecasting; model identification and estimation. Prereq: jr st; MthStat 362(P).

565 Nonparametric Statistics. 3 cr. U/G.

Sign, rank and permutation tests; tests of randomness and independence; methods for discrete data and zeroes and ties; power and efficiency of nonparametric tests. Prereq: jr st; MthStat 362(P).

566 Computational Statistics. 3 cr. U/G.

Basics of programming and optimization techniques; resampling, bootstrap, and Monte Carlo methods; design and analysis of simulation studies. Prereq: jr st; MthStat 362(P) or cons instr.

568 Multivariate Statistical Analysis. 3 cr. U/G.

Multivariate normal distribution; Wishart distribution; Hotelling's T₂; multivariate normal distribution; multivariate analysis of variance; classification problems. Prereq: jr st; MthStat 362(P); Math 234(P) or 240(P).

596 Actuarial Statistics I: Fitting of Loss Models. 3 cr. U/G.

Statistical modeling of insurance data. Model specification, fitting and validation. Measures of confidence for model-based decisions. Prereq: jr st; B- or better in each Math 234(P) and MthStat 362(P); CompSci 151(P) or 201(P); or cons instr.

597 Actuarial Statistics II: Credibility, Risk Measures and Related Topics. 3 cr. U/G.

Statistical techniques for insurance data. Credibility and ratemaking. Risk measures. Dependent risks and copulas. Simulations. Prereq: jr st; B- or better in each Math 234(P)

Mathematics

and MthStat 362(P); CompSci 151(P) or 201(P); or cons instr.

691 Actuarial Models I: Life Contingencies. 3 cr. U/G.

Modeling and valuation of cash flows dependent on death, survival and other random events. Survival models for single and multiple risks. Life insurances and annuities. Prereq: jr st; B- or better in each Math 571(P) and Math 311(P); or cons instr.

692 Actuarial Models II: Financial Economics. 3 cr. U/G.

Modeling and managing of financial risks. Interest rate models. Valuation of derivatives securities. Risk management. Prereq: jr st; B- or better in each Math 571(P) and Math 311(P); or cons instr.

761 Mathematical Statistics I. 3 cr. G.

Probability and distribution theory; point and interval estimation; testing hypotheses; large sample inference; nonparametric inference; sequential analysis. Prereq: grad st; Math 522(C) or 622(C).

762 Mathematical Statistics II. 3 cr. G.

Continuation of MthStat 761. Prereq: grad st; MthStat 761(P).

795 Actuarial Risk Theory. 3 cr. G.

Risk models; premium principles; reinsurance contracts; ruin theory; ordering of risks; bonus-malus systems; IBNR techniques. Prereq: grad st; Math 571(P) & MthStat 596(P), or cons instr

863 Hypothesis Testing. 3 cr. G.

Exponential families; uniformly most--powerful tests; least favorable priors; unbiased tests; invariant tests; applications to exponential families and the general linear hypothesis. Prereq: grad st; MthStat 762(P).

869 Advanced Topics in Mathematical Statistics: (Subtitled). 3 cr. G.

Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; MthStat 762(P).

Media Studies

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Media Studies

Overview

Mediated communication brings information, persuasion, and entertainment to our neighborhoods, our nation, and our world. As the choices expand and the reach of the media becomes more global, media producers can be anyone from a major corporation to an individual activist with a Web site, and media consumers can interact with the products they encounter in a multitude of ways.

The M.A. in Media Studies offered through the Department of Journalism, Advertising, and Media Studies is wide ranging and interdisciplinary. The goal of the program is to foster knowledge and understanding of mass media and society through critical, cultural, historical, legal, ethical, or social scientific approaches. One particular emphasis of the program is the relationship between the media and the public interest.

The program is oriented toward academic study rather than instruction in technical skills. The curriculum focuses on research and critical thinking about the media. Students complete 24 credits of coursework and a 6-credit thesis. They work closely with their faculty advisors to design a course of study and to conduct original research for their theses.

Media studies graduate faculty members have national reputations for research in an array of specialties. Students in the master's program also are active in research.

The program's alumni apply what they have learned to a range of endeavors, including media-oriented careers and advanced academic work. An increasing number continue their education in Ph.D. programs.

Graduate Faculty

Professors

Allen, David S., Ph.D., University of Minnesota
 Levine, Elana, Ph.D., University of Wisconsin-Madison
 Pritchard, David, Ph.D., University of Wisconsin-Madison
 Smith, Jeffery, Ph.D., University of Wisconsin-Madison

Associate Professors

Newman, Michael, Ph.D., University of Wisconsin-Madison, Chair
 Popp, Richard, Ph.D., Temple University

Assistant Professors

Cao, Xiaoxia, Ph.D., University of Pennsylvania

Master of Arts in Media Studies

Admission

An applicant must meet [Graduate School requirements](#) plus the following departmental requirements to be considered for admission to the program:

1. Present an overall undergraduate grade point average of 3.00 or above.
2. Submit three letters of recommendation from persons capable of judging the applicant's capacity for success in a graduate program of study.
3. Submit scores from the General Test section of the [Graduate Record Examination](#).
4. Submit a sample of original writing in English — a piece of academic or professional work, or a brief essay about a topic of the applicant's choice.

International students, in addition to satisfying the Graduate School's requirements for English language proficiency, must submit TOEFL or IELTS scores sufficiently high to meet program standards.

Advisors

The department's graduate director initially advises students and helps them find a thesis advisor. Students consult with their advisors as they prepare their course plans and consider thesis topics. The thesis advisor guides the student in preparing a thesis proposal, provides advice on the thesis research, and chairs the thesis committee. In consultation with the graduate director, students may change thesis advisors.

Courses and Credits

Students must take 30 graduate credits, at least 24 of which must be in courses offered by the Department of Journalism, Advertising, and Media Studies. Two courses are required of all students:

JAMS 700 Introduction to Graduate Study in Mass Communication
 JAMS 701 Mass Communication Theory and Research Design

Students also must take at least two 800-level seminars offered by the Department of Journalism, Advertising, and Media Studies, and a minimum of 6 credits of JAMS 990, Research and Thesis.

Thesis

All students write a thesis based on original research. The thesis advisor chairs the thesis committee, which also includes two other members. The committee chair and at least one

of the other committee members must be from the Department of Journalism, Advertising, and Media Studies. Normally, all members of a thesis committee will be members of the UWM graduate faculty. With the approval of the thesis advisor and the departmental graduate program committee, a student's thesis committee may include someone who is not a member of the UWM graduate faculty when such a person has at least a master's degree and greater expertise in the subject area than do available members of the graduate faculty.

The thesis advisor guides the student in writing a formal thesis proposal, which must be approved by the thesis committee. After the thesis proposal has been approved, the student carries out the proposed research.

The thesis committee evaluates the written thesis and conducts an oral examination at which the student defends his or her research. A student receives credit for the thesis only if all three members of the committee approve the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

505 Research for Advertising and Public Relations. 3 cr. U/G.

Examination of the research process through hands-on projects; how to formulate research questions, design questionnaires, collect data, and report and interpret answers to these questions. Prereq: jr st; grade of C or better in JAMS 207(P), 222(P), or 224(P); or cons instr.

559 Freedom of Expression in the Digital Age. 3 cr. U/G.

First Amendment, copyright, privacy, libel, and other legal issues in contemporary news, media, persuasive communication, and social communication. Prereq: jr st.

562 Media Studies and Culture. 3 cr. U/G.

Mass media and the production of culture; media industries, content, and audiences; focus on contemporary issues. Prereq: jr st; grade of C or better in JAMS 262(P).

600 Off-Campus Internship. 3 cr. U/G.

Professional internship in journalism, public relations, advertising, or other media. Retakable to 6 cr max in combination with JAMS 399.

Media Studies

Prereq: jr st & declared JAMS major, or grad st; cons internship committee.

614 Seminar in Media and Public Opinion. 3 cr. U/G.

Preparation to be critical consumer of polls and media coverage of them; theories and findings regarding propaganda and media influence on public opinion. Prereq: jr st.

615 Seminar in Media and Politics. 3 cr. U/G.

How news media cover politics; role of traditional and new media in political campaigns; political content and effects of entertainment media and documentaries. Prereq: jr st.

620 Seminar in Global Media. 3 cr. U/G.

Economic, regulatory, and cultural characteristics of national and global mass media. Prereq: jr st.

645 Seminar in Health and the Media. 3 cr. U/G.

Theoretical frameworks for examination of media representations of health, illness, health care; impact of media consumption on health, illness; use of media in health promotion. Counts as a repeat of JAMS 660 w/ health-related subtitle. Prereq: jr st.

659 Seminar in Comparative Media Law. 3 cr. U/G.

Critical thinking and research about different countries' approaches to freedom of expression and legal issues relating to journalism, advertising, and other aspects of the media. Prereq: jr st; JAMS 559 or cons instr.

660 Seminar in Contemporary Issues in Media Studies: (Subtitled). 3 cr. U/G.

Research-oriented approaches to theoretical and social issues in mass communication. Retakable w/chg in topic to 6 cr max. Prereq: jr st.

661 Seminar in Media Communication and Society: (Subtitled). 3 cr. U/G.

Topics related to the mass media; the research process; development of a seminar paper based on original research. Retakable w/chg in topic to 6 cr max. Prereq: jr st; add'l prereqs, if any, announced in the Schedule of Classes.

700 Approaches to Media Studies. 3 cr. G.

Review and analysis of research in media studies; preparation for scholarly writing. Prereq: admis to MA prog in Media Studies or cons instr.

701 Media Studies Research Design. 3 cr. G.

Qualitative and quantitative research methods in media studies; preparation of a research proposal. Prereq: admis to MA prog in Media Studies or cons instr.

810 Media Effects. 3 cr. G.

Cross-disciplinary examination of theoretical approaches, research methods, and findings in

the study of mass media effects on beliefs, opinions, behavior, and policy; design and execution of a research project. Prereq: grad st.

815 Media and Cultural Studies. 3 cr. G.

Cultural approaches to the study of media; design and execution of a research project. Prereq: grad st.

820 Persuasion in Media. 3 cr. G.

Examination of theoretical approaches, research methods, and findings in the study of persuasive media; design and execution of a research project. Prereq: grad st.

830 Topics in Media History: (Subtitled). 3 cr. G.

Historical approaches to the study of media; design and execution of a research project. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

835 Politics and the Media. 3 cr. G.

In-depth examination of the relationships between the media and politics in the United States, with a special focus on political campaigns. Prereq: grad st.

840 Topics in Media Law and Ethics: (Subtitled). 3 cr. G.

In-depth study and discussion of law and ethics as they relate to the mass media; development of original research for publication in scholarly journals. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

845 Topics in Gender, Sexuality, and Media: (Subtitled). 3 cr. G.

Analysis of gender, sexuality, and other aspects of identity in and related to media. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

850 Global Media and Local Cultures. 3 cr. G.

Seminar covering major theories and critiques of globalization, with a particular emphasis on the study of media and culture. Prereq: grad st.

855 Topics in New Media: (Subtitled). 3 cr. G.

History, theory, and/or criticism of new media. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

860 Seminar in Media Studies: (Subtitled). 3 cr. G.

In-depth study and discussion of a current topic in media studies. Specific topics announced in the Schedule of Classes. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for grad students who must meet minimum cr load requirement. Fee assessed for 1 cr. Prereq: grad st.

990 Research and Thesis. 1-6 cr. G.

Production of a thesis under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons instr.

991 Professional Project. 1-6 cr. G.

Preparation and execution of a project which applies mass communication research and theory in a professional setting. Students enroll under major prof with consultation of degree committee. Prereq: grad st; cons instr.

999 Graduate Independent Study. 1-3 cr. G.

Supervised research of a particular topic area either not covered by other courses or at a level of sophistication beyond that of courses which cover the topic. Retakable to 6 cr max. Prereq: grad st; 3.00 grad gpa; writ cons grad dir.

Music

School/College: Milton and Lillian Peck School of the Arts

Degrees Conferred:

- Master of Music

Related Certificates

- [Certificate in Chamber Music Performance](#)

Overview

The Department of Music offers a graduate program of study in music, preparing the student for a career in a performing area, music education, music history and literature, conducting, or theory and composition. The Master of Music program permits concentration in performance (voice or instrument), chamber music performance, conducting, music education, music history and literature, theory and composition, collaborative piano (vocal or instrumental), and string pedagogy. Students should consult the Department of Music for specific information regarding these concentrations.

M.M./MLIS Coordinated Degree Program

In cooperation with the School of Information Studies, the Department of Music offers a M.M./MLIS coordinated degree program to prepare students for positions as music librarians. Students in the program will concurrently pursue a Master of Music degree program (with a concentration in Music History and Literature) and a Master of Library and Information Science degree program. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. For more detailed information on this program see Concentration in Music History and Literature later in this section and the Library and Information Science section of the Bulletin.

Graduate Faculty

Professors

Climmer, John A., DMA, University of Missouri-Kansas City
 Emmons, Scott, Ph.D., Eastman School of Music
 Hartman, Kevin, M.M., Northwestern University
 Kartman, Stefan, M.M., Northwestern University
 Peterson, Jeffrey, M.M., University of Illinois
 Welstead, Jon, Ph.D., University of Iowa, Chair

Associate Professors

Feay-Shaw, Sheila, Ph.D., University of Washington
 Flint, Gregory, B.M., Northwestern University
 Heinrichs, William, Ph.D., University of Iowa

Izquierdo, Rene, M.M., Yale University, Artist Diploma, Yale University, MME, Lehman College. M.M., Superior Institute of Art Havana, Cuba

Rodger, Gillian, Ph.D., University of Pittsburgh
 Zinck, Bernard, M.M., The Julliard School

Assistant Professors

Clippert, Jennifer, DMA, Northwestern University
 Durlam, Zachary, DMA, University of Michigan
 Kim, Jun, DMA, University of Cincinnati—College-Conservatory of Music
 Kruse Ruck, Tanya, DMA, University of Cincinnati—College-Conservatory of Music

Master of Music

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Undergraduate music course background must include adequate preparation in music theory demonstrated through satisfactory completion of Music Theory, Levels I, II & III; Materials 127, 128, 226; Aural Skills 123, 124, 225; Keyboard Harmony 125, 126, 227; Form Analysis 230, Materials of 20th Century Music 421 - or equivalent courses.
2. Preparation in music history and literature must be demonstrated through satisfactory completion of a two-semester survey course in development of music from earliest times to the present plus one semester of more specialized music history.

In addition to the application materials required by the Graduate School, those seeking admission to the Master of Music degree program must submit the following to the Director of Graduate Studies, Department of Music:

1. A Graduate Music Application (available upon request from the Department of Music, 414-229-5162).
2. A one-page resume of the applicant's performance experience and extracurricular activities.
3. A one-page statement addressing the applicant's reasons for wishing to pursue a degree program at UWM, the applicant's career goals, and what he or she intends to do with a UWM degree.
4. Three letters of recommendation.

In addition, auditions, entrance exams, other prerequisites, and portfolio reviews are required as follows:

Concentration in Instrumental or Vocal Performance, Chamber Music Performance, and Collaborative Piano

Applicant proposing concentration in Music Performance or Collaborative Piano must demonstrate outstanding performance skills. An on-site audition is required; in extreme cases, recorded examples of an applicant's performance may be accepted in lieu of an in-person audition. Applicant should contact faculty in the appropriate performance area to inquire about specific audition repertoire and procedures.

Applicant proposing voice studies must demonstrate undergraduate study or other proficiency in two foreign languages. A voice diagnostic exam will be given at the audition in the areas of diction, literature, pedagogy and related vocal subjects to determine proficiency.

Concentration in Choral or Instrumental Conducting

A student must successfully pass an audition that demonstrates an advanced level of conducting skill to qualify for admission to the program.

Students may also have to pass other audition(s) in performance area(s), depending on their focus.

Students intending the Choral Conducting concentration will take the UWM Basic Diction MUSED249 Final Exam upon entrance into the M.M. degree program. If deficiencies are found, students will take Basic Diction, MUSED249 as a prerequisite course that will not count toward earned degree credits.

All applicants should contact the appropriate choral, wind ensemble/band, or orchestral faculty to inquire about specific audition and entrance exam procedures.

Concentration in Music Theory and Composition

Applicant should preferably have experience in computer notation, MIDI applications, theory, literature, and analysis.

Applicant must submit a portfolio of original compositions, which could include CD / DVD / computer software files / MIDI programs and must include at least one excerpt and one complete composition in conventional notation.

Applicant also could include the following: (1) copies of analytical research papers or presentations submitted or presented at regional or national theory, composition, or computer music conferences, and/or (2) computer-assisted analysis or presentations in such areas

Music

as Schenkerian analysis, spectromorphology in acoustic, electronic, or acoustmatic theory.

Concentration in Music Education

Applicant must have an undergraduate degree in music education with certification and teaching experience, except by special permission.

Applicant should contact faculty in the Music Education area to inquire about other entrance requirements.

An audition is required only if the applicant plans to take performance lessons, or if an audition is required for acceptance into an emphasis program (instrumental conducting or choral conducting).

Concentration in Music History and Literature

Applicant must have a reading knowledge of a language other than English, preferably German.

Applicant must submit two examples of written work (essays, research papers).

Concentration in String Pedagogy

Applicant should contact faculty in the appropriate string and String Pedagogy areas to inquire about audition and additional entrance requirements.

While prospective students are not required to submit [Graduate Record Examination](#) scores, they are strongly advised to take these tests before or early in their graduate work if they wish to be considered for a UWM Distinguished Graduate Student Fellowship or if they plan to continue their graduate work after completing a master's degree at UWM.

Diagnostic examinations in both music history and music theory are required of all entering and transferring graduate students before their first semester of study at UWM. Exceptions will be granted in extenuating circumstances. In no case will students be allowed to proceed beyond the first year of graduate study without having taken the diagnostic exams. These examinations assist the faculty in determining whether the student may proceed with required graduate courses, or whether they first need to remove deficiencies.

Applicants exhibiting deficiencies in music history will be required to enroll in Graduate Music History (Music 704), and those exhibiting deficiencies in music theory will be required to enroll in Graduate Theory Foundations (Music 703); these courses must be passed with a minimum grade of "B" or better. Additionally, other areas of deficiency may require further review. Graduate Music History may count toward the degree as an elective.

Credits earned in making up deficiencies in music theory do not count toward the degree. The following courses are recommended to fulfill the graduate theory elective requirement: Music 680, 731, 744.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Director of Graduate Studies.

Concentration in Chamber Music Performance

This concentration is designed for the instrumentalist who is admitted by audition to the Institute of Chamber Music at UW-Milwaukee. The major focus of the Institute of Chamber Music is to provide professional training experiences in the performance of chamber repertoire through well-matched chamber ensembles from duos through large chamber ensembles. The student who successfully completes 24 specified credits and the recital requirement receives a Performer's Certificate from the Institute; the student who successfully completes 33 specified credits and the other degree requirements receives a Master of Music with a concentration in Chamber Music Performance.

Credits and Courses

Minimum certificate requirement is 24 credits; minimum master's degree requirement is 33 credits. Each student follows an integrated curriculum in which all subjects are related and no course is optional.

Specific Required Courses - 21 cr

Music 710 Graduate Studies in Music, 3 cr *
Music 711 Graduate Seminar in Music History, 3 cr *
Music xxx Graduate theory elective, 3 cr *
Music 806 Chamber Music Master Class, 4 cr
Music 835 Chamber Music Coaching, 8 cr

Group Recital Requirement (met at end of program)

MusPerf 855 Instrumental Master Class, 4 cr (1 cr each for 4 semesters)
MusPerf 8xx Performance (Instrument Lessons), 8 cr (2 cr each for 4 semesters)

*Not required in Performer's Certificate.

Students in the Institute of Chamber Music are admitted for a two-year program of study. Students are either part of an existing chamber group before entrance or, when admitted, assigned to a group. If the first-year group does not continue for a second year, the student must re-audition for membership in a new or reconstituted group that is acceptable to the

faculty in order to continue for a second year of study.

At the end of the first year, each student's performance is judged by the Director of the Institute in consultation with the members of the ICM advisory committee. If a student does not meet the required performance level, the student is prevented from continuing in the Institute for a second year. The student may, if acceptable to the Department graduate faculty, choose to follow another graduate program in the Department.

Thesis Recital

The recital should be given no sooner than the final semester of coursework. The student ensemble must present a program which has been approved by the Graduate Committee and by the Director of the Institute of Chamber Music. This requirement applies both to candidates for the M.M. in Chamber Music Performance and to the student working toward the Performer's Certificate.

Comprehensive Examination

Comprehensive examinations in both music history and music theory will be required of each student in the M.M. in Chamber Music Performance concentration. This requirement normally follows successful completion of a recital requirement. Comprehensives are not required of students seeking the Performer's Certificate.

Time Limit

The student must complete all degree or certificate requirements within four years of initial enrollment.

Concentration in Collaborative Piano (Vocal or Instrumental)

This concentration is designed for the music student with an undergraduate degree in piano who wishes to specialize as a collaborative pianist in either the vocal or instrumental repertoire. A student must successfully pass an audition that demonstrates an advanced level of collaborative skill to qualify for admission to the program.

Credits and Courses

Minimum degree requirement is 32 graduate credits, 28 of which must be in specified music areas, 2 of which must be in another music area, and 2 of which may be in one of the other areas or in a related field.

Specific Required Courses (12 cr)

Music 710 Graduate Studies in Music, 3 cr
Music 711 Graduate Seminar in Music History, 3 cr
Music xxx Graduate theory elective, 3 cr
Music 990 Research of Thesis (Recital), 3 cr

Performance Credits

Vocal

Music

MusPerf 703 Collaborative Piano - Vocal, 8 cr (2 cr each for 4 semesters)
MusPerf 705 Techniques of Opera Coaching and Accompanying, 4 cr (1 cr each for 4 semesters)

Instrumental

MusPerf 704 Collaborative Piano - Instrumental, 8 cr (2 cr each for 4 semesters)
MusPerf 706 Sonatas, Piano and String, 4 cr (1 cr each for 4 semesters)

Répertoire

Vocal

Music 753 Advanced Song Literature I, 2 cr
Music 754 Advanced Song Literature II, 2 cr

Instrumental

Music 755 Advanced Instrumental Repertoire I: Strings, 2 cr
Music 757 Advanced Instrumental Repertoire I: Brass and Woodwinds, 2 cr

Electives

Music, 2 cr
General, 2 cr

The program must also include 3 credits in Music 314 (Music Since 1900), if not previously completed.

For Vocal Collaborative majors: proficiency in French, German, and Italian diction is determined through a reading of song and aria texts for collaborative and voice faculties. Students whose diction skills are deficient are required to enroll in the appropriate course without degree credit. Completion of the course with a grade of B or better satisfies the deficiency.

Recital

The recital should be given no sooner than the final semester of coursework. The student must present a recital which shows his or her capabilities with various styles including repertoire selected from diverse historical and/or international origins. Programs will comprise a full-length recital. The recital program should be chosen in consultation with the applied teacher with whom the student intends to prepare the recital. The proposed program must be approved by the Graduate Committee of the Department of Music, and the student must present a satisfactory recital audition before the recital may be scheduled.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the recital requirement.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Conducting (Choral* or Instrumental)

This concentration is designed primarily for the student with an undergraduate degree in music education or performance who wishes to pursue advanced training in conducting plus related studies in music performance and allied areas. A student must successfully pass an audition which demonstrates an advanced level of conducting skill to qualify for admission to the program. Students may also have to pass other audition(s) in performance area(s), depending on their focus.

Choral Conducting students will take the UWM Basic Diction MUSED249 Final Exam upon entrance into the M.M. degree program. If deficiencies are found, students will take Basic Diction, MUSED249 as a prerequisite course that will not count toward earned degree credits.

Credits and Courses

Minimum degree requirement is 31 graduate credits, 29 of which must be in specified music areas, 2 of which may be in one of the other areas or in a related field.

Specific Required Courses - 15 cr

Music 710 Graduate Studies in Music, 3 cr
Music 711 Graduate Seminar in Music History, 3 cr
Music xxx Graduate theory elective, 3 cr
Music 732 Score Reading, 3 cr
Music 990 Research of Thesis (Public Performance), 3 cr

Conducting - 6 cr

Music 769 Graduate Choral Conducting I, 2 cr
Music 770 Graduate Choral Conducting II, 2 cr
Music 771 Graduate Choral Conducting, 2 cr

OR

Music 553 Advanced Conducting I, 2 cr
Music 554 Advanced Conducting II, 2 cr
Music 772 Advanced Instrumental Conducting III, 2 cr

Literature - 3 cr (Select ONE)

Music 559 The Wind Band: Its History and Literature, 3 cr
Music 715 Choral Literature, 3 cr
Music 799 Advanced Independent Work (Orchestral Literature), 3 cr

Performance - 2 cr *

MusPerf xxx Private Lessons, 1 cr
MusPerf xxx Private Lessons, 1 cr

Ensemble - 3 cr **

Music xxx Ensemble, 1 cr
Music xxx Ensemble, 1 cr
Music xxx Ensemble, 1 cr

Electives

General, 2 cr

The program must also include Music 314 (Music Since 1900), if not previously completed.

*Students in the M.M. Choral Conducting emphasis must take MusPerf 911 Voice to satisfy the Performance requirement, and must take Mus 446, Vocal Pedagogy.

**Ensemble will be assigned upon audition.

Thesis (Public Performance)

The student must present a recital demonstrating conducting abilities. Performance of literature from a variety of style periods, including a twentieth-century composition by an American composer, should be included. The proposed program must be approved by the Graduate Committee before the recital may be scheduled. Candidates must also prepare a written document, following all procedures as dictated by the Graduate Committee, in consultation with their main advisor. (The student should consult with the primary faculty advisor for individual area guidelines.)

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the thesis requirement.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Music Theory and Composition

This concentration is designed for the person possessing creative talent in acquiring and utilizing the techniques and craft of musical composition through theory, literature and analysis.

Applicant must submit a portfolio of original compositions which could include CD/DVD/computer software files/midi programs in addition to at least one excerpt and one complete composition in conventional notation or analytical research paper(s) or presentations submitted or presented in a regional or national theory society organization, computer assisted analysis or presentation in such areas as Schenkerian analysis or Spectromorphology in acoustic, electronic or acoustic theory.

Admission

An applicant who meets Graduate School requirements and has a bachelor's degree from an accredited institution may be considered for admission. A student should preferably have experience in computer notation, midi applications, theory, literature and analysis. Applicant must submit a portfolio of original

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compositions which could include cd/DVD/computer software files/midi programs in addition to at least one excerpt and one complete composition in conventional notation or analytical research paper(s) or presentations submitted or presented in a regional or national theory society organization, computer assisted analysis or presentation in such areas as Schenkerian analysis or Spectromorphology in acoustic, electronic or acousmatic theory. Applicant should possess keyboard proficiency of a level permitting the candidate to sight-read music of moderate difficulty and performance capability of compositions at the level of an early Beethoven sonata or Bach's Two-part Inventions.

Credits and Courses

Minimum degree requirement is 32 graduate credits, including:

Specific Required Courses - 18 cr

Music 710 Graduate Studies in Music, 3 cr
Music 711 Graduate Seminar in Music History, 3 cr
Music 731 Contemporary Composition Techniques, 3 cr
Music 744 Graduate Theory Seminar, 3 cr
Music 327 Analog and Digital Synthesis I, 3 cr
or Music 328 Digital Synthesis and Systems II, 3 cr
or Music 420 Advanced Computing and Music, 3 cr
Music 990 Research of Thesis, 3 cr

Composition Requirement - 8 cr

MusPerf 761 Advanced Composition. (2 cr each for 4 semesters)

Electives - 6 cr

Music Theory, 3 cr
Music, 3 cr

Recommended Electives

Music 327, 328, 420, 421, 680

Electives must be chosen in accordance with the needs of the individual candidate and with the advice and consent of the advisor or major professor.

Thesis

The candidate for the Master of Music degree must complete one of the following:

- A composition of significant breadth will serve as the thesis for the M.M. in Music Theory and Composition. It may be for large or chamber ensemble with or without electronic component or for the electronic medium alone. Completion of the thesis must include its public performance. If the thesis composition is written for a large university ensemble (orchestra, wind ensemble, choir) a hearing of a single rehearsal of the entire composition will suffice.

- A research project which shall be either a paper or a theoretical program evidencing both a capacity for research and originality in creative analysis or computer composition application evidencing both research capabilities and analytical insight.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Concentration in Music Education

This concentration is designed for students and teachers who wish to advance their knowledge and skills in both music and music pedagogy.

Admission

The same requirements apply as those stated under Master of Music except that the audition is only required if the student plans to take performance lessons at the 700 level, or if an audition is required for acceptance into an emphasis program (instrumental conducting or choral conducting). Applicants should have an undergraduate degree in music education with certification and teaching experience except by special permission.

Credits and Courses

Minimum degree requirement is 30 graduate credits.

Specific Required Courses - 18 cr

MusEd 710 Research in Music Education, 3 cr
Music 711 Graduate Seminar in Music History, 3 cr
Music xxx Graduate theory elective, 3 cr
MusEd 777 Foundations of Music Education, 3 cr
MusEd 778 Recent Developments in Music Education, 3 cr
MusEd 990 Thesis or Final Project, 3 cr

Electives - 12 cr

Music Education - 7 cr

Music Performance, Conducting, Theory, Music History, or related areas - 5 cr

Thesis or Final Project

A formal written thesis, lecture/recital, composition with pedagogical intent and analysis, major annotated bibliography, curriculum synthesis, or other type of music education project is required. The student must submit a written proposal to the major advisor to be approved by the Graduate Committee prior to registration.

Examination in the Major

The student must pass a final written examination in music and music education. This exam will reflect the nature of the student's program of studies. Further questions concerning the exam should be directed toward the student's major advisor.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Music History and Literature

This concentration is designed primarily for students who wish to do advanced study in music history and literature. For some students, the degree is a terminal degree (for example, music teachers who may wish to pursue graduate work in music history rather than in music education), while for others it serves as preparation for the study of musicology at the doctoral level.

The concentration in the M.M./MLIS coordinated degree program is designed to prepare students for positions as music librarians. For students interested in this program, all requirements and standards of the Music History and Literature concentration are exactly as described in the following description with the single exception that the 3-credit general elective requirement is replaced by a requirement of 30 credits taken in courses approved by the School of Information Studies as fulfilling requirements for the M.M./MLIS program.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 27 of which must be in specified music areas, 3 of which may be in one of the other areas or in a related field.

Specific Required Courses - 20 cr

Music 450 Introduction to Musicology, 3 cr
Music 452 Collegium Musicum, 2 cr (1 cr each for two semesters)
Music 710 Graduate Studies in Music, 3 cr
Music 711 Graduate Seminar in Music History, 3 cr
Music xxx Graduate theory elective, 3 cr
Music 911 Seminar in Musicology I, 3 cr
Music 990 Thesis or Final Project, 3 cr

Electives

Music History - 6 cr
Other Areas of Music - 1 cr
General Electives (UG or G), 3 cr (or 30 credits in Library Science if M.M./MLIS major)
The program must also include Music 314 (Music Since 1900), if not previously completed.
Reading knowledge of German, French or Italian (see below for specific details).

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Language Requirement

Candidates for the Master of Music degree with a concentration in Music History and Literature must demonstrate a reading knowledge of German, French, or Italian. The examiner, a member of the music history faculty, will choose several paragraphs totaling approximately 500 words taken from a suitable book or periodical article approved by the advisor, and dealing with a musical topic, and ask for a written translation. The candidate may use a dictionary. The results of the test will be communicated by the examiner to the Music History and Literature area Chair. Candidates failing the exam the first time may take it a second time, provided an appropriate interval has elapsed.

Thesis

The student must submit an acceptable thesis or thesis equivalent, which must be read and approved by both the student's thesis advisor and a second reader belonging to the Graduate Faculty. Appropriate thesis equivalents may be:

1. Two revised or expanded seminar papers totaling between 30 and 40 pages of text; or
2. One revised or expanded seminar paper, plus one of the following:
 - A comprehensive review essay of an edition or major musical monograph.
 - A concentrated study of the life and work of a musician or musical scholar.

Comprehensive Examination

The student must pass final written comprehensive examinations in both music history and music theory.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in Performance (Voice or Instrument)

This concentration is designed for the music student who wishes to concentrate primarily on the major performing skill. The student may specialize in either voice or instrument (piano, woodwind, brass, percussion, strings, guitar). A student must successfully pass an audition at an advanced level of performance to qualify for admission to the program.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 28 of which must be in specified music areas, 2 of which may be in one of the other areas or in a related field.

Specific Required Courses - 12 cr

Music 710 Graduate Studies in Music, 3 cr

Music 711 Graduate Seminar in Music History, 3 cr

Music xxx Graduate theory elective, 3 cr

Music 990 Thesis or Final Project, 3 cr

Performance Credits (MusPerf 7xx), 12 cr Advanced Performance Repertoire (4 cr total)

Strings: 2 cr in Music 755; 2 cr in Music 782

Wind, Brass, Percussion: 2 cr in Music 757 or 763; 2 cr in Music 758, 782, 788, or 789

Voice: 2 cr in Music 753; 2 cr in Music 457, 458, 795, or 798

Keyboard: 2 cr in Music 751; 2 cr in Music 752

Guitar: 2 cr in Music 765; 2 cr in Music 766

Electives

Music (U/G or G), 3 cr

General (U/G or G), 2 cr

The program must also include 3 credits in Music 314 (Music Since 1900), if not previously completed.

Recital

The recital should be given no sooner than the final semester of coursework. The student must present a recital which shows his or her capabilities with various styles including repertoire selected from diverse historical and/or international origins. Programs will comprise a full-length recital. Instrumental recitals include solo/concerto style works and collaborative chamber works. The recital program should be chosen in consultation with the applied teacher with whom the student intends to prepare the recital. The proposed program must be approved by the Graduate Committee, and the student must present a satisfactory recital audition before the recital may be scheduled.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music theory. This requirement normally follows successful completion of the recital requirement.

Ensemble Participation

The student of violin, viola, violoncello, or contrabass is required to participate in Symphony Orchestra each semester in which the student is registered for music performance in the major instrument. Two of these semesters (2 credits) fulfill the Orchestra requirement for the degree. A maximum of 2 additional semesters (2 credits) of Orchestra may be applied toward the master's degree. All other students, vocal as well as instrumental (except those with keyboard or guitar concentrations), are required to be enrolled in an approved performing organization each semester in which the student is registered for music performance instruction in the major instrument.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Concentration in String Pedagogy

This concentration is designed for the music student who wishes to concentrate primarily on the pedagogy of his/her major performing string instrument. A student must successfully pass an audition at a satisfactory level of performance for admission to the program.

Credits and Courses

Minimum degree requirement is 34 graduate credits, all of which must be in specified music areas.

Specific Required Courses - 10 cr

Music 710 Graduate Studies in Music, 3 cr

Music 711 Graduate Seminar in Music History, 3 cr

Music xxx Graduate theory elective, 3 cr

Music 991 Recital and Lecture Demonstration, 1 cr

Performance - 16 cr

MusPerf 541 or 542 or 543 Master Class in String Instruments, 2 cr (1 cr each for 2 semesters)

MusPerf 7xx String Instruments

Violin/Viola/Cello, 8 cr (2 cr each for 4 semesters)

Music 782 Symphony Orchestra, 2 cr (1 cr each for 2 semesters)

Music 755 Advanced Instrumental Repertoire I: Strings, 2 cr

Music 756 Advanced Instrumental Repertoire II: Strings, 2 cr

Pedagogy - 8 cr

Music 718 or 722 Violin/Viola/Cello Pedagogy Level I, 2 cr

Music 719 or 723 Violin/Viola/Cello Pedagogy Level II, 2 cr

Music 720 or 721 or 724 Violin/Viola/Cello Pedagogy Level III, 2 cr

Music 829 Seminar: Historical Perspectives on Violin, Viola, and Cello Pedagogy, 2 cr

Recital and Lecture Demonstration

The recital and lecture demonstration may be given at any time before the completion of the degree program. The recital consists of two parts: (a) a performance of a minimum of 30-45 minutes of music that has been approved by the major teacher; and (b) a lecture totaling approximately 30 minutes to be given before, during, or after the recital, in which the candidate discusses one or more pieces to be performed on the recital program, with emphasis on pedagogical values of the piece(s), the difficulties, and how they are overcome.

Comprehensive Examination

The student must pass final comprehensive examinations in both music history and music

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theory. This requirement normally follows successful completion of the recital requirement.

Ensemble Participation

The student is required to participate in an approved performing organization each semester in which the student is registered for music performance instruction in the major instrument; in two of these semesters the student must be enrolled in Symphony Orchestra for credit (see Performance Credits above).

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Courses

308 Selected Topics in Music History and Literature: (Subtitled). 3 cr. U/G.

An in-depth study of selected genres in western music, the composers and their works. Topic to be announced in Schedule of Classes. May be retaken with change of topic to max of 9 cr. Prereq: jr st; Music 211(P), 212(P), 307(P); 4 semesters of music theory.

309 American Folk and Popular Music. 2 cr. U/G.

A survey of American folk and popular music from 1750 to the present. Study of European and African music elements and their intersection in American musical forms. Prereq: jr st or cons instr.

310 Introduction to World Musics. 3 cr. U/G.

Study of musical genres from selected world cultures with an emphasis on musical sound and structure, and performance in cultural context. Prereq: jr st, successful completion of OWC-A (English 102 or equiv); or cons instr.

311 Music of the Baroque Era. 3 cr. U/G.

A general or topical survey of music from the baroque era in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem of music theory.

312 Music of the Classic Era. 3 cr. U/G.

A general or topical survey of music from the classical era in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem of music theory.

313 Music of the Romantic Era. 3 cr. U/G.

A general or topical survey of music from the romantic era in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem music theory.

314 Music since 1900. 3 cr. U/G.

A general or topical survey of music since 1900, in which selected composers and their compositions will be studied. Prereq: jr st; Music 211, 212, 307; 4 sem music theory.

317 Introduction to American Music. 3 cr. U/G.

Introductory survey of folk, indigenous, popular and art music of the United States. Prereq: jr st or grad st.

326 Advanced Aural Theory. 1 cr. U/G.

Continuation of Aural Theory 226 with advanced work in the development of aural skills and dictation in linear and vertical aspects of diatonic, chromatic and atonal music. Prereq: jr st; Music 225(P) & 226(P).

327 Analog and Digital Synthesis I. 3 cr. U/G.

Introduction to analog and digital electronic sound synthesis, recording and audio mixing, acoustics and electronic music history. Individual work in analog and digital music studios. Prereq: jr st, music major; or cons instr; Music 220(R).

328 Digital Synthesis and Systems II. 3 cr. U/G.

Application of digital sound media and advanced midi; computing, synthesis, synthesizers, sampling, digital recording and editing methods. Individual projects utilizing the digital music studios. Prereq: jr st; Music major; Music 327(P); previous experience in computers & music; or cons instr.

409 Folk Music in Contemporary Culture. 3 cr. U/G.

American Folk Music and its impact on contemporary culture. Counts as repeat of Music 280/680 with the same topic. Prereq: jr st, Music 102(P); or cons instr.

410 Topics in World Music: (Subtitled). 3 cr. U/G.

Topics vary. Covers the music of a single country, geographic region, or aspects of a particular topic in world music in depth. May be retaken w/chg in topic to 6 cr max. Prereq: jr st & Music 310(P); or grad st or cons instr.

420 Advanced Computing and Music. 3 cr. U/G.

Advanced application of microcomputers in midi, digital synthesis, electronic orchestration, and varied media interfaces as applied to composition. Individual work in computer music lab Prereq: jr st; music major; Music 220(P); previous experience in computers & music; or cons instr.

421 Materials of Contemporary Music. 3 cr. U/G.

Study and analysis of the techniques and styles in contemporary music. Prereq: jr st & Music 230(P).

444 (446) Vocal Pedagogy I. 2 cr. U/G.

Techniques for training the singing voice derived from the study of vocal anatomy, various pedagogy texts, and the observation and

teaching of voice lessons. Prereq: jr st & cons instr.

445 Vocal Pedagogy II. 2 cr. U/G.

Advanced techniques for vocal teaching; including anatomy, pedagogic observation and advanced study of acoustics explore their relationship to voice pedagogy, laryngologists/speech-language pathologists, and vocal pathology. Prereq: jr st; Music 444(446)(P); or cons instr.

447 String Pedagogy in the Studio. 2 cr. U/G.

Topics include: technique (instrument hold, shifting, vibrato, spiccato, etc.), historical survey (tartini, baillot, auer, flesch, etc). Information delivery techniques, master teacher profile, recent trends. Prereq: jr st; cons instr.

449 Women in Music: (Subtitled). 3 cr. U/G.

Women's roles in musical life; their contributions as performers and composers to various musical styles and repertoires; comparison of their activities with those of men. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. May be repeated with change of topic to max of 6 cr. Prereq: jr st; cons instr.

450 Introduction to Musicology. 3 cr. U/G.

Study of the development of modern musicological methodology and its fields of research including ethnomusicology. Prereq: jr st; cons instr.

452 Collegium Musicum. 1-2 cr. U/G.

Vocal and instrumental groups devoted to the study and performance of music from twelfth through the eighteenth century. Music majors enroll for 1 cr per sem; others for 1 or 2 cr. Prereq: jr st; cons instr.

457 Opera Theatre. 0-3 cr. U/G.

A concentrated study of the literature and techniques for the musical stage. May be retaken to max of 4 sem. Students not needing cr should enroll for 0 cr; those needing 1-3 cr should enroll for a specific number of cr. Students who enroll for 0 cr will be assessed a fee for 1 credit. Prereq: cons instr & major teacher.

489 Workshop: (Subtitled). 1-4 cr. U/G.

Specific topic announced in the Schedule of Classes. Prereq: jr st; additional prereq announced each offering.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Studio and special studies designed to provide relevant course work for a study abroad program in music. May be retaken with change in topic to max of 12 cr. Prereq: jr st; cons instr & acceptance for Study Abroad Prog.

523 Orchestration. 2 cr. U/G.

Study of representative works by means of score, phonograph records, and attendance at

Music

rehearsals of the university orchestra and band. Scoring for orchestra and band. Prereq: jr st & Music 323.

524 Orchestration. 2 cr. U/G.

A continuation of Music 523. Prereq: Music 523.

553 Advanced Conducting I. 2 cr. U/G.

Advanced study and analysis of conducting techniques. Score reading and interpretation of masterpieces from the standard repertoire. Prereq: sr st & cons instr.

554 Advanced Conducting II. 2 cr. U/G.

Continuation of Music 553. Prereq: sr st, Music 553(P) & cons instr.

559 The Wind Band: Its History and Literature. 3 cr. U/G.

Examination of origins and historical significance of the wind band, including a survey of its instrumentation and literature. Prereq: jr st; cons instr.

561 Advanced Chamber Music. 1-3 cr. U/G.

Upper level undergraduate and graduate students to perform and study the chamber literature (duets, trios, quartets, etc). Open to performance majors. May not be substituted for the required credits in applied music, band or orchestra except by special permission. May be retaken to max of 9 cr. Prereq: jr st; cons instr.

611 Music of the Medieval Era. 3 cr. U/G.

A general or topical survey of medieval music, including the study of representative works, medieval theory and performance practices. Prereq: jr st; Music 211, 212, 307, & 4 sem Music theory.

612 Music of the Renaissance and Early Modern Era. 3 cr. U/G.

A general or topical survey of renaissance and early modern music, including the study of representative works, renaissance theory and performance practices. Prereq: jr st; Music 211, 212, 307 & 4 sem Music theory.

620 Advanced Percussion Pedagogy. 1-2 cr. U/G.

Techniques for developing and teaching mallet and stick control. Model lesson procedures; methods, music (solo and ensemble) and equipment selection. Prereq: jr st.

680 Special Studies in Music: (Subtitled). 1-3 cr. U/G.

Specific topic will be announced in Schedule of Classes when offered. May be retaken with change of topic to max of 9 cr. Prereq: jr st or cons instr.

691 Senior Thesis. 2 cr. U/G.

Prereq: sr st. Not available for grad cr at this time.

692 Senior Thesis II. 2 cr. U/G.

Prereq: sr st. Not available for grad cr at this time.

693 Apprenticeship: 1-4 cr. U/G.

Open to select advanced students who will work as paraprofessionals under the guidance of a program designed jointly by the student, the music department curriculum committee, and a professional mentor approved by the curriculum committee. Prereq: jr st; cons curric comm.

703 Graduate Theory Review. 3 cr. G.

A course for graduate students to include tonal/atonal theory, keyboard harmony, sight singing and ear training. The course may not be taken to fulfill a graduate music degree requirement. Prereq: grad st; recom of theory faculty.

704 Graduate Music History. 3 cr. G.

An intensive study of selected musical styles and representative repertory in the western tradition from the middle ages through the present, with a focus on listening and score study, the comparison of musical styles from different periods, and discussion of important historical trends. Prereq: grad st; recom of music history faculty.

710 Graduate Studies in Music. 3 cr. G.

Bibliography and methods for research and paper writing in the field of music. Prereq: grad st.

711 Graduate Seminar in Music History: (Subtitled). 3 cr. G.

Topics vary. An in-depth study of selected musical works, focusing on a close analysis of scores, historical research, and paper writing. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st & Music 710.

715 Choral Literature. 3 cr. G.

In-depth investigation of choral repertoire from 1450 to present day, including a study of major genres, composers, styles, and performance practice. Prereq: grad st.

718 Violin and Viola Pedagogy Level I. 2 cr. G.

A systematic methodology for taking a student through the formative stages of violin and viola playing. Lecture classes, observation or group and individual lessons, supervised teaching in lab setting. Prereq: grad st or cons instr; Music major.

719 Violin and Viola Pedagogy Level II. 2 cr. G.

A systematic methodology for taking a student from the formative stages of violin and viola playing through the technically and musically more advanced levels. Lecture classes, observation of group and individual instruction,

supervised teaching in lab setting. Prereq: grad st; music major; Music 718(P); or cons instr.

720 Violin Pedagogy Level III. 2 cr. G.

Advanced emphasis on the teaching of advanced scales, significant violin etudes and major repertoire. Lecture and demonstration classes, observation of group and individual instruction, supervised teaching in lab setting. Prereq: grad st; Music 719(P); or cons instr.

721 Viola Pedagogy Level III. 2 cr. G.

Advanced emphasis on the teaching of advanced scales, significant etudes (Kreutzer & Campagnoli), orchestral excerpts as teaching etudes, and selected study of advanced viola repertoire. Lecture and demonstration classes, observation of group and individual lessons, supervised teaching in lab setting. Prereq: grad st; Music 719(P); or cons instr.

722 Cello Pedagogy Level I. 2 cr. G.

A systematic methodology for taking a student from the first lessons through the formative stage of cello playing. Lecture classes, observation of group and individual lessons, supervised teaching in lab setting. Prereq: grad st or cons instr.

723 Cello Pedagogy Level II. 2 cr. G.

A systematic methodology for taking a student from the formative stage of cello playing through the technically and musically more advanced level. Specific skills include how to teach vibrato and shifting. Lecture classes, observation of group and individual instruction, supervised teaching in lab setting. Prereq: grad st; Music 722(P); or cons instr.

724 Cello Pedagogy Level III. 2 cr. G.

Advanced emphasis on the teaching of advanced scales, significant etudes and selected study of major repertoire. Lecture and demonstration classes; observation of group and individual instruction, supervised teaching in a lab setting. Prereq: grad st; Music 723(P); or cons instr.

730 University Band. 1 cr. G.

A concert band that performs concerts on and off campus. Designed as a continuing playing experience for students. Music 730 may be retaken to combined max of 6 sem. Prereq: grad st; cons instr; audition.

731 Contemporary Composition Techniques. 3 cr. G.

Contemporary compositional techniques; their theoretical, aesthetic, and historical relationship. Advanced analysis of scores utilizing these techniques. Prereq: grad st.

732 Score Reading. 3 cr. G.

Reading at the piano from full score. Procedure and practice in piano reduction are studied and applied. The classical, romantic, and contemporary periods are emphasized. Prereq: grad st; some ability at key board.

Music

740 (788) Symphony Band. 1 cr. G.

Performs symphonic works for band, performing regularly on campus, statewide tours and national conventions. For Music majors with advanced playing experience. Prereq: grad st & cons instr.

741 (effective 09/05/2017) Guitar Technique. 1 cr. G.

Class provides self-study tools and solutions on performing music accurately to advance and develop skills and expand the relative and absolute sense of touch. Counts as repeat of Music 680 with same topic. Prereq: grad st; or cons instr.

742 (effective 09/05/2017) Fretboard Essentials. 2 cr. G.

Music theory as it relates to the guitar fingerboard, including major/minor and harmonized scales, triads, 7th chords and inversions, and arpeggios. Counts as repeat of Music 680 w/same topic. Prereq: grad st; or cons instr.

744 Graduate Theory Seminar. 3 cr. G.

Current theoretical approaches to a wide range of musical styles. Prereq: grad st; diagnostic test or Music 703 with grade of B or better.

749 (effective 09/05/2017) Classical Guitar History and Literature. 3 cr. G.

A guided analytical and historical survey of the music, composers, performers, cultures, and literature for guitar from the sixteenth to twenty-first centuries. Prereq: grad st; cons instr.

750 University Men's Choir. 1 cr. G.

Large men's/mixed chorus rehearses and performs both men's and mixed-voice choral music of various styles, cultures, and historical periods. Open to all men by audition. Voice placements will take place in the 1st wk each semester. May be retaken to combined max of 6 sem. Prereq: audition; cons instr.

751 Advanced Piano Repertoire I. 2 cr. G.

Advanced study of the piano repertoire, including works of all representative periods. Prereq: grad st; Music 276.

752 Advanced Piano Repertoire II. 2 cr. G.

Advanced study of the piano repertoire, including works of all representative periods. Prereq: grad st; Music 751(P).

753 Advanced Song Literature I. 2 cr. G.

Art songs of Great Britain, Germany and France through recordings, in-class performances and lectures. Given alternate years. Prereq: grad st & cons instr.

754 Advanced Song Literature II. 2 cr. G.

The advanced study and performance of art song or solo song cycles, addressing the special needs of pianists in the role of a vocal

coach/accompanist. Prereq: grad st in collaborative piano or cons instr.

755 Advanced Instrumental Repertoire I: Strings. 2 cr. G.

Comprehensive study of the solo and ensemble literature for string instruments through study, performance, and listening. Prereq: grad st; cons instr.

756 Advanced Instrumental Repertoire II: Strings. 2 cr. G.

Comprehensive study of solo and ensemble literature for string instruments through study, performance, and listening. Prereq: grad st; cons instr.

757 Advanced Instrumental Repertoire I: Brass and Woodwinds. 2 cr. G.

Comprehensive study of the solo and ensemble literature for brass and woodwind instruments through study, performance, and listening. Prereq: grad st; cons instr.

758 Advanced Instrumental Repertoire II: Brass and Woodwinds. 2 cr. G.

Comprehensive study of the solo and ensemble literature for brass and woodwind instruments through study, performance, and listening. Prereq: grad st; cons instr.

762 Contemporary Music Ensemble. 3 cr. G.

For music majors with advanced instrumental and vocal competence. Rehearsals and concert series devoted to complex works by contemporary composers. Prereq: grad st; cons instr.

763 Advanced Percussion Performance Repertoire. 2 cr. G.

A comprehensive study of the solo and ensemble repertoire for tymani/percussion through study, performance and listening. Prereq: grad st; Music 279 or cons instr.

765 Advanced Instrumental Repertoire I: Guitar. 2 cr. G.

Comprehensive study of the solo and ensemble literature for guitar through study, performance, and listening. Prereq: grad st; cons instr.

766 Advanced Instrumental Repertoire II: Guitar. 2 cr. G.

Continuing study of solo and ensemble literature for guitar through study, performance, listening. Prereq: grad st; Music 765(P); cons instr

769 Graduate Choral Conducting I. 2 cr. G.

Study of conducting problems in choral works of divergent styles/periods. Projects assigned to meet specific student need. Prereq: grad st; admis to MM choral perf or music ed (choral emphasis); UG choral cond course(s); prof cond exp; cons instr.

770 Graduate Choral Conducting II. 2 cr. G.

Continuing study of conducting problems in choral works of divergent styles/periods. Projects assigned to meet specific student need. Prereq: grad st; Music 769(P) or 553(P); cons instr.

771 Graduate Choral Conducting III. 2 cr. G.

Advanced analysis of architectural, stylistic and gestural concerns in choral works of divergent styles/periods. Projects assigned to meet specific student need. Supervised conducting time with student's own ensemble. Prereq: grad st; Music 770(P) or 554(P).

772 Advanced Instrumental Conducting. 2 cr. G.

Study of conducting problems in instrumental works of all periods. Projects will be assigned to meet the background and needs of students. Practical experience will be gained by conducting university groups. Prereq: grad st & Music 554.

781 University Community Orchestra. 1 cr. G.

Rehearsal and performance of orchestral music. Intended for non-music majors, music majors playing their secondary instrument, and community members. Prereq: grad st.

782 Symphony Orchestra. 1 cr. G.

For music majors with advanced playing experience. Rehearsals are devoted to reading orchestral literature of the 18th, 19th, and 20th centuries. Prereq: grad st & cons instr.

789 Wind Ensemble. 1 cr. G.

For Music majors with advanced playing experience. Prereq: grad st & cons instr.

795 Concert Chorale. 1 cr. G.

This highly select mixed ensemble performs advanced level music from all periods of choral literature, utilizing instruments when appropriate. Auditions take place during the first week of each new semester. May be retaken to combined max of 6 sem. Prereq: grad st; audition & cons instr.

797 Vocal Jazz Ensemble. 1 cr. G.

Jazz arrangements of standard popular songs, including ballads, swing, bebop, and current fusion styles, performed with rhythm section accompaniment. Prereq: grad st, cons instr

798 University Advanced Women's Choir. 1 cr. G.

For women with significant choral experience; audition required. Voice placements take place during first week of each new semester. May be retaken to combined max of 6 sem. Prereq: grad st; cons instr; audition.

799 Advanced Independent Work. 1-3 cr. G.

The student must apply for scheduling advanced independent work with the graduate

Music

committee, if possible during the semester preceding the project. Prereq: grad st.

806 Chamber Music Master Class. 1 cr. G.
Student participation and stage performance of chamber music with discussion of critiques by institute faculty and guest artists. May be repeated to max of 4 cr. Prereq: grad st; admis to ICM, writ cons director of ICM.

811 Seminar In Baroque Music. 3 cr. G.
Investigation of problems of the Music of the Baroque era with reference to the evolution of musical styles in Western Europe from 1600-1750. Prereq: grad st; cons instr

829 Seminar: Historical Perspectives On Violin, Viola And Cello Pedagogy. 2 cr. G.
Traces evolution of modern instruments and teaching methods, and explores interdisciplinary tools and resources for the string teacher. Prereq: grad st; Music 720(P), 721(P), 724(P); or cons instr.

835 Chamber Music Coaching. 2 cr. G.
Weekly ensemble coaching by ICM faculty and guest artists. Public performance required. May be repeated to a max of 8 cr. Prereq: grad st; admis to ICM; writ cons director of ICM.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

911 Seminar In Musicology I. 3 cr. G.
Research seminar devoted to the investigation of musical problems. May serve as a basis for developing thesis projects, research papers, and lecture-recitals. Prereq: grad st

990 Research of Thesis. 1-3 cr. G.
Thesis or thesis equivalent in music history, recital, lecture-recital, public performance, or composition. Approval of subject and assignment to staff member by the graduate committee. May be retaken to 6 cr max. Prereq: grad st.

991 Recital And Lecture Demonstration. 1 cr. G.
Public recital and lecture demonstration for string pedagogy students. Approval of subject by student's major teacher and the music graduate committee required. Open only to string pedagogy students. Prereq: grad st; cons instr

999 Research (Independent Work). 1-3 cr. G.
Approval of project and assignment to staff member by graduate committee. Prereq: grad st.

Music Education

680 Special Studies in Music Education: (Subtitled). 1-3 cr. U/G.

Current issues in music education techniques, pedagogy, and practice at all levels of music teaching. Variable Topics. May be retaken with

change in topic to 9 cr max. Prereq: admis to U/G MusEd prog or cons instr.

710 Research in Music Education. 3 cr. G.
Qualitative and quantitative methods in music education research. Prereq: grad st

777 Foundations of Music Education. 3 cr. G.
Studies in the history and philosophy of music education, aesthetics, and basic research design. Discussion of current curricular practices as compared with traditional music education. Prereq: grad st.

778 Recent Developments in Music Education. 3 cr. G.
Studies in music curriculum trends and related socio-cultural factors. Influences of Orff, Kodaly, Dalcroze, Manhattanville, CMP, the Yale seminar, and the Tanglewood symposium. Prereq: grad st.

780 General Music Methods and Materials. 2 cr. G.
New approaches to secondary general music--particularly jr high related arts/humanities, films, filmstrip packages, records and book resources. Development of teaching units. Prereq: grad st.

781 Seminar in Elementary Music. 2-3 cr. G.
Study of the principal approaches to teaching elementary classroom music. Work with appropriate resources. Prereq: grad st.

782 Music Education Seminar: (Subtitled). 1-3 cr. G.
Special offerings on subjects not covered by the basic seminars and other elective music education courses. Prereq: grad st.

783 World Music Drumming: Level 1. 3 cr. G.
Perform and teach hand drumming ensembles from West Africa and the Caribbean. Prereq: cons instr.

784 World Music Drumming: Level 2. 3 cr. G.
Learn additional drum ensembles and songs from West Africa, Zimbabwe, the Caribbean, and Brazil. Play xylophone and flute pieces from these areas. Prereq: Mus Ed 783 or cons instr.

785 World Music Drumming: Level 3. 3 cr. G.
Perform and lead drum, xylophone, flute ensembles and songs from Ghana and the Caribbean. Prereq: Mus Ed 784 or cons instr.

799 Independent Study in Music Education. 1-3 cr. G.
Detailed independent work under a major professor in an area of Music Education not covered by available courses. Prereq: grad st & cons instr.

990 Thesis or Final Project. 1-6 cr. G.
Formal written thesis, lecture/recital, major annotated bibliography, curriculum synthesis, or other type of music education project. Must submit proposal to advisor in Music Education and be approved by the Graduate Committee. Retakeable to max of 6 cr. Prereq: grad st.

Music Performance

501 Master Class in Keyboard Instruments, Piano. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

502 Master Class in Keyboard Instruments, Organ. 1 cr. U/G.
May be repeated to max of 6 cr. Open to music majors only. Prereq: jr st & cons instr.

511 Master Class in Voice. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

521 Master Class in Woodwind Instruments, Flute. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

522 Master Class in Woodwind Instruments, Oboe. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

523 Master Class in Woodwind Instruments, Clarinet. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

524 Master Class in Woodwind Instruments, Saxophone. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

525 Master Class in Woodwind Instruments, Bassoon. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

531 Master Class in Brass Instruments, French Horn. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

532 Master Class in Brass Instruments, Trumpet-Cornet. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

533 Master Class in Brass Instruments, Trombone. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

534 Master Class in Brass Instruments, Baritone. 1 cr. U/G.
May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

Music

535 Master Class in Brass Instruments, Tuba. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

541 Master Class in String Instruments, Violin. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

542 Master Class in String Instruments, Viola. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

543 Master Class in String Instruments, Violoncello. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

544 Master Class in String Instruments, Bass Viol. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

545 Master Class in String Instruments, Harp. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr. Not available for grad cr.

546 Master Class in Guitar. 1 cr. U/G.

Master Class in Guitar supplements the student's private lesson by providing an opportunity for students to perform and critique repertoire and discuss related topics. Counts as repeat of Music 280 with topics 'Master Class - Jazz,' '- Fingerstyle,' and '- Classical.' May be retaken to max of 6 cr. Open to Music majors only. Prereq: jr st, cons instr.

551 Master Class in Percussion. 1 cr. U/G.

May be repeated to max of 6 cr. Open to Music majors only. Prereq: jr st & cons instr.

701 Keyboard Instruments, Piano. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

702 Keyboard Instruments, Organ. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

703 Collaborative Piano - Vocal. 2 cr. G.

Study and performance of the art song repertoire; development of sight reading, transposition, and vocal coaching skills. May be repeated to max of 8 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

704 Collaborative Piano - Instrumental. 2 cr. G.

Study and performance of the standard wind and string solo and ensemble repertoire

(excluding string sonatas); piano reductions of orchestral accompaniments. Open to Music majors only. Prereq: grad st; cons instr; audition.

705 Techniques of Opera Coaching and Accompanying. 1 cr. G.

Introduction to opera coaching and accompanying skills. Students will observe and accompany opera workshop rehearsals and public performances. May be repeated to max of 4 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

706 Sonatas, Piano and String. 1 cr. G.

Study and performance of the standard piano and string sonata repertoire from all periods. May be repeated to max of 4 cr. Open to Music majors only. Prereq: grad st; cons instr; audition.

711 Voice. 3 cr. G.

Principal performance study for graduate students in Music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

721 Woodwind Instruments, Flute. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

722 Woodwind Instruments, Oboe. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

723 Woodwind Instruments, Clarinet. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

724 Woodwind Instruments, Saxophone. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

725 Woodwind Instruments, Bassoon. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

731 Brass Instruments, French Horn. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

732 Brass Instruments, Trumpet-Cornet. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

733 Brass Instruments, Trombone. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

734 Brass Instruments, Baritone. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

735 Brass Instruments, Tuba. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

741 String Instruments, Violin. 2-3 cr. G.

Principal performance study for graduate students concentrating in violin performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

742 String Instruments, Viola. 2-3 cr. G.

Principal performance study for graduate students concentrating in viola performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

743 String Instruments, Violoncello. 2-3 cr. G.

Principal performance study for graduate students concentrating in violoncello performance (3 cr), or principal instrumental study for graduate students concentrating in string pedagogy (2 cr). May be repeated to max of 12 cr (performance students), or 8 cr (string pedagogy students). Open to Music majors only. Prereq: grad st; cons instr.

744 String Instruments, Bass Viol. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

745 String Instruments, Harp. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

Music

746 Guitar. 3 cr. G.

Principal performance study for graduate students concentrating in guitar performance. May be repeated to 12 cr max. Open to Music majors only. Prereq: grad st; cons instr.

751 Percussion. 3 cr. G.

Principal performance study for graduate students in music in their major area. May be repeated to max of 12 cr. Open to Music majors only. Prereq: grad st; cons instr.

761 Advanced Composition. 2 cr. G.

Advanced independent performance study in musical composition. May be repeated to total of 8 cr. Prereq: grad st; cons instr.

801 Keyboard Instruments, Piano. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

821 Woodwind Instruments, Flute. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

822 Woodwind Instruments, Oboe. 2 cr. G.

Principal performance study for solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

823 Woodwind Instruments, Clarinet. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

825 Woodwind Instruments, Bassoon. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

841 String Instruments, Violin. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

842 String Instruments, Viola. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

843 String Instruments, Violoncello. 2 cr. G.

Principal performance study in solo and chamber works for institute of chamber music students on their major instrument. Public performance required. Open to ICM students only. Prereq: grad st; cons instr.

855 Instrumental Master Class. 1 cr. G.

Discussion of individual instrumental techniques in chamber music playing. Literature studied depending on group experience and interest. May be repeated to max of 4 cr. Prereq: grad st; admis to ICM; writ cons director of ICM.

901 Keyboard Instruments, Piano. 1 cr. G.

Principal performance study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

902 Keyboard Instruments, Organ. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

903 Keyboard Instruments, Harpsichord. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 603. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

911 Voice. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 601. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

921 Woodwind Instruments, Flute. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 621. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

922 Woodwind Instruments, Oboe. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 621. May be repeated to max of 6 cr. Music majors only. Prereq: grad st; cons instr.

923 Woodwind Instruments, Clarinet. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 623. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

924 Woodwind Instruments, Saxophone. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 624. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

925 Woodwind Instruments, Bassoon. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 625. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

931 Brass Instruments, French Horn. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 631. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

932 Brass Instruments, Trumpet-Cornet. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 632. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

933 Brass Instruments, Trombone. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as a repeat of MusPerf 633. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

934 Brass Instruments, Baritone. 1 cr. G.

Principal performance study for graduate students in music in their non-major areas. Counts as a repeat of MusPerf 634. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

935 Brass Instruments, Tuba. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 635. May be repeated to max of 6 cr. Open to music majors only. Prereq: grad st; cons instr.

941 String Instruments, Violin. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 641. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

942 String Instruments, Viola. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of MusPerf 642. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

Music

943 String Instruments, Violoncello. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. Counts as repeat of Musperf 643. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

944 String Instruments, Bass Viol. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 644. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

945 String Instruments, Harp. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 645. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

946 Guitar. 1 cr. G.

Principal performance study for graduate students in music in their non-major area. May be repeated to a 6 cr max. Open to Music majors only. Prereq: grad st; cons instr

951 Percussion. 1 cr. G.

Principal applied music study for graduate students in music in their non-major areas. Counts as repeat of MusPerf 651. May be repeated to max of 6 cr. Open to Music majors only. Prereq: grad st; cons instr.

Nonprofit Management and Leadership

School/College: College of Letters and Science and Sheldon B. Lubar School of Business
Degrees Conferred:

- Master of Science in Nonprofit Management and Leadership

Related Certificates:

- [Graduate Certificate in Nonprofit Management](#)

Overview

The College of Letters and Science and the Sheldon B. Lubar School of Business offer and present jointly the Master of Science (M.S.) in Nonprofit Management and Leadership. The program is designed to provide students with the essential theoretical and practical knowledge and skills needed to be successful in managing and leading nonprofit sector organizations.

Graduate Faculty

Professors

Ihrke, Douglas, Ph.D., Northern Illinois University (Public and Nonprofit Administration)
 Lee, Mordecai, Ph.D., Syracuse University (Architecture and Urban Planning)
 Martin, Larry, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
 Peracchio, Laura, Ph.D., Northwestern University (Business)
 Ragins, Belle Rose, Ph.D., University of Tennessee (Business)

Associate Professors

Bohte, John, Ph.D., Texas A+M University (Political Science)
 Bornstein, Erica, Ph.D., University of California, Irvine (Anthropology)
 Freeman, Sarah, Ph.D., University of Michigan (Business)
 Neely, Daniel, Ph.D., University of Houston (Business)
 Padgett, Deborah, Ph.D., Washington University (Social Work)
 Singh, Romila, Ph.D., Drexel University (Business)

Assistant Professors

Andersson, Fredrik, Ph.D., University of Missouri-Kansas City (Public and Nonprofit Administration)
 Chikoto, Grace, Ph.D., Georgia State University & Georgia Institute of Technology (Public and Nonprofit Administration)
 Linnea Laestadius, Ph.D., Johns Hopkins University (Public Health)

Master of Science in Nonprofit Management and Leadership

Admission

To be admitted to the M.S. in Nonprofit Management and Leadership degree program, an applicant must meet [Graduate School requirements](#).

During the admissions process, students will be asked to show evidence of having satisfactorily completed undergraduate or higher level foundation coursework in the principles of accounting and economics. Those students who are unable to show such evidence may be admitted with these academic deficiencies but will then meet with their respective academic advisors to identify and obtain approval for what they must do to remove these deficiencies.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Applicants must submit the following for review by the Graduate School and the Nonprofit Management Program Faculty Committee:

1. Official transcripts from all colleges or universities previously attended.
2. Three letters of recommendation from persons familiar with the applicant's academic ability and/or professional achievements.
3. Scores from either the [Graduate Record Examination \(GRE\)](#) or the [Graduate Management Admission Test \(GMAT\)](#).
4. For those students whose native language is not English, minimum TOEFL score (Test of English as a Foreign Language) of 550 PBT or 79 iBT or minimum IELTS score (International English Language Testing System) of 6.5.
5. Each student's academic preparation is evaluated at the time of application. A personal interview may be required.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

The M. S. in Nonprofit Management and Leadership degree requires satisfactory completion of 39 credits of graduate-level coursework including 33 credit-hours of

required or "constrained choice" courses and 12 credit-hours of elective courses as follows:

Required Courses (33 Credits)

Introductory Course (3 cr)
 BUSMGMT 718 Concepts and Practice of Nonprofit Organizations
 Core Courses (24 cr)
 BUS ADM 766 Marketing for Nonprofit Organizations
 BUSMGMT 721 Fundraising and Development for Nonprofit Organizations
 BUSMGMT 724 Accounting for Nonprofit Organizations
 NONPROF 705 Professionals and Volunteers in Nonprofit Organizations
 NONPROF 725 Governance of Nonprofit Organizations
 NONPROF 792 Decision-Making Methods for Nonprofit and Public Organizations
 NONPROF 793 Law of Nonprofit Organizations
 NONPROF 795 Introduction to Nonprofit Revenue Streams and Portfolios
 One of the following three courses:
 NONPROF 791 Nonprofit Advocacy and Public Policy
 NONPROF 958 Seminar in Nonprofit Administration: The Nonprofit Economy
 NONPROF 740 Executive Leadership of Nonprofit Organizations
 Capstone Course (3 cr)
 BusMgmt 730 Strategic Management and Leadership for Nonprofit Organizations
 This course will serve as the integrative "capstone" requirement for the program and must be taken after completing all other required courses (or concurrently with the final required courses).

Elective Courses (6 Credits)

This is a pre-approved but not exhaustive list: Students may request alternative courses offered in other departments at UWM. Please send an email to HBI with a course description and/or syllabus, and stated reasons why the course being proposed is an appropriate fit for the student's academic and career goals.
 BUS ADM 441 Diversity in Organizations
 BUS ADM 737 Managerial Decisions and Negotiations
 BUSMGMT 706 Managing in a Dynamic Environment
 BUSMGMT 707 Information Technology for Competitive Advantage
 BUSMGMT 715 Leadership, Teambuilding, and Effective Management
 NONPROF 750 Social Entrepreneurship in the Nonprofit Sector
 NONPROF 765 International Nongovernmental Organizations

Nonprofit Management and Leadership

NONPROF 770 Leveraging Technology in the Public and Nonprofit Sectors

NONPROF 785 Managing Change in Public and Nonprofit Organizations

NONPROF 921 Nonprofit Administrative Internship

PUB ADM 461 Organizational Theory and Practice

PUB ADM 769 Analyzing and Evaluating Public Policies and Programs

SOCIOL 920 Race and Ethnic Relations

URB STD 901 Seminar: Urban Social Structure

URB STD 841 Health Policy in Urban Society

Thesis

Not Required

Comprehensive Examination

Not Required

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Courses

704 Seminar in Nonprofit Organizations. 3 cr. G.

Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Nonprof 704, Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

705 Professionals and Volunteers in Nonprofit Organizations. 3 cr. G.

Seminar in techniques of management of professionals and volunteers in nonprofit organizations. Nonprofit 705 & Pol Sci 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

725 Governance of Nonprofit Organizations. 3 cr. G.

Roles and responsibilities of governing boards and executive leaders. Critical review of alternative governance and executive leadership models. Counts as repeat of BusMgmt 725 and Pub Adm 958 w/same title. Prereq: grad st.

740 Executive Leadership of Nonprofit Organizations. 3 cr. G.

Nonprofit administration course designed to prepare students for a career in leadership and executive roles in nonprofit organizations. Counts as a repeat of Pub Adm 958 w/same topic. Prereq: grad st.

750 Social Entrepreneurship in the Nonprofit Sector. 3 cr. G.

In-depth exploration and examination of the concept of social entrepreneurship and how it is being understood, applied and practiced in the nonprofit sector. Prereq: grad st.

765 International Nongovernmental Organizations. 3 cr. G.

International nongovernmental organizations (INGOs) and the roles they play in relief and development work in developing countries. Counts as a repeat of Pol Sci 958 & Pub Adm 958 w/same topic. Prereq: grad st.

770 Leveraging Technology in the Public and Nonprofit Sectors. 3 cr. G.

Application of information technology (IT) concepts and tools to challenges and opportunities in the public and nonprofit sectors. Counts as a repeat of Pub Adm 958 w/same topic. Prereq: grad st.

785 Managing Change in Public and Nonprofit Organizations. 3 cr. G.

Methods and techniques in the research and practice of organization development. Counts as repeat of Pol Sci 958 & Pub Adm 958 w/same topic. Prereq: grad st.

789 (Pol Sci 789) Theory and Role of Nonprofit Organizations. 3 cr. G.

Graduate-level introduction to nonprofit administration, including an examination of the role of the nonprofit sector in contemporary society. Prereq: grad st.

791 Nonprofit Advocacy and Public Policy. 3 cr. G.

Strategies and methods of nonprofit advocacy and their use by nonprofit organizations in shaping public policy. Implications of the public policy process for nonprofit organizations. Nonprofit 791 & Pol Sci 791 are jointly offered; they count as repeats of one another. Prereq: grad st

792 Decision-Making for Nonprofit and Public Organizations. 3 cr. G.

Research methods including research design, measurement, and analysis. Qualitative and quantitative decision-making methods. Understanding and using basic statistical concepts and techniques in decision making. Nonprof 792 & Pub Adm 792(Pol Sci 792) are jointly offered; they count as repeats of one another. Prereq: grad st

793 Law of Nonprofit Organizations. 3 cr. G.

Legal concepts and issues relevant to the formations and operations of nonprofit organizations. Complying with applicable federal and state statutes and regulations. Nonprof 793 & Pol Sci 793 are jointly offered; they count as repeats of one another. Prereq: grad st

795 Introduction to Nonprofit Revenue Streams and Portfolios. 3 cr. G.

Trends and issues surrounding nonprofit finance in an attempt to sketch a portrait of nonprofit finance theory. Counts as repeat of Pol Sci 958 & Pub Adm 958 w/"Financing Nonprofits" topic. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st

921 Nonprofit Administrative Internship. 1-3 cr. G.

Combines supervised field placement in a nonprofit organization with class sessions and assignments designed to augment the work experience. Prereq: grad st; cons instr

958 Seminar in Nonprofit Administration: (Subtitled). 3 cr. G.

Selected topics covering different aspects of nonprofit administration. Counts as repeat of Pub Adm 958 w/same topic. Retakable w/change in topic to 9 cr max. Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study in a subject area of special need or interest after consultation with a faculty member. Prereq: grad st

Nursing

School/College: College of Nursing
Degrees Conferred:

- Master of Nursing
- Doctor of Nursing Practice
- Ph.D. in Nursing

Related Certificates

- [Applied Gerontology](#)
- [Graduate Certificate in Public Health](#)
- [Health Professional Education Certificate](#)
- [Post Master Clinical Nurse Specialist Certificate](#)
- [Post Master Family Nurse Practitioner Certificate](#)
- [Trauma-Informed Care](#)

Overview

The Master of Nursing program is offered to prepare Advanced Generalist Nurses to undertake clinical leadership in a variety of health care settings, implement quality improvement strategies and outcomes-based practice, manage microsystems of care, and to elevate care and promote health.

The Doctor of Nursing Practice program at UWM was approved by the UW System Board of Regents on December 5, 2008 and prepares nurses for the highest academic preparation in clinical nursing. The DNP will prepare practitioners who are able to use their education and expertise in evidence based practice in providing outstanding care and collaborative leadership to improve clinical care delivery, patient outcomes, and system management.

The Ph.D. program in Nursing at the University of Wisconsin-Milwaukee was approved by the University of Wisconsin System Board of Regents on February 9, 1984, and prepares nurses as scholars to conduct independent and collaborative research, to develop and test theory relevant to nursing, and to improve the quality of care by expanding the body of nursing knowledge. Scholars will be prepared to serve the urban community and improve the general accessibility and acceptability of health care.

Specialization is achieved through an approved program of study and includes program elements of coursework, dissertation, and direction of faculty advisors. This specialization is focused on a particular area of nursing practice and the social context within which it occurs.

The Center for Nursing Research and Evaluation, the Institute for Urban Health Partnerships, the Center for Cultural Diversity and Health, and the Nursing Learning Resource

Center are among the resources of the College of Nursing.

Graduate Faculty

Professors

Buseh, Aaron, Ph.D., University of Wisconsin-Milwaukee
 Daley, Barbara, Ph.D., Cornell University
 Kovach, Christine, Ph.D., University of Rochester, F.A.A.N.
 Schiffman, Rachel, Ph.D., University of Connecticut
 Underwood, Sandra, Ph.D., Northwestern University, F.A.A.N.

Associate Professors

Doering, Jennifer, Ph.D., University of Arizona
 Ehlinger, Timothy, Ph.D., Michigan State University
 Hewitt, Jeanne, Ph.D., University of Illinois-Chicago
 Johnson, Teresa, Ph.D., University of Illinois-Chicago
 Kako, Peninnah, Ph.D., University of Wisconsin-Milwaukee
 Litwack, Kim, Ph.D., Kent State University, F.A.A.N.
 Mkandawire-Valhmu, Lucy, Ph.D., University of Wisconsin-Madison
 Sneath, Julia, Ph.D., University of Wisconsin-Milwaukee
 Talsma, AkkeNeel, Ph.D., University of Michigan

Assistant Professors

Clayton-Jones, Dora, Ph.D., Marquette University
 Dressel, Anne, Ph.D., University of Wisconsin-Milwaukee
 Ellis, Julie, Ph.D., University of Wisconsin-Milwaukee
 Erickson, Jeanne, Ph.D., University of Utah
 Gwon, Seok Hyun, Ph.D., University of Virginia
 Kibicho, Jennifer, Ph.D., Wayne State University
 Oh, Hyunyoung, Ph.D., University of Iowa
 Polfuss, Michele, Ph.D., Marquette University

Non-Faculty

Instructional Academic Staff

Aschenbrenner, Ann, Ph.D.
 Bonis, Susan, Ph.D.
 Cao, Weihua, M.D.
 Darmody, Julie, Ph.D.
 DuChateau, Teresa, DNP
 Gopalakrishnan, Sandeep, Ph.D.
 Holt, Jeana, DNP
 Jansen, Kay, DNP
 Klingbeil, Carol, DNP
 Morgan, Sarah, Ph.D.
 Schadewald, Diane, DNP
 Thongpriwan, Vipavee, Ph.D.
 Zabler, Bev, Ph.D.

Master of Nursing

The Master of Nursing program is offered to prepare Advanced Generalist Nurses.

There are two entry options for the Master of Nursing Program.

1. Traditional program for individuals with a bachelor's degree in nursing and a current Registered Nurse license.
2. Direct Entry program for individuals with a degree in a field other than nursing and are not licensed as a Registered Nurse. This option includes an additional one year curriculum at the beginning of the program that leads to eligibility to sit for the NCLEX-RN examination.

Admission

Admission to the traditional program is the fall and spring of each year. Admission to the direct entry program is fall only. The admission requirements of the Advanced Generalist master's program in Nursing are consistent with those requirements specified by the Graduate School of the University of Wisconsin-Milwaukee. In addition, students must also meet the following requirements for the College of Nursing:

Traditional Option

1. A bachelor's degree in Nursing from a professionally accredited program, with a minimum undergraduate grade point average of at least 2.75 (4.0 scale).
2. Completion with a grade of B or higher of an upper-level undergraduate course in statistics within the five years immediately preceding admission.
3. Current registration as a professional nurse in the State of Wisconsin.
4. Completion of the [Graduate Record Examination \(GRE\)](#) within the last five years. The master's program admission requirement of the [GRE](#) will be waived for students who have completed a master's degree or a cumulative undergraduate GPA of 3.2 or higher as calculated by the UWM Graduate School.
5. Three (3) letters of recommendation for graduate study in nursing, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences. Personal interview with a faculty member may be requested.
6. Completion of an autobiographical sketch.

Direct Entry Option

1. A bachelor's degree, with a minimum undergraduate grade point average of at least 3.00 (4.0 scale). Applicants with an

Nursing

undergraduate grade point average below a 3.00 but above a 2.75 may be considered for admission if, by the application deadline, the student either:

- a. Has an advanced degree with a grade point average above 3.00, OR
 - b. Has completed a minimum of 24 credits post-baccalaureate with a grade point average above 3.00. At least one required science course must be included in the post-baccalaureate work.
2. Completion, with a grade of B or higher, and within the five years immediately preceding admission, of coursework in the following areas:
 - o upper-level undergraduate course in statistics
 - o anatomy and physiology
 - o growth and development
 - o microbiology
 - o biochemistry
 - o nutrition
 3. Completion of the [Graduate Record Examination \(GRE\)](#) within the last five years. The [GRE](#) requirement is waived for applicants whose prior education includes completion of a master's degree *or* a cumulative undergraduate GPA of 3.2 or higher as calculated by the UWM Graduate School.
 4. Three (3) letters of recommendation for graduate study in nursing, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experience. A personal interview with a faculty member may be requested.
 5. Completion of an autobiographical sketch.

These data are used by the Admissions Subcommittee as indicators of academic potential.

Major Professor as Advisor

The student is assigned to an advisor at the time of admission to advise and supervise the student's studies as specified in Graduate School regulations.

Credits and Courses: Direct Entry Curriculum

Students admitted to the Direct Entry Option complete a one year full-time pre-licensure curriculum prior to beginning the advanced practice nursing master's program. Successful completion of all courses in the pre-licensure curriculum with a grade of B or better is required prior to beginning the advanced practice nursing curriculum. Attainment of a Registered Nurse license is required prior to beginning the advanced generalist nursing practicum and residency courses.

Pre-licensure Curriculum courses: 44 (45 if enrolled before Fall 2015) Credits
NURS 654 Health Assessment and Promotion, 3 cr.
NURS 657 Pharmacotherapeutics for Nursing Practice, 3 cr.
NURS 653 Foundations in Pathophysiology for Nursing Practice, 4 cr.
NURS 670 Nursing Care of Adults & Older Adults I, 3 cr.
NURS 671 Nursing Care of Adults & Older Adults II, 3 cr.
NURS 672 Nursing Care of Women and Infants, 2 cr.
NURS 673 Nursing Care of Children & Families, 2 cr.
NURS 674 Mental Health Nursing Care Across the Lifespan, 2 cr
NURS 717 Community Health Nursing, 3 cr.
NURS 681 Professional Role in Healthcare Systems, 3 cr.
NURS 680 Nursing and Society, 4 cr.*
NURS 685 Clinical Reasoning, 5 cr.*
NURS 686 Professional Nursing Practicum I, 3 cr.*
NURS 688 Professional Nursing Practicum II, 4 (5 if enrolled before Fall 2015) cr.*

Credits and Courses: Master of Nursing Curriculum

If enrolled Fall 2015 or after

[Post-Licensure]: 42 Credits
Master's Graduate Nursing Core: 21 Credits
NURS 712 Health Promotion Perspectives, 3 cr.
NURS 720 Biostatistics and Applications for Nursing Practice, 3 cr.
NURS 725 Evidence Based Practice in Healthcare I, 3 cr.
NURS 727 Epidemiology, 3 cr.
NURS 750 Outcomes and Quality Management, 3 cr.
NURS 773 Information Systems to support Clinical Decision-Making, 3 cr,
NURS 803 Health Policy, 3 cr.

Direct Care Core: 9 credits

NURS 707 Advanced Pharmacology: Application to Advanced Nursing Practice, 3 cr.
NURS 753 Physiologic Basis of Advanced Nursing Practice, 3 cr.
NURS 754 Comprehensive Assessment of Health: Implications for Clinical Decision-Making, 3 cr.

Clinical Nurse Leader Role Competencies & Clinical Expectations: 12 credits

NURS 709 Leading and Managing in Systems of Care, 3 cr.
NURS 723 Evidence-Based Care Management, 3 cr.
NURS 734 Care Management Practicum, 3 cr.
NURS 789 Master of Nursing Residency, 3 cr. (Fulfills Master's Capstone Requirement)

*Connotes clinical course or clinical component

If enrolled before Fall 2015

[Post-Licensure]: 33 Credits Graduate Core

NURS 727 Epidemiology, 3 cr.
NURS 725 Evidence Based Practice in Healthcare I, 3 cr.
NURS 706 Clinical Outcomes Management and Information Systems, 3 cr.
NURS 709 Leading and Managing in Systems of Care, 3 cr.
NURS 712 Health Promotion Perspectives, 3 cr.
Biostatistics, 3 cr

Focused Core

NURS 754 Comprehensive Assessment of Health: Implications for Clinical Decision-Making, 3 cr.
NURS 721 Pathophysiology and Pharmacology for the Advanced Generalist, 3 cr.
NURS 723 Evidence-Based Care Management, 3 cr.
NURS 734 Care Management Practicum, 3 cr.*
NURS 789 Master of Nursing Residency, 3 cr.* (Fulfills Master's Capstone Requirement)

*Connotes clinical course or clinical component

RN to M.N. Option

The RN to M.N. track is designed for RN students who are interested in completing both a B.S. and a M.N. degree. Students in this option complete 9 credits of graduate core courses while enrolled in the B.S. in Nursing program designed for Registered Nurses. In the last semester of the B.S. program, they apply for admission to the graduate program. In addition to the admission requirements described above, students will be required to have completed the 9 credits of graduate core courses with a grade of B- or better. Upon admission they complete the remaining 24 required credits in the post-licensure M.N. curriculum.

Minimum Grade Requirement

For continuance in the program, in addition to general Graduate School requirements students must achieve a minimum grade of B in all required Master of Nursing practicum courses and a minimum grade of B- in all other required courses.

Master's Clinical Project

The student will complete a final comprehensive clinical project.

Time Limit

Students in the Master of Nursing program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Nursing

Master of Business Administration/Doctor of Nursing Practice (MBA/DNP)

The Lubar School of Business and the University of Wisconsin-Milwaukee College of Nursing collaboratively offer a program designed to provide a combined nursing and business curriculum to strengthen the graduate's performance as a leader and manager in nursing and health care administration.

Admission

Students are admitted to both the University of Wisconsin-Milwaukee graduate programs in nursing and business administration. The admission requirements are consistent with those specified by the UWM Graduate School, College of Nursing and Lubar School of Business. Applicants may choose to complete either the [GMAT](#) or [GRE](#) and must have a B.S. in nursing degree and at least two years practice in a health care setting. Three letters of reference are required including one from a former faculty and one from a health care employer.

MBA foundation coursework provides the basis for the theory and practice of business. The MBA Program requires Bus Adm 701, Business Mathematics (2 cr). This course is waived for individuals who earn an appropriate Quantitative sub-score on the [GMAT](#) or [GRE](#) or pass a proficiency exam. Bus Adm 701 does not count toward the degree.

Credits and Courses

Students accepted into the MBA/DNP program complete the following courses:

Nursing (43 Credits)

Core Courses

NURS 725 Evidence Based Practice in Healthcare I, 3cr
NURS 727 Epidemiology, 3 cr
NURS 729 Organizational Systems, 3 cr
NURS 735 Theory for Advanced Practice, 3 cr
NURS 750 Outcomes and Quality Management, 3 cr
NURS 770 Nursing Administration, 3 cr
NURS 773 Information Systems to Support Clinical Decision-Making, 3 cr
NURS 803 Health Policy, 3 cr
NURS 810 Leadership for Advanced Practice in Healthcare, 3 cr
NURS 825 Evidence Based Practice in Healthcare II, 3 cr
NURS 826 Nurse Executive Practicum I, 3 cr
NURS 827 Nurse Executive Practicum II 3 cr
NURS 828 Nurse Executive Practicum III, 3 cr
NURS 995 Doctor of Nursing Practice Residency, 4 cr

Business (25 Credits)

Basic Core - 7 credits

BusMgmt 735 Advanced Spreadsheet Tools, 1 cr
BusMgmt 736 Understanding and Using Corporate Financial Reports, 2 cr
BusMgmt 737 Business Strategy and Economics, 2 cr
BusMgmt 738 Critical and Analytical Thinking in Business, 2 cr

Students must complete the Basic Core to progress to the Advanced Core courses.

Advanced Core - 18 credits

BusMgmt 704 Accounting Analysis and Control, 3 cr
BusMgmt 705 Corporate Finance, 3 cr
BusMgmt 707 Information Technology Management in Contemporary Businesses, 3 cr
BusMgmt 708 Marketing Strategy: Concepts and Practice, 3 cr
BusMgmt 709 Analytic Models for Managers, 3 cr
BusMgmt 711 Supply Chain Strategies & Competitive Operations, 3 cr

Dually Applied Courses (18 Credits)

Required (12 credits)

NURS 720 Biostatistics and Applications for Nursing Practice, 3 cr
Bus Adm 733 Organizational Development, 3 cr
BusMgmt 706 Managing in a Dynamic Environment, 3 cr
BusMgmt 720 Strategic Management in Health Care Organizations*, 3 cr

* integrating course for the coordinated degree program.

Constrained Choice (6 credits)

Specialty Elective Bus MGMT 727 Health Care Acct., Law, and Ethics, 3cr
Specialty Elective Bus ADM.755 Health Care Adm. And Delivery Systems 3cr
Specialty Elective Bus ADM 757 Managed Care and Integrated Health Networks, 3cr
Specialty Elective NURS 779 Economics of Health Care, 3 cr

Total Program

For the coordinated degree program, students will complete 86 degree credit hours. A student not completing the requirements for the coordinated degree program would need to complete all requirements of an individual program—MBA or DNP—in order to receive a degree. Students must fulfill the MBA Program Boot Camp and Executive Development activities to meet all graduation requirements.

DNP Clinical Project

The candidate will complete a final comprehensive clinical project as part of the

residency experience which demonstrates the ability to implement the principles of evidence-based practice and translation under the direction of the major professor.

The candidate must, as the final step toward the degree, pass an oral examination in defense of the clinical project. A candidate who does not pass this examination may apply for reexamination within one year from the initial examination date. This reexamination may occur only one time. A candidate who does not pass this examination within program time limits may be required to undergo another comprehensive preliminary examination and be readmitted to the program and/or candidacy.

Time Limit

Students in the coordinated MBA/DNP degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Doctor of Nursing Practice

There are two entry options for the Doctor of Nursing (DNP) Practice Program.

1. Program for individuals with a bachelor's degree in nursing and a current Registered Nurse license.
2. Program for individuals with an advanced practice master's degree in nursing and a current Registered Nurse license.

Admission

The admission requirements of the DNP program in Nursing are consistent with those requirements specified by the Graduate School of the University of Wisconsin-Milwaukee. In addition, students must also meet the following requirements for the College of Nursing:

An applicant must meet Graduate School requirements plus the following College of Nursing requirements to be considered for admission to the doctoral program in Nursing:

1. A bachelor's degree in Nursing from a professionally accredited program, with a minimum undergraduate grade point average of at least 2.75 (4.0 scale) for the post baccalaureate DNP option.
2. A master's degree in Nursing with an advanced practice focus from a professionally accredited program, with a minimum grade point average of 3.2 (4.0 scale) for the post master's DNP option.
3. Completion with a grade of B or higher of an upper-level undergraduate course in statistics.
4. Current registration as a professional nurse.
5. Completion of the [Graduate Record Examination \(GRE\)](#) within the last five years.

Nursing

6. Three (3) letters of recommendation for graduate study in nursing, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences.
7. Completion of an autobiographical sketch.
8. Personal interview with a faculty member may be requested.

These data are used by the Admissions Subcommittee as indicators of academic potential.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Reapplication

A student who receives a master's degree from the University of Wisconsin-Milwaukee must formally reapply for admission to the Graduate School before continuing studies toward the DNP.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The student is assigned to an initial advisor at the time of admission. The student, in consultation with the major professor, establishes a formal plan of study that is submitted to the College of Nursing Graduate Admission and Progression Committee for approval. For subsequent changes, the student must file a revised plan of study for approval by this committee.

The DNP program is offered to provide the highest academic preparation in clinical nursing. This is accomplished through core courses required of all students (30 credits) and completion of requirements for one of four clinical tracks. The following tracks are available:

Advanced Practice Nursing

- Family Nurse Practitioner
- Clinical Nurse Specialist (CNS) with options for focus in
 - Adult-Gerontology
 - Maternal-Infant
 - Pediatrics
- Community Nursing Public Health
- Nursing Systems with options for a focus in Nurse Executive or Nursing Informatics

Students in each of these areas will complete 21 credits in specialty theory and electives, 9 credits of specialty practicum and a 4 credit residency.

Credits and Courses

Minimum degree requirements are 64 graduate credits beyond the bachelor's degree.

Post Baccalaureate DNP

The Post Baccalaureate DNP Curriculum includes the following components:

Foundations of Advanced Nursing Practice
Core 9 credits
Research Core 9 credits
Systems Core 12 credits
Specialty Theory 21 credits
Specialty Practicum (540 clock hours) 9 credits
Residency with DNP clinical project (460 clock hours) 4 credits
TOTAL PROGRAM CREDITS: 64 credits

Foundations of Advanced Nursing Practice Core

735 Theoretical Foundations for Advanced Nursing Practice, 3 cr.
810 Leadership for Advanced Practice in Healthcare, 3 cr.
727 Epidemiology, 3 cr.

Research Core

725 Evidence Based Practice in Healthcare I, 3 cr.
825 Evidence Based Practice in Healthcare II, 3 cr.
Biostatistics, 3 cr.

Systems Core

729 Organizational Systems, 3 cr.
750 Outcomes and Quality Management, 3 cr.
773 Information Systems to Support Clinical Decision-Making, 3 cr.
803 Health Policy, 3 cr.

Specialty Theory - Advanced Practice Specialty

753 Physiologic Basis of Advanced Nursing Practice, 3 cr.
707 Advanced Pharmacology: Application to Advanced Nursing Practice, 3 cr.
754 Comprehensive Assessment of Health: Implications for Clinical Decision-Making, 3 cr.
Specialty Theory Electives, 12 cr.

Specialty Theory - Community Health or Nursing Systems

Health Economics, 3 cr.
or Community Assessment, 3 cr.
BusMgmt 706 Management in Contemporary Business, 3 cr.
BusMgmt 720 Strategic Planning in Health Care Organizations, 3 cr.
Nurs 770 Nursing Administration or Community Nursing Theory, 3 cr.
Ad Ldsp 667 Program Planning in Adult Education or 647 Evaluation of Adult and Continuing Education Program, 3 cr.

Specialty Practicum

FNP, CNS, Community Health, or Nursing Systems Practicum Courses, 9 cr.

Residency, 4 cr.

Post Master's DNP

Foundations of Advanced Nursing Practice
Core 6 credits
Research Core 9 credits
Systems Core 9 credits
Residency with DNP clinical project (460 clock hours) 4 credits
TOTAL PROGRAM CREDITS: 28 credits

Foundations of Advanced Nursing Practice Core

810 Leadership for Advanced Practice in Healthcare, 3 cr.
727 Epidemiology, 3 cr.

Research Core

725 Evidence Based Practice in Healthcare I, 3 cr.
825 Evidence Based Practice in Healthcare II, 3 cr.
Biostatistics, 3 cr.

Systems Core

750 Outcomes and Quality Management, 3 cr.
773 Information Systems to Support Clinical Decision-Making, 3 cr.
803 Health Policy, 3 cr.

Residency, 4 cr.

Residency

Both the post baccalaureate and post master's curriculum include a 4-credit residency experience that will include the required capstone clinical project. This residency experience will include 460 additional clinical hours in the student's specialty focus area and will include an emphasis on the evidence-based practice, leadership and system competencies of the DNP prepared graduate.

Time Limit

Students in the post baccalaureate DNP program must complete all degree requirements within seven years of the first enrollment semester as a degree student. Students in the post master's DNP program must complete all degree requirements within five years of the first enrollment semester as a degree student.

Minimum Grade Requirement

For continuation in the program, in addition to general [Graduate School requirements](#), students must achieve a minimum grade of B- in all required nursing courses. However, an overall G.P.A. of 3.00 is still required for the degree.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to

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candidacy for degree. The doctoral examination comprises a written portfolio and an oral component, taken in that sequence, with each component requiring a passing grade for successful completion. The examination is an integrative experience that is designed to validate the student's mastery of the content of the DNP curriculum and must be completed prior to beginning the residency experience.

DNP Clinical Project

The candidate will complete a final comprehensive clinical project as part of the residency experience which demonstrates the ability to implement the principles of evidence-based practice and translation under the direction of the major professor.

The candidate must, as the final step toward the degree, pass an oral examination in defense of the clinical project. A candidate who does not pass this examination may apply for reexamination within one year from the initial examination date. This reexamination may occur only one time. A candidate who does not pass this examination within program time limits may be required to undergo another comprehensive preliminary examination and be readmitted to the program and/or candidacy.

Doctor of Philosophy in Nursing

Admission

An applicant must meet [Graduate School requirements](#) plus the following College of Nursing requirements to be considered for admission to the doctoral program in Nursing:

1. A bachelor's degree with a major in nursing from a professionally accredited college of nursing.
2. A cumulative grade point average of 3.2 on a 4.0 scale for all previous coursework.
3. Submission of scores on the General Test portion of the [Graduate Record Examination](#); test taken within last five years.
4. Completion of a graduate-level statistics course with a grade of B or better within the last 5 years.
5. Current registration in nursing in one of the jurisdictions of the United States or in another country.
6. A written statement prepared by the applicant describing previous professional experience, personal career goals, research interests motivation for doctoral study, and educational objectives to be accomplished in the program.
7. Recommendations from at least three persons who have known the applicant in a professional capacity.
8. Two examples of original work that demonstrate the applicant's academic potential.
9. An interview may be required of applicants to the doctoral program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Major Professor as Advisor

The student is expected to affirm their Major Professor by the end of her/his second semester of full-time study or the equivalent in earned credits. The date for submission will be published for each semester by the Associate Dean. The Major Professor will be the student's research advisor, and will serve as chairperson of his/her Comprehensive Preliminary Examination Committee and the Dissertation Committee. The PhD student must select a Major Professor who is a member of the graduate faculty of the College of Nursing and who has agreed to serve.

Course of Study

Minimum degree requirements are 61 graduate credits beyond the bachelor's degree, at least 31 of which must be earned in residence at the University of Wisconsin-Milwaukee. The College of Nursing requires a minimum of 49 graduate credits beyond the master's degree in nursing or master's graduate core courses.

Nursing Core (9 credits)

801 Foundations of Inquiry for Health Research, 3 cr.
802 The Science of Nursing, 3 cr.
803 Health Policy, 3 cr.

Specialty Core (15 credits; minimum of 6 credits must be taken outside the College of Nursing)

820 Analysis of Nursing Phenomenon, 3 cr.

Electives (12 credits)

Research Core (22 credits)

808 Multivariate Statistics, 3 cr.
881 Measurement for Health Research, 3 cr.
882 Qualitative Methods in Health Research, 3 cr.
883 Quantitative Methods in Health Research, 3 cr.
885 Advanced Quantitative Methods in Health Research (3 cr.) **OR**
886 Advanced Qualitative Methods in Health Research (3 cr.)
890 Issues in Scholarship, 3 cr.
899 Practicum in Nursing Research, 4 cr.

Dissertation (3 credits minimum)

997 Doctoral Dissertation, 3 cr.

Specialization is achieved through an approved program of study and includes program elements of minor field coursework, supervised research experiences, dissertation, and the direction of faculty advisors. The student specializes in a particular area of nursing practice and the social context within which it occurs. The plan for this is developed in consultation with the major professor.

Minimum requirements for all formal coursework other than dissertation research can be expected to take at least two academic years of study.

Students admitted without a master's degree in nursing must complete 12 credits of master's program graduate core courses before beginning doctoral level nursing courses. The graduate core courses that must be completed are:

725 Evidence Based Practice in Healthcare I, 3 cr.
727 Epidemiology, 3 cr.
729 Organizational Systems, 3 cr.
735 Theory for Advanced Practice, 3 cr.

Post baccalaureate students admitted to the doctoral program will not be granted a master's degree in nursing unless all requirements for the master's degree in nursing are met.

Minimum Grade Requirement

For continuation in the program, in addition to general [Graduate School requirements](#), students must achieve a minimum grade of B- in all required courses.

Minor Field

The student must complete a minor of 8 to 12 credits, 6 or more of these credits to be earned from courses in departments outside the College of Nursing. Such courses are selected for their relevance to the student's area of specialization, and are to be taken in the substantive content of the selected minor field.

Language Requirement

Foreign language competency may be required at the option of the student's major professor.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for degree. The doctoral examination comprises a written and an oral component, taken in that sequence, with each component requiring a passing grade for successful completion. The examination is an integrative experience that is designed to validate the student's mastery of the content of the doctoral program curriculum and readiness to conduct independent research within the student's area of specialization as identified in the formal plan of study.

Dissertation

The candidate must write a dissertation, which demonstrates ability to formulate a research topic and pursue independent and original investigation under the direction of the major professor.

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Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation. A candidate who does not pass this examination may apply for reexamination within one year from the initial examination date. This reexamination may occur only one time. A candidate who does not pass this examination within program time limits may be required to undergo another comprehensive preliminary examination and readmitted to the program and/or candidacy.

Time Limit

The student must complete all requirements for the degree within seven years from the date of initial enrollment in the program. The student must complete all requirements for the degree within four years from the time of attainment of dissertator status.

For additional information on the Ph.D., see the Graduate School [Doctoral Requirements](#) page.

Courses

475 Global Health: Ethics and Human Rights. 3 cr. U/G.

Ethics and human rights issues related to disparities in financial, educational, technological, environmental, and political resources available to support healthy populations across the globe. Prereq: jr st; Nurs 110(P) or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM-sponsored program before course work levels, content, and credits are determined and/or in especially prepared program course work. May be retaken with change in topic; max of 9 cr for grad students. Prereq: acceptance for Study Abroad Prog.

620 Global Food Security and Systems. 3 cr. U/G.

An in-depth investigation of global food systems and their impact on food security and development. Prereq: jr st.

653 Foundations in Pathophysiology for Nursing Practice. 4 cr. U/G.

Mechanisms, manifestations, diagnosis and treatment of disease states for selected body systems as a foundation for nursing management of selected conditions. Prereq: Admis to Master of Nursing prog.

654 Health Assessment and Promotion. 3 cr. G.

Application of concepts and skills to comprehensively assess the health status of individuals using functional health patterns as a framework. Prereq: Admis to Masters in Nurs Prog or cons instr

657 Pharmacotherapeutics for Nursing Practice. 3 cr. G.

Pharmacologic and pharmacotherapeutic concepts in the management of patients with complex conditions and illnesses across the continuum of care. Prereq: Admis to Masters in Nurs Prog or cons instr

670 Nursing Care of Adults and Older Adults I. 3 cr. G.

Nursing science related to health promotion, prevention, and illness management for adults and older adults within families, communities, and populations. Prereq: Admis to Masters in Nurs Prog, NURS 653 (C), NURS 657 (C)

671 Nursing Care of Adults and Older Adults II. 3 cr. G.

Nursing science related to health promotion, prevention, and illness management for adults and older adults within families, communities, and populations. Prereq: Admis to Masters in Nurs Prog, NURS 654 (P), NURS 670 (P)

672 Nursing Care of Women and Infants. 2 cr. G.

Nursing science related to care of women, infants, and families in institutional and community care. Prereq: Admis to Masters in Nurs Prog

673 Nursing Care of Children and Families. 2 cr. G.

Nursing science related to care of children and families in acute, institutional, and community care settings. Prereq: Admis to Masters in Nurs Prog

674 Mental Health Nursing Care Across the Lifespan. 2 cr. G.

Nursing science, principles, and processes for the promotion of mental health and the prevention and management of mental illness across the lifespan. Prereq: Admis to Masters in Nurs Prog

680 Nursing and Society. 4 cr. G.

Introduction to the nursing profession, its multifaceted role in society, and the abilities needed for professional nursing practice. Prereq: Admis to Masters in Nurs Prog

681 Professional Role in Health Care Systems. 3 cr. G.

Exploration and analysis of entry level professional nursing roles in health care systems. Prereq: Admis to Masters in Nurs Prog; Nurs 680(P)

682 Professional Role in Health Care Systems II. 2 cr. U/G.

Exploration and analysis of organizational environments, communication, and quality initiatives within interdisciplinary health care systems. Prereq: Nurs 681(P).

685 Clinical Reasoning. 5 cr. G.

Development and refinement of, and practice with, the clinical reasoning skills required for professional nursing practice. Prereq: Nurs 653(P), 680(P), 657(C).

686 Professional Nursing Practicum I. 3 cr. G.

Intensive practicum experience providing nursing care to individuals, families, and groups within diverse populations across the health care continuum. Prereq: Admis to Masters in Nurs Prog; Nurs 685(P), 657(P).

687 Professional Nursing Practice Internship. 1 cr. U/G.

Intensive clinical practice experience in a selected area of nursing. Prereq: Nurs 686

688 Professional Nursing Practicum II. 4 cr. G.

Intensive practicum experience providing nursing care to individuals, families and groups within diverse populations across the health care continuum. Prereq: Admis to Masters in Nurs Prog, NURS 686 (P)

705 Instructional Strategies for Patient Education. 3 cr. G.

Study of instructional strategies applicable in patient education; opportunity to select, develop and evaluate the effectiveness of particular strategies in individual and/or group situations. Prereq: grad st or cons instr.

706 Clinical Outcomes Management and Information Systems. 3 cr. G.

Synthesis of advanced generalist nursing knowledge, processes and practices that influence point of care health outcomes related to health promotion, risk reduction, and illness management. Prereq: Admis grad prog in nursing or cons instr

707 Advanced Pharmacology: Application to Advanced Nursing Practice. 3 cr. G.

Advanced knowledge related to use of pharmacotherapeutics in management of common health problems, nursing prescriptive authority, and development and use of clinical practice guidelines. Prereq: grad st; admis to Nursing degree program; Nurs 753(P) or cons instr.

708 (effective 09/05/2017) Global Maternal and Child Health: From Evidence to Action. 3 cr. G.

This course will focus on critical issues impacting the health of mothers, newborns, and children, using a global and a life course analytic approach. Prereq: Grad St

709 Leading and Managing in Systems of Care. 3 cr. G.

Evaluation of emerging nursing leadership and management concepts, theories, and research within diverse healthcare systems. Prereq: grad st; admis to grad prog in nursing or cons instr

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712 Health Promotion Perspectives. 3 cr. G.
Nursing and inter-professional health promotion concepts including planning, delivery and evaluation of health promotion strategies at the point of care in diverse settings. Prereq: grad st; admis grad prog in nursing or cons instr

717 Community Health Nursing. 3 cr. G.
Nursing science related to the care of populations with focus on disease prevention and health promotion. Roles of community health nurses are explored. Prereq: Admis to Masters in Nurs Prog; Nurs 727 (C)

720 Biostatistics and Applications for Nursing Practice. 3 cr. G.
Introduction to biostatistics with special emphasis on the identification, description, application, and interpretation of clinical data about nursing phenomena and nursing practice. Prereq: grad st; undergrad statistics course w/ grade of B or better w/in last 5 yrs or cons inst

721 Pathophysiology and Pharmacology for the Advanced Generalist. 3 cr. G.
Integration of pathophysiologic and pharmacologic therapy interventions for selected health conditions Prereq: Admis grad prog in nursing or cons instr

723 Evidence-Based Care Management. 3 cr. G.
Analysis of evidence-based interventions and design of a program to address a priority issue in population health and health care delivery. Prereq: grad st; Nurs 725(P)

725 Evidence Based Practice in Healthcare I. 3 cr. G.
Introduction to evidence based practice and research methods. Emphasis is on retrieval of information, critique and application in diverse health care practice settings. Prereq: grad st

727 Epidemiology. 3 cr. G.
Study of the distribution and determinants of health and disease in populations including related methods and application. Prereq: grad st; admis to UWM graduate degree program or cons instr.

729 Organizational Systems. 3 cr. G.
Study of systems of healthcare delivery emphasizing emerging healthcare models, financing and regulation of healthcare and the creation and evaluation of effective healthcare strategies. Prereq: grad st; admis to grad degree program or cons instr.

731 Practicum and Seminar in Health Professional Education. 3 cr. G.
Observation, participation, and practice in teaching in a health professional educational program. Prereq: grad st

734 Care Management Practicum. 3 cr. G.
Clinical practicum focused on providing evidence-based nursing care to a cohort of

patients and families within a specific clinical setting. Prereq: grad st; NURS 721 (C) (or NURS 707, 753), 723(C), 754(C)

735 Theory for Advanced Practice. 3 cr. G.
Study of knowledge base of nursing science. Concepts, frameworks and theories for nursing practice, for advanced roles with individuals, aggregates and systems. Prereq: grad st; admis to Nursing degree program or cons instr.

737 Clinical Nurse Specialist: Practicum I. 3 cr. G.
Using a theoretical and research base, the student explores, discusses, and enacts the advanced clinical nursing practice role in a chosen area of practice. Prereq: grad st; Nurs 725(C), 754(C).

738 Clinical Nurse Specialist: Practicum II. 3 cr. G.
Continuation of practicum I: second semester advanced clinical nursing practice. Prereq: grad st; Nurs 707(C); Nurs 737(P).

739 Clinical Nurse Specialist: Practicum III. 3 cr. G.
Continuation of practicum II: third semester advanced clinical nursing practice. Prereq: Nurs 738(P).

750 Outcomes and Quality Management. 3 cr. G.
Examination, development and utilization of frameworks and tools for implementation and evaluation of health care program outcomes and quality management for groups of patients. Prereq: grad st.

751 Teaching in Practice Disciplines. 3 cr. G.
Issues, theories, and strategies used for teaching in disciplines that require clinical learning for the development of needed critical thinking and performance abilities. Prereq: grad st; cons instr

752 Curriculum Development in Nursing Education. 3 cr. G.
Principles and techniques of nursing curriculum design, development, implementation and evaluation. Prereq: grad st

753 Physiologic Basis of Advanced Nursing Practice. 3 cr. G.
Human physiologic responses to actual and potential health problems, methods of measurement, developmental and environmental influences, and implications for advance nursing practice. Prereq: grad st ; admis to Nursing degree program or cons instr.

754 Comprehensive Assessment of Health: Implications for Clinical Decision-Making. 3 cr. G.
Comprehensive assessment of health in individuals and aggregates, including measurement of health status, appraisal of needs, analysis of environmental contexts, and development of diagnostic strategies. Prereq:

grad st; admis to Nursing degree program; Nurs 753(P); or cons instr.

757 Family Nurse Practitioner Practicum I. 3 cr. G.
First of a three-practicum sequence designed to provide practice experience caring for individuals, families, and populations in primary care settings. Prereq: grad st; Nurs 707(P); Nurs 725(P); Nurs 727(P); Nurs 729(P); Nurs 735(P); Nurs 754(P).

758 Family Nurse Practitioner Practicum II. 3 cr. G.
Second of a three-practicum sequence focused on family nurse practitioner practice based on understanding the centrality of the patient-provider relationship. Prereq: Nurs 757(P); 767(P); & 725(C).

759 Family Nurse Practitioner Practicum III. 3 cr. G.
This is the last of a three-sequence practicum. Emphasis is on health policy, ethical, and professional issues that influence clinical decision-making in primary care. Prereq: grad st; Nurs 758(P); 768(P).

760 Processes of Aging. 3 cr. G.
An overview of the processes of aging including biological, psychological, and sociological perspectives. Emphasis on theories of development, gerontological research findings, and health services applications. Prereq: grad st or cons instr.

762 Family Theory and Intervention Strategies for Advanced Nursing Practice. 3 cr. G.
Cognitive, affective, and behavioral principles related to the functioning of the family and its members. Emphasis on therapeutic interventions used in advanced nursing practice. Prereq: grad st or cons instr.

763 Issues in Women's Health and Development. 2-3 cr. G.
Current physical, mental health, and developmental issues affecting women. Examination of the role of gender in health care research and clinical practice. Prereq: grad st or cons instr.

764 Changing Health Behaviors. 3 cr. G.
Enhancement of knowledge related to the process of behavioral change, models of change, factors that affect change behavior, and issues related to measuring change. Prereq: grad st or cons instr.

767 Family Nurse Practitioner Theory I. 3 cr. G.
Introductory course designed to prepare family nurse practitioners to deliver health care to individuals, families, and populations Prereq: grad st; Nurs 707(P); Nurs 725(P); Nurs 727(P); Nurs 729(P); Nurs 735(P); Nurs 754(P)

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768 Family Nurse Practitioner Theory II. 3 cr. G.

Second of a three-course sequence focused on the delivery of primary care services within a relationship-centered care framework. Prereq: Nurs 757(P); 767(P); & 725(C).

769 Family Nurse Practitioner Theory III. 3 cr. G.

Last of a three-sequence course focused on health policy and professional issues that affect the delivery of primary care by family nurse practitioners. Prereq: Nurs 758(P); 768(P).

770 Nursing Administration. 3 cr. G.

Relevant topics grounded in research and theory that are related to professional development of nursing leadership and management roles in health care organizations. Prereq: grad st or cons instr.

771 Nursing Administration Practicum. 3 cr. G.

Applying theory and research, the student will explore, discuss, and actively participate in an advanced administration practice role in a healthcare organization. Prereq: grad st or cons instr.

773 Information Systems to Support Clinical Decision-Making. 3 cr. G.

Basic concepts of nursing informatics are examined with emphasis on application to clinical practice to improve the quality of care. Prereq: grad st

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Couns 774, Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Couns 775, Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Couns 774, Nurs 774, OccThpy 774 or Soc Wrk 774(P), or cons instr

776 Clinical Informatics. 3 cr. G.

Examine the development, implementation and evaluation of clinical informatics solutions to facilitate the use of information and communication technologies within and across health care delivery systems. Online only. Prereq: grad st

779 Special Topics Seminar: (Subtitled). 1-5 cr. G.

Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. May be repeated with change in topic to max of 9 cr. Prereq: grad st or cons instr.

780 Study Abroad: (Subtitled). 1-9 cr. G.

Designed to enroll graduate students in UWM-sponsored program before content and credits are determined and/or in especially prepared program course work. May be taken w/ chg in topic to 9 cr max. Prereq: Acceptance for Study Abroad Program.

784 Advanced Nursing Practice Interventions. 3 cr. G.

Advanced knowledge and skills for developing, implementing, and evaluating nursing interventions for common nursing phenomena with individuals and aggregates. Prereq: grad st; NURS 725(P); admis to Nursing degree program or cons instr.

789 Master of Nursing Residency. 1-3 cr. G.

Intensive clinical immersion experience during which students implement the role of the masters-prepared nurse. Prereq: grad st; completion of all required Master of Nursing course work

791 Clinical Informatics Practicum I. 3 cr. G.

First semester of a 3-semester practicum focused on the application of clinical informatics within healthcare settings to facilitate evidence-based nursing practice and improve outcomes. Clinical practicum hours for each student will take place at the assigned clinical site as negotiated with the clinical preceptor and faculty. Prereq: grad st

792 Clinical Informatics Practicum II. 3 cr. G.

Second semester of a 3-semester practicum focused on the application of clinical informatics within healthcare settings to facilitate evidence-based nursing practice and improve outcomes. Clinical practicum hours for each student will take place at the assigned clinical site as negotiated with the clinical preceptor and faculty. Prereq: grad st

793 Clinical Informatics Practicum III. 3 cr. G.

Third semester of a 3-semester practicum focused on the application of clinical informatics within healthcare settings to facilitate evidence-based nursing practice and improve outcomes. Clinical practicum hours for each student will take place at the assigned clinical site as negotiated with the clinical preceptor and faculty. Prereq: grad st

797 Independent Study for Graduate Students. 1-6 cr. G.

Opportunity for students to pursue study in a subject area of special need or interest under

guidance of graduate faculty. Prereq: grad st; cons instr.

801 Foundations of Inquiry for Health Research. 3 cr. G.

Study of historical evolution of contemporary health science in terms of important philosophical and empirical antecedents. Prereq: admis to doctoral prog in Nursing or cons instr.

802 The Science of Nursing. 3 cr. G.

Study of nursing science through the exploration of the interrelationships among the theory, research, and practice of nursing. Prereq: admis to doctoral prog in nursing or cons instr; Nurs 801(NP).

803 Health Policy. 3 cr. G.

Explores the roles and accountability of health care providers and scientists in responding to the health and social needs of the public and shaping of public policy. Prereq: admis to doctoral prog or cons instr

808 Multivariate Statistics for Healthcare. 3 cr. G.

A study of commonly used multivariate statistical methods as well as their applications to practical data analysis with emphasis on nursing and health care research. Prereq: Grad st

809 Integrative Studies. 3 cr. G.

Synthesis of ideology and content in the student's specialty area with regard to the research, theory development, and policy roles of the emerging nurse scholar.

810 Leadership for Advanced Practice in Healthcare. 3 cr. G.

Synthesis of leadership concepts of advanced nursing practice. Interdisciplinary and ethical practice and leading multiple constituencies are emphasized from an evidence based perspective. Prereq: grad st

811 Clinical Nurse Specialist Practicum I- Psychiatric/Mental Health. 3 cr. G.

First semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the psychiatric/mental health population. Prereq: grad st; Nurs 707(P), 725(P), 754(P)

812 Clinical Nurse Specialist Practicum II- Psychiatric/Mental Health. 3 cr. G.

Second semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the psychiatric/mental health population. Prereq: grad st: Nurs 811(P)

813 Clinical Nurse Specialist Practicum III- Psychiatric/Mental Health. 3 cr. G.

Third semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the

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psychiatric/mental health population. Prereq: grad st: Nurs 812(P)

814 Clinical Nurse Specialist Practicum I-Maternal/Infant. 3 cr. G.

First semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the maternal/infant population. Prereq: grad st; NURS 707(P), 725(P), 754(P)

815 Clinical Nurse Specialist Practicum II-Maternal/Infant. 3 cr. G.

Second semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the maternal/infant population. Prereq: grad st; Nurs 814(P)

816 Clinical Nurse Specialist Practicum III-Maternal/Infant. 3 cr. G.

Third semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the maternal/infant population. Prereq: grad st; NURS 815(P)

817 Clinical Nurse Specialist Practicum I-Pediatric. 3 cr. G.

First semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the pediatric population. Prereq: grad st; NURS 707(P), 725(P), 754(P)

818 Clinical Nurse Specialist Practicum II-Pediatric. 3 cr. G.

Second semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the pediatric population. Prereq: grad st; NURS 817(P)

819 Clinical Nurse Specialist Practicum III-Pediatric. 3 cr. G.

Third semester of a 3-semester practicum focused on advanced practice nursing in a Clinical Nurse Specialist role with the pediatric population. Prereq: grad st; NURS 818(P)

820 Analysis of Nursing Phenomena. 3 cr. G.

Exploration of selected phenomena relevant to nursing through the evaluation and synthesis of scientific knowledge. Prereq: Admis to doctoral prog in Nursing; Nurs 802(P)

821 Analysis of Nursing Phenomena II. 2 cr. G.

Synthesis, application, and evaluation of theories and technologies related to selected phenomena relevant to nursing science in terms of specific patient population characteristics. Prereq: Nurs 820(P).

825 Evidence Based Practice in Healthcare II. 3 cr. G.

In depth exploration of approaches to development of practice guidelines and protocols and evaluation of practice change.

Prereq: grad st; NURS 725(P); grad level course in biostatistics

826 Nurse Executive Practicum I. 3 cr. G.

First semester of a 3-semester practicum focused on the application of theory and research in nurse executive practice. Prereq: Nurs 810(P).

827 Nurse Executive Practicum II. 3 cr. G.

Second semester of a 3-semester practicum focused on the application of theory and research in nurse executive practice. Prereq: Nurs 826(P).

828 Nurse Executive Practicum III. 3 cr. G.

Third semester of a 3-semester practicum focused on the application of theory and research in nurse executive practice. Prereq: Nurs 827(P).

829 Advanced Community/Public Health Nursing Practicum I. 3 cr. G.

First semester of a three-semester practicum focused on the application of theory and research in advanced community/public nursing health practice. Prereq: Nurs 835(P).

830 Advanced Community/Public Health Nursing Practicum II. 3 cr. G.

Second semester of a three-semester practicum focused on the application of theory and research in advanced community/public nursing health practice. Prereq: Nurs 836(P), 829(P).

831 Advanced Community/Public Health Nursing Practicum III. 3 cr. G.

Third semester of a three-semester practicum focused on the application of theory and research in advanced community/public nursing health practice. Prereq: Nurs 830(P).

832 Clinical Nurse Specialist Practicum I-Adult/Gerontology. 3 cr. G.

First semester of a 3-semester practicum focused on advanced practice nursing in a clinical nurse specialist role with the adult / geriatric population. Prereq: grad st; NURS 707(P), 725(P), 754(P)

833 Clinical Nurse Specialist Practicum II-Adult/Gerontology. 3 cr. G.

Second semester of a 3-semester practicum focused on advanced practice nursing in a clinical nurse specialist role with the adult/geriatric population. Prereq: grad st; NURS: 832(P)

834 Clinical Nurse Specialist Practicum III-Adult/Gerontology. 3 cr. G.

Third semester of a 3-semester practicum focused on advanced practice nursing in a clinical nurse specialist role with the adult/geriatric population. Prereq: grad st; NURS 833(P)

835 Theoretical Basis for Advanced Community / Public Health Nursing. 3 cr. G.

Theoretical knowledge, skills, and attitudes relevant to advanced community/public health practice, education, management and research. Prereq: Admis to Nurs doctoral prog

836 Advanced Community Health Nursing-Assessment, Program Planning, Evaluation. 3 cr. G.

Knowledge, skills and attitudes required for community assessment, program planning and evaluation. Prereq: grad st; Nurs 835(P) or cons instr

879 Special Topics in Nursing Research: (Subtitled). 1-3 cr. G.

Intensive study of selected research methodologies used to investigate nursing phenomena; topics vary by sections. May be repeated with change of topic to max of 9 cr. Prereq: admis to doctoral prog in nursing or cons instr.

881 Measurement for Health Research. 3 cr. G.

Study of theories of measurement and scaling, properties of research instruments, design and testing of instruments for health research. Prereq: admis to doctoral prog in nursing or cons instr.

882 Qualitative Methods in Health Research. 3 cr. G.

Diverse qualitative design and analysis strategies used in the study of health phenomena. Emphasis will be to critique existing research and to plan future research. Prereq: admis to doctoral prog in nursing or cons instr.

883 Quantitative Methods in Health Research. 3 cr. G.

Major quantitative designs and data management/analysis strategies used in clinical health research. Emphasis will be to critique existing research and to plan future research. Prereq: admis to doctoral prog in Nursing or cons instr.

884 Computer Applications for Qualitative Analysis. 1 cr. G.

Types, uses, and implications of computer applications for qualitative data analysis; includes in-depth experience with a selected program. Prereq: Nurs 882 (P), or Ad Ldsp 729 (P), or Urb Std 979 (P), or Educ 881 (P); or cons instr.

885 Advanced Quantitative Methods in Health Research. 3 cr. G.

In depth study of quantitative research methods with an emphasis on decision making for intervention studies and research with large data sets, advanced analytic strategies, communicating and interpreting results. Prereq: grad st; Nurs 883(P), Nurs 881(P), Multivariate Statistics(P) or cons instr.

886 Advanced Qualitative Methods in Health Research. 3 cr. G.

Enable student to acquire the advanced knowledge and skills needed to design and implement studies best suited to qualitative modes of investigation. Prereq: grad st; Nurs 882(P) or cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st; cons School of Nursing advisor.

890 Issues in Scholarship. 3 cr. G.

Critical analysis of issues in scholarship and development of skills in literature review, scholarly discourse, and ethical conduct of research. Prereq: grad st

897 Independent Study for Doctoral Students. 1-6 cr. G.

Opportunity for the student to pursue study in a subject area of special need or interest under the guidance of graduate faculty. Prereq: doctoral student status; cons instr.

899 Practicum in Nursing Research. 1-6 cr. G.

Mastery of research skills and techniques through participation in faculty research. May be repeated to a total of 6 cr. Prereq: admis to doctoral prog in nursing or cons instr.

991 Research and Thesis. 1-3 cr. G.

Independent research and thesis writing under the supervision of member of graduate faculty. May be retaken to max of 3 cr. Prereq: grad st; cons advisor UWM School of Nursing.

995 Doctor of Nursing Practice Residency. 1-4 cr. G.

Individually designed immersion experience to demonstrate synthesis of DNP competencies. Prereq: grad st; admis to candidacy for the DNP

997 Doctoral Dissertation. 1-3 cr. G.

May be repeated. Prereq: grad st; admis to candidacy for the PhD; cons advisor.

Occupational Therapy

School/College: College of Health Sciences
Degrees Conferred:

- M.S. in Occupational Therapy

Related Certificates

- [Certificate in Assistive Technology and Accessible Design](#)
- [Certificate in Trauma-Informed Care](#)
- [Graduate Certificate in Applied Gerontology](#)

Overview

The Department of Occupational Science and Technology offers a Master of Science in Occupational Therapy that prepares students to become occupational therapists. During the program, students engage in graduate-level instruction embedded in the theory, research, and clinical underpinnings required to become evidence-based occupational therapy practitioners. Students may select a thesis option or project option in pursuing this degree. Students who are interested can choose to combine elective courses from the OT program with other courses on campus to receive the transcript-designated concentration in assistive technology and accessible design and/or ergonomics. (**Note:** The ergonomics concentration is being revised; admission to the program is temporarily suspended.) Graduates of the program are eligible to take the occupational therapist certification examination offered by the National Board for Certification in Occupational Therapy. The Master of Science in Occupational Therapy Program is accredited by the [Accreditation Council for Occupational Therapy Education \(ACOTE\)](#) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number c/o AOTA is (301) 652-AOTA (2682).

All students admitted to the M.S. in Occupational Therapy degree program will be required to complete a Background Information Disclosure form (HFS64). A background check, which identifies a past criminal record, does not necessarily preclude an individual from pursuing studies in occupational therapy or becoming a successful practitioner. Should there be a discrepancy between the information reported by the student on HFS-64 and the reports issued by the Department of Justice and the Department of Health and Family Services, the student will be subject to dismissal from the occupational therapy program and reported to DHFS per HFS 12.20 (1)(c), Wis. Adm. Code

Graduates of the master's program will be eligible to sit for the National Certification Examination for the Occupational Therapist

administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR). In addition, most states require licensure to practice; however state licenses are usually based on the results of the NBCOT Certification Examination. Candidates for the NBCOT Certification Examination will be asked to answer questions related to the topic of felonies when applying for the exam. For further information on these limitations and other certification requirements, contact NBCOT at www.nbcot.org or The National Board for Certification in Occupational Therapy, 12 South Summit Avenue, Suite 100, Gaithersburg, MD 20877 (301) 990-7979. A felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Students applying to enter in Fall 2018 to the M.S. OT Professional Entry Program (MS in Occupational Therapy) must complete the Application to the M.S. OT Professional Entry Program and follow instructions related to admissions criteria and process indicated below.

Graduate Faculty

Distinguished Professor

Garg, Arun, Ph.D., University of Michigan, Chair

Professors

Engel, Joyce M., Ph.D., University of Kansas
 Johnston, Mark, Ph.D., Claremont University
 King, Phyllis, Ph.D., University of Wisconsin-Milwaukee
 Smith, Roger O., Ph.D., University of Wisconsin-Madison

Associate Professors

Bamekow, Kris, Ph.D., University of Wisconsin-Madison
 Kapellusch, Jay, Ph.D., University of Wisconsin-Milwaukee
 Sindhu, Bhagwant, Ph.D., University of Florida
 Slavens, Brooke, Ph.D., Marquette University
 Stoffel, Virginia, Ph.D., Cardinal Stritch University
 Wang, Ying-Chih, Ph.D., University of Florida

Non-Faculty

Clinical Associate Professors:

Nelson, Nancy, Ph.D., University of Wisconsin-Milwaukee
 Plach, Heidi, M.S., University of Wisconsin-Milwaukee
 Clinical Assistant Professor:
 Silverman, Michelle, M.S., University of Wisconsin-Milwaukee
 Washburn, Dana, M.S., Rush University

Master of Science in Occupational Therapy

Application

Applications for the M.S.OT handled annually using the [OT Centralized Application Service \(OTCAS\)](#). OTCAS provides a full-service, Web-based application and admissions process for prospective occupational therapy program applicants.

Following are important dates for the 2017-2018 OTCAS application cycle, i.e. those applying to start the OT Program in Fall 2018.

- **July 18, 2017:** Applications open.
- **January 15, 2018** (December 1 if international): Deadline for submission of all application material to OTCAS.

Once recommended for acceptance to UWM's M.S. in Occupational Therapy Program, students need to apply to and be accepted by UWM's Graduate School. However, students may apply to UWM's Graduate School at any time prior to being recommended for acceptance to the OT Program.

Admission

The M.S. in Occupational Therapy Program admits students on the basis of a competitive application process. Students are accepted into the program once per year in Spring and begin professional coursework in the following Fall.

In addition to [Graduate School requirements](#), applicants must meet these departmental requirements to be considered for admission to the program.

1. An undergraduate degree completed by the end of the Spring semester of the year prior to beginning the OT Program, from an accredited institution, with an overall cumulative grade point average (GPA) of a 3.0 (on a 4.0 scale).
2. Six prerequisite courses, required to be completed by end of Fall semester of the year prior to beginning the OT Program, with a minimum grade point average of 3.0 (on a 4.0 scale):
 - a. Human Anatomy (3-4 cr)*
 - b. Human Physiology (3-4 cr)*
 - c. Human Development (3 cr)
 - d. Introduction to Psychology (3cr)
 - e. Statistics (3cr)
 - f. One of the following natural science courses:
 - i. Physics**
 - ii. Biology**
 - iii. Chemistry**
 - iv. Psychology**

* Courses requiring a lab component

Occupational Therapy

** Courses with laboratory-based data analysis required

3. Submission of scores on the General Test of the [Graduate Record Examination](#) taken within the last five years
4. Completed OTCAS application.
5. Three letters of recommendation: One letter must be from an academic source and one from a clinical/health-related source. The third letter can be either from an academic or clinical / health-related source. All three letters must use the OTCAS form.
6. Reasons Statement or Personal Essay: This is the same as the OTCAS essay. Address why you selected occupational therapy as a career and how an occupational therapy degree relates to your immediate and long-term professional goals.

For all admission and application related questions, please contact (414) 229-4713 or OT-program@uwm.edu.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise, and approve the program of study. Students are assigned faculty advisors in the M.S. in OT program upon acceptance into the program.

Credits and Courses

The program is a tracked curriculum of 69 credits over 28 months, including a minimum of 24 weeks of full-time fieldwork during the program. OccThpy 810 serves as the capstone requirement for the degree. Students will enroll as full time students for each term of study (Summer, Fall, Spring). There is no part-time option for students in the M.S. in OT program. Students must maintain a GPA of 3.0 and a grade of B- or better in all required courses. Students who do not maintain this will be placed on probation.

Time Limit

The student must complete all degree requirements within four years of initial enrollment.

Transcript-Designated Concentrations

Through judicious use of electives, students may also choose one of the following transcript-designated concentrations. This may require completion of more than the minimum 69 credits.

Assistive Technology and Accessible Design

The Concentration in Assistive Technology and Accessible Design is an interdisciplinary program designed to meet the demand for assistive technology and accessible design specialists. The College of Health Science's

Departments of Occupational Science & Technology and Communication Sciences Disorders, along with the School of Education's Department of Exceptional Education, collaborate on the course offerings. The concentration emphasizes technologies for disability.

Required Courses (9 credits)

OccThpy 593 Introduction to Biomedical and Rehabilitation Instrumentation (3 cr.)
OccThpy 620 Introduction to Assistive and Rehabilitation Technology (3 cr.)
OccThpy 625 Design and Disability (3 cr.)

Elective Courses (minimum of 6 credits)

OccThpy 595 Vision I: Introduction to Low Vision and Vision Impairment (3 cr.)
OccThpy 596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention (3 cr.)
OccThpy 760 Assistive and Rehabilitation Technology (online) (3 cr.)
OccThpy 770 Assessment in Assistive Technology and Accessible Design (3 cr.)
OccThpy 777 Fieldwork in Assistive Technology (3 cr.)
OccThpy 999 Advanced Independent Study (3cr.)
ComSDis 717 Special Populations in Communication Disorders (2 cr.)
Ind Eng 580 Ergonomics of Workplace (3cr.)

Ergonomics

Note: The concentration in ergonomics is being revised; admission to the program is temporarily suspended.

This concentration provides the skills and experience needed to practice ergonomics in work environments. Students learn theoretical concepts of occupational biomechanics, physiology, psychophysics, and human factors as well as numerous job analysis techniques. Students are taught how to synthesize and apply these theories and tools to reduce injuries, improve productivity and increase quality of service/goods in industry. Emphasis is placed on practical applications and solutions.

Required Courses (9 credits)

Ind Eng 580 Ergonomics of Workplace (3 cr.)
Ind Eng 780 Advanced Ergonomics: Low Back (3 cr.)
Ind Eng 783 Advanced Ergonomics: Upper Extremity (3 cr.)

Elective Courses (minimum of 6 credits)

Ind Eng 470 Methods Engineering (3 cr.)
OccThpy 625 Design and Disability (3 cr.)
OccThpy 786 Applied Biostatistics in Ergonomics (3 cr.)
OccThpy 788 Legal Issues and Regulatory Agencies in Ergonomics (1 cr.)
OccThpy 790 Design Project (2-3 cr.)

Courses

329 Occupational Therapy in Gerontology. 3 cr. U/G.

In-depth study of occupational therapy principles and practice in working with the elderly in institutions and the community. Prereq: jr st in OccThpy Prog.

427 Essentials of Splinting. 3 cr. U/G.

Evaluation and splint fabrication of upper and lower extremity and trunk. Hands-on lab experience in splint design using various patterns, applications, and materials. Prereq: Bio Sci 203(P); Hum Kin 320(P) or cons instr.

497 Study Abroad - Occupational Therapy: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared course work. Retakable w/chg in topic. Prereq: acceptance to Study Abroad Prog.

519 Therapeutic Communication. 3 cr. U/G.

Development of therapeutic communication skills necessary for all occupational therapy practice settings. Prereq: sr st or grad st in OT prog; or cons instr.

540 Evidence for Practice I. 3 cr. U/G.

Introduction to research methods and measurement in occupational therapy with a focus on the scientific process and evidence. Prereq: sr st or grad st in OT prog.

541 Evidence for Practice III: Creating Evidence. 3 cr. U/G.

Seminar to study the research process, review of relevant research literature and use of basic research tools necessary for thesis/project development. Prereq: sr st in OccThpy & OccThpy 341(P); or grad st in OccThpy; or cons instr.

542 Evidence for Practice II. 3 cr. U/G.

Study of the research process, review of relevant research literature and use of basic research tools necessary for thesis/project development. Prereq: sr st or grad st in OT; or cons instr.

550 (327) Upper Extremity Evaluation and Treatment in Hand Therapy. 3 cr. G.

Evaluation and treatment of the upper extremity. Techniques of patient evaluation, pertinent anatomy, and recovery. Prereq: grad st in OccThpy prog or DPT prog; or cons instr.

590 Topics in Occupational Therapy: (Subtitled). 1-3 cr. U/G.

Topics of current interest in O.T. see Schedule of Classes for course offerings. May be retaken with change in topic to max of 9 cr. Prereq: jr st in OccThpy prog or cons instr.

Occupational Therapy

593 Introduction to Biomedical and Rehabilitation Instrumentation. 3 cr. U/G.

Familiarizes students with medical instrumentation in post acute care settings. Basic electrical, electronic and mechanical terminologies. Prereq: jr st or cons instr.

595 Vision I: Introduction to Low Vision & Visual Impairment. 3 cr. U/G.

Introduces student to visual impairment including blindness and 'low vision'. Structure and function of the visual system and most common types of pathology. Prereq: jr st or cons instr.

596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention. 3 cr. U/G.

Functional implications of visual system pathology; focus on practical aspects of adapting to visual impairment, low vision evaluation and access to service/resources. Prereq: jr st or cons instr.

610 Advances in Occupational Science. 3 cr. U/G.

Explores origins and recent developments in occupational science. Examines the multidimensional nature of occupation; the dynamics of person, environment, occupation interaction; applications to practice. Prereq: sr st in Baccalaureate OccThpy prog or grad st.

620 Introduction to Assistive and Rehabilitation Technology. 3 cr. U/G.

Principles of assistive and rehabilitation technology application and foundation skills for professionals working with people with disabilities to evaluate products and strategies for their use. Prereq: jr st; OccThpy 401(P) or cons instr.

625 Design and Disability. 3 cr. U/G.

Universal design principles/theories related to creating access for individuals with disabilities. Enables professionals to evaluate and provide recommendations for product and environment universal design. Prereq: jr st or cons instr.

634 Collaborative Consultation/Teaming-Serving Young Children with Disabilities. 3 cr. U/G.

Focus on development of collaboration and consultation skills for professionals employed in interdisciplinary and interagency settings. ExcEduc 634, Occthpy 634, & ComSDis 634 are jointly offered; they count as repeats of one another. Prereq: jr st.

701 Advanced Measurement and Instrumentation in Health Care. 3 cr. G.

Reviews and critiques measurement theories and instruments used by health related researchers and professionals. Includes traditional, outcome and contemporary methods differing from classical psychometric theory. Prereq: grad st.

703 Applied Neuroscience. 3 cr. G.

Emphasizes neurophysiology, neuroanatomy and disorders of the nervous system. Focus on relationship between structure and function of the nervous system as applied to OT. Prereq: grad st in OT prog

704 Musculoskeletal Analysis and Occupational Function. 3 cr. G.

The origin, nature, and course of musculoskeletal and neurological disorders and their relationship to clinical biomechanics and occupational performance. Prereq: grad st in OT prog

705 Occupational Therapy in Physical Rehabilitation I. 3 cr. G.

Development of assessment skills for common medical conditions that occupational therapists encounter in physical rehabilitation settings. Prereq: grad st in OT prog

706 Occupational Therapy in Physical Rehabilitation II. 2-6 cr. G.

Clinical application of occupational therapy interventions in a variety of rehabilitation settings. Prereq: grad st in OT program

707 Professional Development Seminar I. 1 cr. G.

Exploration of social and cultural factors that impact occupational therapy practice; includes 30 hours of service learning. Prereq: grad st; Admis. to MSOT program

708 Professional Development Seminar II. 1 cr. G.

Development of skills in critical evaluation of OT practice through integration of academic knowledge and 40 hours of Level I fieldwork experience. Prereq: grad st; Admis. to MSOT program, B- or better in OccThpy 707, or cons. instr.

709 Professional Development Seminar III. 1 cr. G.

Critical evaluation of OT practice and preparation for Level II fieldwork through integration of academic knowledge and 40 hour Level I fieldwork experience. Prereq: grad st; Admis to MSOT program, B- or better in OccThpy 708, or cons instr

710 Community Models of Occupational Therapy Practice. 2 cr. G.

Evaluation and application of occupational therapy knowledge to a wide array of community settings. Prereq: grad st in OccThpy prgrm or cons instr

711 Professional Leadership for Occupational Therapists. 3 cr. G.

Critical analysis of trends, practice issues and strategies in the field of occupational therapy. Prereq: grad st in OT program

719 Occupational Therapy in Psychosocial Practice. 3 cr. G.

The nature of human occupation, areas of occupation, performance skills, and performance patterns within varied contexts for persons with behavioral and psychiatric disorders. Prereq: grad st in OT program

720 Application of Occupational Science and Occupational Therapy Theory. 3 cr. G.

Critical analysis of occupational science and occupational therapy theories as they relate to practice issues, strategies, and research. Prereq: grad st.

721 Foundations of Professional Practice in Occupational Therapy. 2 cr. G.

Foundations for successful professional practice in the field of occupational therapy. Prereq: grad st in OT program

725 (510) Occupational Therapy Field Service I. 6 cr. G.

Provides students with opportunity to apply knowledge and practice in clinical setting through participation in therapy under supervision; integrates academic with professional knowledge. Prereq: grad st; successful completion of required prof. entry courses

735 (515) Occupational Therapy Field Service II. 6 cr. G.

Provides students with opportunity to apply knowledge and practice in clinical setting through participation in therapy under supervision; development of advanced knowledge and skills. Prereq: grad st; OccThpy 725 (C)

740 Occupational Therapy with Children and Families. 4 cr. G.

Examines current practices and future trends for evaluation and treatment of occupational performance between birth and 21 years of age within family and community contexts. Prereq: grad st.

741 Research Seminar. 1 cr. G.

Scholarly discussion forum for graduate students completing their thesis/project. Prereq: grad st; OccThpy 890(C) or 990(C) or cons instr.

745 (520) Occupational Therapy Field Service III. 1-6 cr. G.

Additional, optional field placement beyond ACOTE requirements to accommodate special interests in treatment, health care systems and other professional settings. Prereq: grad st; OccThpy 735 (C)

750 Computer Applications in Occupational Therapy Practice. 3 cr. G.

Exploration of the current and future uses of computer technology in the field of occupational therapy. Completion of a student-designed software application. Prereq: grad st.

Occupational Therapy

760 Assistive and Rehabilitation Technology. 3 cr. G.

Surveys the use of assistive technology devices and applications for people with motor, sensory, and cognitive impairments. Prereq: grad st; college-level computer course or equiv or cons instr.

770 Assessment in Assistive Technology and Accessible Design. 3 cr. G.

Background theory, principles of selection, application in practice, and procedures for applying assistive technology (AT) and universal design (UD) assessment and instrumentation. Prereq: grad st; OccThpy 620(P) or cons instr

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Couns 774, Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Couns 775, Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Couns 774, Nurs 774, OccThpy 774 or Soc Wrk 774(P), or cons instr

777 Fieldwork in Assistive Technology. 1-6 cr. G.

Provides students with a school- or clinic-based experience in the delivery of assistive technology services. ExcEduc 777 & OccThpy 777 are jointly offered; they count as repeats of one another. May be retaken for 9 cr max. Prereq: grad st & cons instr.

780 Physical Agents in Rehabilitation. 3 cr. G.

Application fo physical agents to restore functional abilities in a rehabilitation setting; includes review of research literature and competency testing. Prereq: grad st

786 Applied Biostatistics in Ergonomics. 3 cr. G.

Statistical methods used in ergonomic studies to analyze, summarize, and report measurements and data. 2 hr lec & 2 hr lab/week. Jointly offered with & counts as repeat of Ind Eng 786. Prereq: grad st; Ind Eng 580; a course in statistics or cons instr.

788 Legal Issues and Regulatory Agencies in Ergonomics. 1 cr. G.

Understanding of ergonomic regulations, regulatory sets, and agencies' and workers' compensations laws. Jointly offered with & counts as repeat of Ind Eng 788. Prereq: grad st; Ind Eng 580(P); a course in statistics or cons instr.

790 Design Project. 2-3 cr. G.

Integration and application of concepts learned in other ergonomic courses to analyze and abate ergonomic hazards in a scientific manner. Jointly offered with & counts as repeat of Ind Eng 790. Prereq: grad st; Ind Eng 780(P), 783(P), 786(P), 788(P) or cons instr.

810 Critical Evaluation of Theory, Research and Practice. 2 cr. G.

Appraisal and application of knowledge and concepts acuried in academic and fieldwork education to occupational therapy practice. Prereq: grad st in OT program or cons instr

880 Master's Project. 1-6 cr. G.

Preparation of an individual project under the supervision of the student's major advisor. Prereq: grad st; cons advisor.

890 Research and Thesis. 1-6 cr. G.

Production of a thesis under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons advisor

900 Teaching, Learning and Educational Leadership in the Health Sciences. 3 cr. G.

Overview of higher education in the health sciences and the responsibilities of the professoriate in fulfilling the missions of research, teaching, and service. Prereq: grad st.

909 Guided Teaching Experience in Health Sciences. 3 cr. G.

This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of CLSci909, HCA909, HMS909, and ComSDis909. Prereq: grad st; OccThpy900 (P); cons instr

990 Research and Dissertation. 1-6 cr. G.

Production of a dissertation under the supervision of the student's major professor with the consultation of the degree committee. Prereq: grad st; cons advisor.

999 Advanced Independent Study. 1-3 cr. G.

Supervised investigation of particular topic area either not covered by other occupational therapy courses or at a level of sophistication beyond that in a course. Prereq: grad st; cons instr.

Performing Arts

School/College: Milton and Lillian Peck

School of the Arts

Degrees Conferred:

- MFA in Performing Arts

Overview

The Milton and Lillian Peck School of the Arts offers the Master of Fine Arts in Performing Arts, an interdisciplinary degree program encompassing graduate studies in film and dance. The curricula in this program include intensive professional training in an individual performance area plus significant interdisciplinary experience in related performance and scholarly fields. All curricula are dedicated to maintaining the most rigorous professional and artistic standards in their disciplines.

The programs currently offered are: film and video production in the Department of Film, Video, Animation and New Genres; and choreography and performance in the Department of Dance.

The curricula offered in the program are designed for serious and talented students who are preparing for careers as professionals in the performing arts or as artist-teachers in advanced training programs. Admission to the programs is highly selective, and all curricula include extensive practical performance experience.

The Helene Zelazo Center for the Performing Arts is the premier performance home for the Peck School of the Arts. It includes the 759-seat Helen Bader Concert Hall, a 3,200 square foot rehearsal room, numerous small ensemble practice rooms, and the Mary L. Nohl Art Galleries.

The School's other facilities include the Fine Arts Center which houses two theatres, a recital hall, and related shop, studio, instructional and practice space, and nearby Mitchell Hall with studio, viewing, and processing facilities for the Department of Film, Video, Animation and New Genres as well as the chamber dance theatre and additional rehearsal, studio, and performance spaces for the departments of Theatre and Dance.

Graduate Faculty

Dance

Professors

Ferro, Simone, MFA, University of Iowa
Parsons, Marcia Ruth, M.A., University of Illinois-Champaign/Urbana; M.A., Columbia College, Chicago

Wutz, Darci, MFA, Smith College

Assistant Professors

Burkholder, Daniel, MFA, University of Wisconsin, Milwaukee

Gillespie, Maria, MFA, University of California – Los Angeles

Senior Lecturer

Loewen, Debra, MFA, University of Wisconsin, Milwaukee

Film

Professor

Condit, Cecelia, M.F.A., Temple University

Associate Professors

Cobb, Portia, M.A., San Francisco State University

White, Iverson, M.F.A., University of California-Los Angeles

Yeo, Robert H., M.F.A., School of the Art Institute of Chicago

Assistant Professors

Felker, Lori, M.F.A., School of the Art Institute of Chicago

Kirshner, Kelly, Ph.D., University of California-Irvine

McLean, Jesse, M.F.A., University of Illinois-Chicago

Wetzel, Stephen, M.F.A., University of Wisconsin-Milwaukee, M.F.A. University of Illinois-Chicago

Non-Faculty

Professor Emeritus

Blau, Richard, Ph.D., State University of New York at Buffalo

Senior Lecturers

Bogner, Carl, M.F.A., Bennington College

Master of Fine Arts in Performing Arts: Dance

The Department of Dance offers graduate study leading to the Master of Fine Arts in Performing Arts—Dance. The program offers opportunity to hone technical skills, to explore personal intuition, imagination, and craft both in creating dance works and also in performing them, and to focus on critical areas of dance core studies.

Graduate choreographic projects may be pursued both on and off campus. Students may arrange to set works for schools, churches, galleries, community projects, and local dance companies, and are encouraged to discover new dance environments and resources. Two on-campus dance spaces, the Mainstage Theatre and the Mitchell Hall Studio 264, may be available for selected works during the year.

A block of on-campus and distance learning coursework is available during the fall and spring semesters, in addition to the intensive summer graduate course offerings, which make the degree accessible to those whose full-time

professional employment schedules require them to study at these non-traditional times.

Admission

Applicants who meet [Graduate School requirements](#) plus these program requirements may be admitted in good standing:

1. submission of a videotape or DVD of past or current performance and/or choreographic work.
2. submission of two letters of recommendation.

Applicants lacking in course background may be admitted with deficiencies on the condition that deficiencies be made up; credits earned in making up deficiencies do not count toward the master's degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise studies as specified in Graduate School regulations; the student may not register for any courses without this advisor's prior approval. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

Minimum degree requirement in Performing Arts-Dance is 60 credits distributed as follows, of which at least 6 must be in complementary studies.

- Dance Techniques and Somatics (Modern, African, Ballet, Alexander, Pilates, Yoga), 9-15 cr.
- Creating, Staging, and Performing Dance Works, 16-22 cr.
- Theory and Application of Dance, 12-18 cr.
- Electives in Complementary Studies, 6-14 cr.
- Final Project, 4-8 cr.

For those who began the program prior to summer 2008, the minimum degree requirement in Performing Arts—Dance is 48 credits, of which at least 6 must be in complementary studies. Students may distribute the required 48 credits of coursework as follows:

- Dance Techniques (modern, African, ballet, yoga), 6-14 cr.
- Creating and Performing Dance Works, 12-18 cr.
- Core Dance Studies, 12-18 cr.
- Electives in Complementary Studies, 6-14 cr.
- Final Project, 4-8 cr.
- Total Required: 48 Credits

Performing Arts

Final Project

Each student must undertake a final project of either one or two semesters duration (4-8 cr.). The project must be approved by the major advisor. The project may involve an array of challenging roles and/or production of choreographic work created by the student. These may occur in a variety of approved performance settings which may include on- or off-campus sites. The quality of performance and/or choreography will determine whether the degree is granted. This evaluation is made by the graduate faculty after the presentation of the final project. No comprehensive examination is required.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Master of Fine Arts in Performing Arts: Film

The Department of Film, Video, Animation and New Genres offers a graduate program in media arts practice. The curriculum is designed for serious and talented students who are preparing for careers as artists.

Facilities include a complete production studio, with all tools and services necessary for in-house film, digital video and sound work; photography and imaging labs; a digital studio for Internet projects, physical computing, interactivity and other forms of digital and media arts; and space for installation and performance projects. A special feature of the program is our excellent in-house processing facility for black-and-white reversal 16mm film.

In addition to a series of graduate seminars, students can choose from an array of elective options that include graduate production studios, conceptual studies courses, complementary studies from outside the department, professional practice opportunities in the field and U/G or G electives. Students are expected to originate and produce finished projects on a regular basis, culminating in a thesis presentation.

Admission

In order to be considered for admission to the program, an applicant must meet [Graduate School requirements](#) and submit original media-related work that demonstrates technical competence and creative promise.

An applicant whose grade point average or quality of work does not meet Graduate School and Department of Film, Video, Animation and New Genres program standards may be considered for admission on probation. Each student is expected to satisfy deficiency requirements within three enrolled semesters. The Graduate School and the Department of

Film, Video, Animation and New Genres graduate program monitor the deficiencies. No course credits earned to make up deficiencies may be counted as program credits required for the degree.

Transfer of Credits

With the approval of the Department of Film, Video, Animation and New Genres graduate program and the Graduate School, an applicant from another institution may be permitted to transfer up to 19 credits toward the total of 48 graduate credits required for the MFA degree.

Major Professor as Advisor

Each student chooses a major professor from the Department of Film, Video, Animation and New Genres graduate faculty to advise and supervise studies. In addition to the major professor, each student's committee must contain a minimum of two Department of Film, Video, Animation and New Genres graduate faculty members. Any student electing a minimum of nine credits in either Conceptual or Complementary Studies must include a faculty member from that discipline on the committee as well.

Credits and Courses

The minimum Film-MFA degree requirement is 48 graduate credits, (18 cr required, 30 cr elective). It is recommended that students earn 12 credits each semester through full-time attendance on campus.

Film MFA Required Courses (18 credits)

710/ 712/ 714 Graduate Seminar (9 credits)

The Graduate Seminar provides students with the opportunity to interact and respond to each other's works—in-progress on an ongoing basis. With faculty guidance, students help each other to articulate, refine and write about the ideas and meanings of their present work and to begin preparing for professional practices as artists. As such, the class features visits and presentations by established local, national and international artists, curators and critics working in the areas of film, video and new genres. Visits to museums, galleries, screenings and other events also constitute a significant part of this course.

730 (3 cr), 732 (6 cr) MFA Thesis Project (9 credits)

The graduate thesis is a substantial, year-long capstone project, (or group of smaller projects), worked on with the guidance of the student's major professor.

Film MFA Elective Courses (30 credits)

With assistance and approval from the Director of Graduate Studies and their Graduate Advisor, entering students will design an individualized program of study based on the following elective courses.

720/ 722 Graduate Media Arts Workshop I/II (maximum of 9 credits)

Classes focus on conceptualization and production of student-initiated media arts projects.

900 Graduate Studio (maximum of 12 credits)

Graduate Studio provides for an ongoing critique of individual studio research in students' chosen medium. Emphasis is on developing and maintaining an interdisciplinary dialogue. Along with studio research, individual and group critiques are required.

Department of Film, Video, Animation and New Genres Electives (maximum of 30 credits)

These are U/G and G classes in film, video & new genres that are regularly offered by the department, including topics such as 16mm film and video production, screenwriting, lighting, cinematography, audio production, animation, installation, performance and physical computing.

Conceptual Studies Electives (maximum of 12 credits)

Our Conceptual Studies program combines the study of media history, theory, and criticism with the practice of media production. Conceptual Studies credits can be combined with Complementary Studies credits to a maximum of 21 credits.

Complementary Studies (maximum of 9 credits)

These are UG/G courses offered outside the department that are relevant to a student's proposed course of study. If courses inside the Department of Film, Video, Animation and New Genres are closely allied to an area of complementary study, such as Film courses in audio or photography and Music Department courses in electronic composition, they will count toward fulfillment of the Complementary Studies option. Students interested in Complementary Studies are encouraged to discuss their options with the Director of Graduate Studies and their major professor before enrolling in these courses.

700 Professional Practice (maximum of 9 credits)

Professional Practice is an internship or project done in connection with a media-related enterprise to develop specialized skills and

Performing Arts

practical experience in the field. It may also be carried out with a non-profit agency, using media as a form of community. Enrollment in a Professional Practice course must be endorsed by the student's faculty advisor and approved by the Director of the Graduate Program.

Thesis Presentation

Upon recommendation of the major professor and advisory faculty, the student presents a thesis exhibition program of work executed since admission to the program. The exhibition may be held either during the semester in which the student completes coursework for the degree or during the following semester.

Time Limit

The student must complete all degree requirements within seven years of the initial enrollment.

International Students

On completion of graduate studies, international students are eligible to apply for Optional Practical Training (OPT) for an additional year of practical work experience. If you are interested in OPT, please see an Immigration Coordinator at International Student and Scholar Services in the Center for International Education.

Dance

Courses

319 Dance Service-Learning. 1-3 cr. U/G.
Service-Learning as field work in a community partnership setting under supervision of Dance faculty member. Conc reg in dance course which allows Dance 319 component by cons instr. May be retaken to max of 4 sem or 9 cr. Prereq: jr st; Dance 219(P), & cons instr.

403 Intermediate Yoga For Dancers. 2-3 cr. U/G.

A continuation of Dance 103 stressing the performance and integration of more advanced asanas. May be retaken to a max of 2 sem. Prereq: Dance 103, or grad st in Dance component of MFA prog, or cons instr.

497 Study Abroad in Dance: (Subtitled). 1-12 cr. U/G.

Interdisciplinary and foundational learning in the area of world dance through interactions with and explorations in differing cultures and areas. May be retaken with change in topic to max of 12 cr. Prereq: jr st or cons instr; & acceptance for Study Abroad Prog.

701 Dance Composition I. 3 cr. G.

An investigation of resources for discovering and inventing movement material, and for developing concepts and structures to give this material perceptual, emotional validity. Prereq: grad st in Dance component of MFA prog; conc reg Dance 733(C).

702 Dance Composition II. 3 cr. G.

A continuation of Dance 701. Prereq: grad st; Dance 701(P), conc reg Dance 734(C).

711 Theory and Techniques of Ballet: Intermediate. 2 cr. G.

Technical study of classical ballet. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

712 Theory and Techniques of Ballet: Intermediate. 2 cr. G.

A continuation of Dance 711. May be repeated twice for cr. Prereq: grad st; Dance 711 or audition.

717 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.

An intensive course designed to develop understanding of the major techniques of contemporary concert dance. May be repeated twice for cr. Prereq: grad st in Dance component of MFA prog & audition.

718 Theory and Techniques of Contemporary Concert Dance: Intermediate. 2 cr. G.

A continuation of Dance 717. May be repeated twice for cr. Prereq: grad st; Dance 717 or audition.

721 Alexander Technique, Developmental Movement and Dance. 1-3 cr. G.

A hands-on exploration of the application of the Alexander Technique to advanced dance training through developmental movement. Prereq: grad st in Dance component of MFA prog or cons instr

722 Alexander Technique Practicum. 1-3 cr. G.

Continuation of Dance 721 focusing on a more in-depth study and application of Alexander Technique for advanced dancers. Prereq: grad st in Dance component of MFA prog & Dance 721

723 Pilates Technique and Applications. 2 cr. G.

Use of Pilates method to understand and articulate essential concepts and theories of movement, and refine dance technique. May be retaken once. Prereq: grad st in MFA Dance Program or cons instr.

733 Improvisation 1. 3 cr. G.

Techniques and structures for improvisation--the development of processes for evolving movement material from an exploration of the dynamics of inter and intra-relationships, and environment. Prereq: admission to Dance MFA program.

734 Improvisation 2. 3 cr. G.

A continuation of Dance 733. Prereq: grad st; Dance 733(P) & conc reg in Dance 702(C).

743 Dynamic Analysis of Movement I. 2 cr. G.

Exploration of personal patterning and discovery of movement sources at the body level. Incorporates material from bartenieff fundamentals, feldenkrais, and sweigard. Prereq: grad st in dance component of mfa prog.

744 Dynamic Analysis of Movement II. 2 cr. G.

A continuation of Dance 743. Advanced body level work, application of bartenieff fundamentals to dance technique. Prereq: grad st & Dance 743(P).

751 Laban Movement Analysis. 3 cr. G.

Theory and movement practice in effort/shape for use both in performance and in choreography. Prereq: grad st in dance component of mfa prog.

761 Survey of Dance Literature and Bibliography. 3 cr. G.

Lecture, research, and discussion of the major English language dance reference works, and of dance research publications. Prereq: grad st in Dance component of MFA prog.

762 Dance in Secondary Education and College. 3 cr. G.

Methods and philosophy of teaching dance in the secondary school. Theory and practice in solving problems arising in practical teaching situations. Observation of dance lessons. Prereq: grad st & admis to MFA prog in Dance.

771 History of Renaissance and Baroque Dance. 3 cr. G.

Lecture, discussion of readings of the periods (in translation). Emphasis also upon performing some of the period dances. Prereq: grad st in dance component of mfa prog.

772 American Concert Dance of the Twentieth Century. 3 cr. G.

Graduate seminar in special topics of American concert dance of the twentieth century. Prereq: grad st in Dance component of MFA prog.

772 (effective 01/22/2018) American Concert Dance of the 20th and 21st Century. 3 cr. G.
Graduate seminar in special topics of American concert dance of the twentieth and twentieth first century. Prereq: admis to Dance MFA prog.

775 Valuing and Evaluation of Dance. 3 cr. G.

Observing and describing dancing and choreography and shaping values. Prereq: grad st.

790 Repertoire and Ensemble. 1-3 cr. G.

Practicum in group performance in dance department productions, touring groups, and performances related to the dance department. Includes original works from classical and

Performing Arts

contemporary repertoire. May be repeated to max of 12 cr. Prereq: grad st in Dance component of MFA program.

799 Independent Study. 1-3 cr. G.

Individual faculty and student will define the teaching/learning contract for the semester and agree on the credit. Prereq: grad st.

801 Choreography I. 3 cr. G.

Creating fully mounted works; choreography, performance quality, lighting decor, costumes. Prereq: grad st in Dance choreography track of MFA prog; Dance 701(P) & 702(P) or cons instr.

802 Choreography II. 3 cr. G.

Creating fully mounted works of greater length and complexity. Prereq: grad st in Dance Choreography track of MFA prog; Dance 701(P), 702(P), 801(P), or cons instr.

861 Research Methodology for Dance. 3 cr. G.

Lecture, formulation of research proposal, research and write-up of a dance research problem. Prereq: grad st & admis to dance component of mfa prog.

871 Applied Anatomy for Dance. 2 or 3 cr. G.

Study of human bony and neuromuscular structures in theory and movement. Lec only for 2 cr; lec & lab for 3 cr. Prereq: grad st in dance component of MFA prog; Dance 711(P) & 717(P) or cons instr.

873 Field History: Contemporary Dance Festivals. 2-4 cr. G.

Research, reading, attendance and documentation on selected festivals/series events. Pre-study of choreography/performance style, background, influences, artistic themes. Group discussions and evaluations. May be repeated with permission to max of 9 cr. Prereq: grad st in Dance component of MFA prog.

880 Developing Performance Quality. 1-3 cr. G.

Studies in dynamics of specific choreography. Cr determined prior to regis. May be repeated for up to 6 cr. Prereq: grad st in MFA performance component of dance prog; Dance 711 & 717 or cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr will be assessed. Prereq: grad st.

889 Special Workshops: (Subtitled). 1-3 cr. G.

Special short intensive workshops of 1-4 weeks during inter-terms or summer sessions presented by guest artists. May be retaken to 9 cr max. Prereq: grad st in MFA component of dance prog or cons instr.

990 Dance Final Thesis/Project. 2-4 cr. G.

Final demonstration of craft and artistry mastered in program, when completion approved by project committee. May be repeated to max of 8 cr. Prereq: grad st; cons dept chair.

Film

420 Intermediate Media Arts Module: (Subtitled). 3 cr. U/G.

Intermediate level course in specialized production skills in film, video, audio or new genres. May be retaken with change in topic to max of 12 cr. Prereq: admis to upper level course per portfolio review; jr st or cons instr. In case of over-enrollment, admission based on gpa in major.

450 Advanced Internship/Professional Practice. 1-6 cr. U/G.

This project-oriented course supports student engagement in professional internships, production of a media project for a non-profit organization or curating a media arts event/series. May be retaken to max of 9 cr. Prereq: admis to upper-level Film classes per portfolio review, cons instr.

455 Integrated Film/Video Exploration. 6 cr. U/G.

A study of the relationship between film/video production and film/video analysis, team taught by an artist and a critic. Jointly offered with ArtHist/English/JMC 310. Prereq: jr st. Film majors: portfolio review and/or cons instr; non-film majors: cons instr.

460 Advanced Media Arts Module: (Subtitled). 3 cr. U/G.

Advanced-level course in specialized production skills in film, video, audio or new genres. May be retaken with change of topic to max of 9 cr. Prereq: admis to upper level course per portfolio review; jr st or cons instr. In case of over-enrollment, admission based on gpa in major.

470 Advanced Media Arts Workshop: (Subtitled). 1-6 cr. U/G.

Individual student projects exploring portable and studio media arts production techniques. Students will submit production proposals for faculty approval. Retakable with change of topic to 6 cr max. Prereq: Film 389(P); or grad st; or cons instr.

700 Professional Practice: Production. 3 cr. G.

Professional production internship with area film-related enterprise to develop specialized technical skills or practical experience in film exhibition. May be repeated to max of 9 cr. Prereq: grad st & cons advising faculty member.

710 Graduate Film Studio/Seminar I. 3 cr. G.

Each student to pursue a film production project to completion. Lectures and readings in seminar

format to address issues facing independent film production and distribution. Prereq: grad st.

712 Graduate Film Studio/Seminar II. 3 cr. G.

Faculty advised film production studio course. Instruction in advanced production skills and directed reading relevant to the nature of proposed film projects. Prereq: grad st.

714 Graduate Film Studio/Seminar III. 3 cr. G.

Faculty advised film production studio course to introduce and familiarize students with specific crew member responsibilities of collaborative filmmaking. Prereq: grad st.

720 Graduate Media Arts Workshop I. 1-6 cr. G.

Conceptualization and production of student-initiated media arts projects. Retakable to 9 cr max. Prereq: grad st film

722 Graduate Media Arts Workshop II. 1-6 cr. G.

Conceptualization and production of student-initiated media arts projects. For 2nd-year MFA students. Retakable to 9 cr max. Prereq: grad st; Film 720(P) or cons inst.

730 Advanced Research in Film I. 3 cr. G.

Faculty advised, pre-production research leading to the completion of a shooting script and production schedule for the thesis film project. Prereq: grad st; two of the following: Film 710, 712 & 714.

732 Advanced Research in Film II. 3-6 cr. G.

Independent study with selected faculty member adviser for the production and post-production phase of the thesis film project. May be retaken to max of 6 cr. Prereq: grad st; Film 710(P), 712(P), 714(P), 730(P).

760 Film/Video Module: Post-Production Sound. 3 cr. G.

Course in sound post-production for the media arts. Prereq: grad st; cons instr.

799 Independent Graduate Study: 1-6 cr. G.

Variable content. Supervised independent study, production and non-production for the grad student in film/video. May be repeated to max of 9 cr. Prereq: grad st; cons instr.

900 Graduate Studio. 3 cr. G.

Ongoing critique of individual studio research in students' chosen medium(s). Emphasis on developing and maintaining interdisciplinary dialogue. Studio research, individual and group critiques required. Retakable to 9 cr max. Prereq: grad st

Philosophy

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Philosophy

Overview

The Department of Philosophy offers a program of graduate study leading to the degree of Master of Arts. The general purpose of this program is to provide students with the background and stimulus for critical and original philosophical thoughts. The program is designed to serve both those students who wish to pursue a Doctor of Philosophy degree in philosophy and those students who wish either to terminate their formal philosophical studies with the Master of Arts degree or to integrate a graduate level of study in philosophy with graduate studies in other academic areas.

Graduate Faculty

Distinguished Professors

Atherton, Margaret L., Ph.D., Brandeis University
 Leeds, Stephen, Ph.D., Massachusetts Institute of Technology
 Schwartz, Robert, Ph.D., University of Pennsylvania

Professor

Liston, Michael, Ph.D., University of California-San Diego

Associate Professors

Boehm, Miren, Ph.D., University of California-Irvine
 Bristow, William, Ph.D., Harvard University
 Hinchman, Edward, Ph.D., University of Michigan
 Neufeld, Blain, Ph.D., University of Michigan
 Spencer, Joshua, Ph.D., University of Rochester
 Tierney, Richard, Ph.D., Columbia University
 Westlund, Andrea, Ph.D., University of Michigan

Assistant Professors

Husi, Stanislaus, Ph.D., Rice University

Visiting Professor

Palatnik, Nataliya, Ph.D., Harvard University

Master of Arts in Philosophy

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

- Undergraduate major in philosophy or other academic background judged suitable by the Department.
- Submission of scores on the General Test of the [Graduate Record Examination](#).

- Three letters of recommendation concerning academic qualifications.
- A sample of written work is recommended but not required.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. At time of admission, the student's program will be supervised by the Graduate Advisor.

A student planning to work beyond the master's program should select, in consultation with the advisor, courses which will develop broad philosophical competence. A student intending to terminate studies with the master's degree may plan a more specialized program.

Advisory Committee

During the first year in attendance, the student chooses an advisor and an advisory committee of three faculty members. The student's advisor serves as chair of this committee. The choice of committee is made in consultation with the student's advisor, and submitted to the Department's Graduate Studies Committee for approval. No later than the second week of the student's second semester in the program, the advisory committee meets with the student to discuss the individual's background in philosophy and goals in this program. By the end of the student's second semester the committee has conferred with the student's instructors and meets with the student to discuss that individual's progress in the program. At that time the student, together with the committee, plans the balance of the student's work in the program and how all requirements can best be met. The committee continues to gather information on the student's class work from the instructors, and at least once each semester meets with the student to discuss the student's continuing progress, future plans in the program and the meeting of departmental requirements. The student may at any time petition the Graduate Studies Committee for a change in the composition of the advisory committee.

History Requirement

Students taking Option A or B will be required to demonstrate competence in history of philosophy by passing 430 and 432 with a grade of B or better. The Graduate Studies Committee may certify competence if the student has as an undergraduate taken 430 and 432 at UWM within the past five years or has taken their equivalent as determined by the Committee. The determination may include an equivalency exam. Students selecting the language and linguistics concentration need only meet the requirement for 432.

Logic Requirement

The student is required to demonstrate competence in logic by passing 511 or 712 with a grade of B or better. The Graduate Committee may certify competence if within the last five years the student has taken 511 or 712 or has taken an equivalent course as determined by the Committee. The determination may include an equivalency exam.

Degree Alternatives

The Department of Philosophy offers three alternatives by which the Master of Arts degree in philosophy may be obtained: Option A, the non-thesis option; Option B, the thesis option; and a language and linguistics concentration with a thesis. There is no foreign language requirement for the completion of the Master of Arts degree in philosophy, though students are encouraged to develop proficiency in a foreign or classical language.

Option A: Non-Thesis Option (30 Credits Plus Exam)

Credits and Courses

Minimum degree requirement is 30 credits in coursework, 21 of which must normally be in philosophy, 9 of which may be in related fields. All 30 credits must be earned with grades of B or better; and at least 12 must be in graduate seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 toward meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar).

A student proposing a program of study involving more than 9 credits of independent study, or fewer than 21 credits in philosophy courses, must gain specific approval of the student's advisory committee.

Every student choosing the non-thesis option takes a written exam of no longer than four hours on a philosophical area chosen by the student in consultation with the advisory committee. At least one full semester before the student is to take this exam, a specific list of primary and secondary sources to be covered on the exam is drawn up by the committee together with the student. The committee provides the student with sample questions.

Thesis

Not required.

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Philosophy

Option B: Thesis Option (30 Credits Plus Defense)

Credits and Courses

Minimum degree requirement is 30 credits, including the writing of a thesis, plus its defense. Of the 30 required credits, 21 credits must normally be in philosophy, and 9 may be in related fields. All 30 credits must be earned with a grade of B or better, and at least 12 credits must be in graduate seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 toward meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar.) A student proposing a program of study involving more than 9 credits of independent study, or fewer than 21 credits in philosophy courses, must gain specific approval of the student's advisory committee.

The thesis is to be written on a philosophical subject chosen in consultation with the student's advisory committee. The student and the committee are to meet sufficiently often so that the committee may adequately supervise the writing of the thesis. Upon completion of the thesis the student is required to defend the thesis orally.

Thesis

Required (as above).

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Language and Linguistics Concentration with Thesis (30 credits Plus Defense)

Credits and Courses

Linguistics 464 or an equivalent is a prerequisite. Minimum degree requirement is 30 credits, including the writing of a thesis, plus its defense. Of the 30 credits at least 18 credits must be in philosophy with the remainder in linguistics. Philosophy 516 and Linguistics 466 and 564 are required, unless the student has taken these courses at UWM within the past five years or has taken their equivalent as determined by the Graduate Studies Committee. All 30 credits must be earned with a grade of B or better and at least 6 credits must be in graduate philosophy seminars. (The Philosophy Department Graduate Studies Committee may permit students to count Philosophy 681 or 685 towards meeting this requirement, when the content and level of difficulty are equivalent to that of a graduate seminar.) A student proposing a program of study involving more than 9 credits of independent study, must gain specific approval of the student's advisory committee.

The thesis is to be written on a language related subject chosen in consultation with the student's advisory committee. The student and the committee are to meet sufficiently often so that the committee may adequately supervise the writing of the thesis. Upon completion of the thesis the student is required to defend the thesis orally.

Thesis

Required (as above); Philosophy 990 may be taken only once.

Time Limit

This program is designed to be completed in two years of full-time attendance. However, all degree requirements must be completed within five years of initial enrollment.

Courses

303 Theory of Knowledge. 3 cr. U/G.

Study of the nature, source, and limits of our knowledge of the world of experience and of necessary truth. Prereq: jr st; Philos 101(P), 201(P), or 215(P).

303 (effective 09/05/2017) Mind and Knowledge. 3 cr. U/G.

Studies the natures of action, belief and knowledge and the constraint that knowledge imposes on responsible action and belief, both in individuals and across society. Prereq: jr st; Philos 101(P) or 215(P).

317 Metaphysics. 3 cr. U/G.

Study of perennial philosophical issues about the nature of the world and our relation to it; realism, idealism, causality, the mind-body problem, time, truth. Prereq: jr st & 3 cr in philos.

324 Philosophy of Science. 3 cr. U/G.

Study of traditional and recent views about the nature, aim and ways of evaluating scientific theories, with reference to both the natural and social sciences. Prereq: jr st & 3 cr in philos.

335 Philosophy of Biology. 3 cr. U/G.

Philosophical study of topics in the biological sciences, such as evolutionary explanations, genetic determinism, the definition of life, what constitutes a biological individual. Prereq: jr st; 3 cr in philos.

337 Environmental Ethics. 3 cr. U/G.

Theories of environmental ethics, practical application. Responsibilities to nature/future generations; moral value/status of environment and organisms; philosophical issues concerning environmental studies and ecology. Prereq: jr st.

341 Modern Ethical Theories. 3 cr. U/G.

Ethical theories and problems as discussed in the late nineteenth and twentieth centuries. Prereq: jr st & 3 cr in philos.

349 Great Moral Philosophers. 3 cr. U/G.

Major themes of moral philosophy from Plato and Aristotle to Bentham and Mill, with critical study of the outstanding works. Prereq: jr st & 3 cr in philos.

350 Introduction to the Comparative Study of Religion. 3 cr. U/G.

Analysis of the nature of religion, of various comparative typological classifications and methodological approaches; basic problems in understanding the varieties of religious experience and expression. Prereq: jr st; Philos 204(P), Philos/Hist/Hebr St 275(P) or Anthro 203(P).

351 Philosophy of Mind. 3 cr. U/G.

Critical study of the nature of mind and its relation to body and matter, with emphasis on recent advances in philosophy and psychology. Prereq: jr st & 3 cr in philos.

355 Political Philosophy. 3 cr. U/G.

Philosophical doctrines involved in justification of political decisions; analysis of fundamental concepts such as the common good, authority, justice, natural law, and natural rights. Prereq: jr st; Philos 242(P) or a course in ethics.

358 Action, Will, and Freedom. 3 cr. U/G.

The nature of the will, agency, intentional action, and the problem of free will and determinism. Prereq: jr st, 3 cr philos; or grad st.

360 Philosophy of Perception. 3 cr. U/G.

Major issues in the philosophy of perception: the nature of sensation, perception and inference, the relationship of perception and belief. Prereq: jr st; 3 cr in Philos.

384 The Philosophy of Law. 3 cr. U/G.

The idea of law and its relationship to morality. Issues of legal obligation, rights, responsibility, and punishment. Philos 384 & Pol Sci 384 are jointly offered; they count as repeats of one another. Prereq: jr st; 3 cr philos or previous course in political theory or law studies recom.

430 History of Ancient Philosophy. 3 cr. U/G.

From the pre-Socratics to Augustine. Particular emphasis on Plato and Aristotle. Prereq: jr st & 3 cr in philos.

430 (effective 09/05/2017) Great Thinkers of the Ancient Period. 3 cr. U/G.

An examination of, and engagement with, the thought of some of the major philosophers of the ancient period, including the Pre-Socratics, Plato, and Aristotle. Prereq: jr st & 3 cr in philos.

431 History of Medieval Philosophy. 3 cr. U/G.

Critical and historical examination of writings of medieval philosophers such as Augustine, Anselm, Aquinas, Duns Scotus, Ockham, Al

Philosophy

Farabi, Maimonides. Prereq: jr st & 3 cr in philos.

432 Great Thinkers of the Modern Period. 3 cr. U/G.

An examination of the thought of representative philosophers of the 17th and 18th centuries. Prereq: jr st & 3 cr in philos.

433 Nineteenth-Century Philosophers. 3 cr. U/G.

Hegel, Schopenhauer, Marx, Kierkegaard, Nietzsche, and others. The conflict of idealistic, materialistic, and irrationalist philosophies of the nineteenth century and their influence on its social, literary, and religious movements. Prereq: jr st & 3 cr in philos.

434 Survey of Contemporary Philosophy. 3 cr. U/G.

Comparison of problems and solutions dealt with by currently active movements and philosophers, including Carnap, Croce, Dewey, Heidegger, Husserl, Moore, Russell, Sartre, and Wittgenstein. Prereq: jr st; 3 cr in philos.

435 Existentialism. 3 cr. U/G.

Analysis of existentialist thinkers such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Merleau-Ponty. Prereq: jr st & 3 cr in philos.

437 Phenomenology. 3 cr. U/G.

Husserl's phenomenological method and its impact on recent continental philosophy, e.g. Heidegger, Sartre, Merleau-Ponty. Prereq: jr st & 3 cr in philos.

461 Islamic Philosophy and Mysticism. 3 cr. U/G.

Problems central to Islamic theology, philosophy, and mysticism, and their relations to the teachings of Islam. Prereq: jr st & 3 cr in philos.

474 Contemporary Religious Thought: 3 cr. U/G.

Analysis of two or more contemporary religious thinkers (e.g., Buber, Heschel, Tillich, Barth, Bultmann, death-of-God theologians, Moltmann, Pannenberg, Rahner, Chardin). Difficulties and objections are discussed. Retakable w/chg in topic to 9 cr max. Prereq: jr st, 3 cr in philos.

475 Special Topics in Indian Religious Thought: (Subtitled). 3 cr. U/G.

Intensive study of selected Hindu and Indian Buddhist thinkers and schools of thought, e.g. the Vedanta of Sankara and Ramanuja, Mahayana thought, modern Vedanta, Gandhi. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr in philos.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakable

w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

511 Symbolic Logic. 3 cr. U/G.

First-order predicate calculus; formal properties of theoretical systems; chief results of modern mathematical logic; advanced topics such as completeness and computability. Jointly-offered w/& counts as repeat of CompSci/Math 511. Prereq: jr st, either Philos 212(P) or 6 cr math at the 300-level or above; or grad st.

516 Language and Meaning. 3 cr. U/G.

Philosophical issues of the semantics, syntax and pragmatics of language; relations between philosophy of language and metaphysics, epistemology and philosophy of science. Prereq: jr st & Philos 101(P) or 432(P).

517 Special Problems in the Philosophy of Language and Linguistics: 3 cr. U/G.

In depth study of one or more topics concerning the nature of language; its acquisition, use and formal structures. Retakable w/chg in topic & cons advisor & instr to 6 cr max. Prereq: jr st; 3 cr in philos.

518 Philosophy of History. 3 cr. U/G.

The nature of historical knowledge and belief in terms of the justification of historical narration, explanation and prediction. Prereq: jr st & 3 cr in philos.

519 Special Problems in Metaphysics and Epistemology: (Subtitled). 3 cr. U/G.

Intensive study in such topics as perception, skepticism, induction, mathematical knowledge, universals, causality, substance, determinism, possibility. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

520 Philosophy of the Natural Sciences. 3 cr. U/G.

The nature and function of science; the logic of scientific method; clarification of such concepts as cause, law, theory, probability, determinism, and teleology. Prereq: jr st & 3 cr in philos.

521 Philosophy of the Social Sciences. 3 cr. U/G.

The nature and scope of the social sciences; explanatory, interpretive, and normative concerns in theory construction, their interconnection, and their methodological implications. Prereq: jr st & 3 cr in philos.

522 Special Topics in the Philosophy of Science: (Subtitled). 3 cr. U/G.

Consideration of one or more of the following: logic of theory construction, theoretical entities, measurement, nature of laws, conventionalism, operationalism, and induction. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

532 Philosophical Problems: (Subtitled). 3 cr. U/G.

Intensive study of one or two particular problems, such as determinism and freedom,

ethical relativism, memory, or perception. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

535 Philosophical Topics in Feminist Theory: (Subtitled). 3 cr. U/G.

Study of selected feminist theorists with an emphasis on past or contemporary thinkers. Attention will be paid to the philosophical importance of the problems raised. Retakable w/chg in topic to 6 cr max. Philos 535 & Wmns 535 are jointly offered; with same topic, they count as repeats of one another. Prereq: jr st; a course in philos or women's stds.

542 Punishment and Responsibility. 3 cr. U/G.

Views on the moral permissibility of punishment and other forms of penalization; the foundations of a general theory of moral responsibility. Prereq: jr st & 3 cr in philos. Philos 241(R) or social science background recom.

551 Aristotle. 3 cr. U/G.

Intensive study of one or more of Aristotle's major works or of themes and problems in Aristotle's thought. Particular attention to careful analysis of the texts. Prereq: jr st; 3 cr philos; Philos 430(R).

554 Special Topics in the History of Modern Philosophy: (Subtitled). 3 cr. U/G.

Intensive study of a philosopher, movement, or historical problem in modern philosophy, e.g., Spinoza, British empiricists, Locke's influence upon the Enlightenment, overthrow of Hegelian idealism. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr philos; Philos 432(R); or cons instr.

555 Recent Philosophy: (Subtitled). 3 cr. U/G.

Intensive study of one or more philosophers or philosophical movements of the recent past. Retakable w/chg in topic to 9 cr max. Prereq: jr st; 3 cr philos.

562 Special Topics in Ethics and Social and Political Philosophy: (Subtitled). 3 cr. U/G.

Intensive study of issues such as the concept of law, punishment, liberty, civil disobedience, the public good, and the applicability of scientific method to social issues. Retakable w/chg in topic to 9 cr max. Prereq: jr st & 3 cr in philos.

681 Seminar in Advanced Topics: (Subtitled). 3 cr. U/G.

Seminar on a philosopher, philosophical movement, issue, or problem for majors and graduate students. Research papers required. Additional prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: sr st & 12 cr in philos at 300-level or above; or grad st.

Philosophy

712 Fundamentals of Formal Logic. 3 cr. G.

A study of basic aspects of contemporary formal logic. Prereq: grad st.

756 Seminar in Major Movements in Philosophical Thought: (Subtitled). 3 cr. G.

Intensive study of school or movement such as continental rationalism, empiricism; existentialism, phenomenology, etc. Specific topic and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

758 Seminar in Major Philosophers: (Subtitled). 3 cr. G.

Intensive study of the thought or system, or an important part of the thought or system, of a major figure in philosophy. Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

790 Advanced Topics in Philosophy: (Subtitled). 3 cr. G.

Discussion of special advanced topics in Philosophy. Retakable w/chg in topic to 9 cr max. Specific topics may be jointly-offered w/CompSci. Prereq: grad st; add'l prereqs depending on topic.

820 The Teaching of Philosophy. 0 cr. G.

Discussion group with teaching assistants and their supervisor. Required for all teaching assistants teaching a Philos course.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

903 Seminar in Epistemology: (Subtitled). 2-3 cr. G.

Specific topics and any additional prerequisites announced in schedule of classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; & cons instr.

911 Seminar in Logic: 2-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

920 Seminar in the Philosophy of Science: (Subtitled). 2-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

941 Seminar in Ethics and Social and Political Philosophy: (Subtitled). 2-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

960 Seminar in Metaphysics: (Subtitled). 2-3 cr. G.

Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

990 Thesis. 3 cr. G.

Retakable only once in option B. Not retakable by students in Language & Linguistics concentration. Prereq: grad st in option B or in Language & Linguistics concentration; cons major prof & committee.

999 Advanced Independent Study. 1-3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons dept chair.

Physical Therapy

School/College: College of Health Sciences
Degrees Conferred:

- Doctor of Physical Therapy

Overview

The Doctor of Physical Therapy (DPT) is offered for those entering the profession of physical therapy. The DPT is a full-time, 9-semester program. Students enroll in the program in summer. The first six semesters are on campus, and during the final three semesters, all students will participate in clinical experiences located within and outside of southeast Wisconsin.

The program is a sequenced, competency-based curriculum; students matriculate through the curriculum by demonstrating readiness for clinical practice. Rubrics for determining readiness are found on the [DPT program website](#) and minimally require students to pass all comprehensive examinations, demonstrate professional development, and maintain academic standards consistent with program expectations.

The Doctor of Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; e-mail: accreditation@apta.org; website: www.capteonline.org.

DPT Program Core and Associated Faculty

Associate Professors

Earl, Jennifer, Ph.D., LAT, Pennsylvania State University

Ebersole, Kyle T., Ph.D., LAT, University of Nebraska

Huddleston, Wendy, Ph.D., PT, Medical College of Wisconsin

Moerchen, Victoria, A., Ph.D., PT, University of Wisconsin-Madison

Zalewski, Kathryn R., Ph.D., PT, University of Wisconsin-Milwaukee

Non-Faculty

Clinical Professors

Alt, Carlynn A., Ph.D., PT, Marquette University

Dietrich, Ann, M.S., PT, University of Wisconsin Milwaukee (Director of Clinical Education)

Truebenbach, Carrie, M.S., MSPT, OCS, University of Wisconsin Milwaukee

Renee Mazurek, PT, DPT, University of Arizona

Doctor of Physical Therapy

Admission

Admission to the program is highly competitive. A snapshot of the typical successful applicant is available on the program website's [Frequently Asked Questions](#) section. The DPT program enrolls students through the [Physical Therapy Centralized Application Service \(PTCAS\)](#). Policies and procedures related to consideration of the candidate are published on the PTCAS website and updated annually. Students apply to the UWM Graduate School after being recommended for Admission by the DPT program. Undergraduate degree and prerequisite coursework must be completed by the time the student enrolls in the DPT Program.

An applicant must meet [Graduate School requirements](#) plus these program requirements to be considered for admission to the program:

1. Completion of an undergraduate degree from an accredited institution with an overall cumulative grade point average (GPA) of a 3.0 (on a 4.0 scale).
2. Completion of 10 prerequisite courses with a minimum prerequisite grade point average of 3.0 (on a 4.0 scale)
 1. General Biology I (4 cr)
 2. General Biology II (4 cr)
 3. Human Anatomy (4 cr) OR Anatomy & Physiology I (4 cr)*
 4. Human Physiology (4 cr) OR Anatomy & Physiology II (4 cr)*
 5. Chemistry I (4 cr)*
 6. Chemistry II (4 cr)*
 7. Physics I (4 cr)*
 8. Physics II (4 cr)*
 9. Psychology (3 cr)
 10. Statistics (3 cr)

* courses requiring a lab component

3. Submission of scores on the General Test of the [Graduate Record Examination](#) taken within the last five years
4. Completion of two, 20-hour-each observational experiences with a licensed physical therapist.
5. Two letters of recommendation, one of which must be an academic reference.
6. Responses to narrative essay questions.

Selection

The program will enroll 24 students. Students are selected based on GPA, [GRE](#) scores, two letters of recommendation (one academic reference, one personal reference), and narratives. The program will give preference to candidates with pre-requisite requirements completed at the time of application to the program.

Major Professor as Advisor

The Graduate School requires that each student have a major professor to advise, supervise and approve the program of study. Students are assigned faculty advisors in the DPT program. Faculty advisors are core members of the DPT program faculty who are also licensed or eligible for licensure in the state of Wisconsin.

Credits and Courses

The program is a sequenced, competency-based curriculum of 121 credits including 36 weeks of internship in the final year of the program. Students will enroll as full time students for each term of study (Summer, Fall, Spring) and will enroll during UWinterIM of their first year in the program. There is no part-time option for students, nor can courses be taken out of sequence in the DPT program.

Kinesiology

520 Neuromechanics Research Methods. 3 cr. U/G.

Introduction to biomechanics and motor behavior experimental methods and instrumentation. Emphasis on understanding the research literature and research process, from study design to data analysis. Prereq: jr st; grade of C or better in Kin 320(P), Math 117(P), Physics 110(R) or 120(R); or grad st or cons instr.

522 Qualitative Analysis of Human Movement. 3 cr. U/G.

Exploration of systematic qualitative analysis of human movement focusing on detecting and correcting faults in technique. Counts as repeat of Kin(HMS) 590 with same title. Prereq: jr st; grade of C or better in Kin 320(P); or grad st or cons instr.

525 Human Gross Anatomy. 6 cr. U/G.

A comprehensive consideration of the human anatomy including both neuro-musculoskeletal components and internal organ systems. Prereq: grad st; good standing in DPT prog or cons instr

526 Introduction to Physical Therapy Practice and Examination Techniques. 3 cr. U/G.

Students will learn roles, professional behavior expectations, and patient examination techniques. Prereq: grad st; good standing in DPT prog or cons instr

527 Kinesiology & Biomechanics of Normal & Abnormal Movement. 4 cr. U/G.

Principles & theories of the biomechanics of human motion presented to develop analytical skills to assess normal & abnormal movement. Prereq: DPT student in good standing or grad st & cons instr; grad level Human Gross Anatomy w/lab, 8 cr undergrad Physics.

530 Advanced Exercise Physiology. 3 cr. U/G.

Advanced study of the physiological responses to exercise and the adaptations to physical

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training. Prereq: jr st; grade of C or better in Kin 330(P); Kinesiology major or intended major; or grad st.

532 Electrocardiography Interpretation. 3 cr. U/G.

In depth study of the 12 lead EKG and selected cardiovascular medications encountered in preventative and rehabilitative exercise programs. Counts as repeat of Kin 590(HMS 590) with similar title. Prereq: jr st; grade of C or better in Kin 330(P); 430(R); or grad st or cons instr.

536 Physiological Regulation in Exertion & Disease. 2 cr. U/G.

Overview of the physiological basis of activity. Prereq: grad st; good standing in DPT prog or cons instr

540 Introduction to Physical Therapy Practice. 2 cr. U/G.

The multiple roles of the physical therapist as a professional. Prereq: grad st; good standing in DPT prog or cons instr

541 Clinical Foundations of the Physical Therapy Examination. 5 cr. U/G.

Instruction in the techniques of examining patients/clients. Prereq: grad st; good standing in DPT prog

542 Physical Agents. 3 cr. U/G.

The physiological basis, scientific rationale for, and clinical application of thermal, electrophysiology/ electrotherapy and electromagnetic physical agents. Prereq: grad st; good standing in DPT prog or cons instr

550 Psychological Aspects of Human Movement. 3 cr. U/G.

Study of the relationships between psychological factors and human physical activity. Introduction to research relevant to sport and exercise psychology. Prereq: jr st; must have obtained a grade of C or better in Kin 350(P) or cons instr.

551 Psychology of Injury/Illness/Disease: Implications/Strategies for Rehab. 3 cr. U/G.

Explores the psychological aspects of health enhancement, disease prevention, and rehabilitation as well as the integration of behavioral and biomedical sciences in treating illness. May be used by undergrads to repeat Kin 590 with same title. Prereq: Psych 101(P).

552 Psychology of Personal Excellence. 3 cr. U/G.

Research on elite athletes, performing artists, and corporate executives is used to discuss characteristics of peak performance and identify strategies to facilitate personal excellence. Counts as repeat of Kin 590 w/same topic. Prereq: jr st, grade of C or better in Kin 350(P); or grad st or cons instr.

553 Medical Physiology. 4 cr. U/G.

Physiological principles related to rehabilitation in physical therapy practice setting and interaction of physiological systems during normal activities and after injury or disease. Prereq: grad st; good standing in DPT prog or cons instr

555 Exercise Psychology. 3 cr. U/G.

Psychological antecedents and consequences of physical activity in relation to mental health and public health. Counts as repeat of Kin 590 with same topic. Prereq: jr st; Grade C or better in Kin 350(P) or cons instr.

556 Multilevel Approaches to Changing Physical Activity and Eating Behaviors. 3 cr. U/G.

An introduction to key theoretical and conceptual frameworks for understanding health-related behavior and evidence-based practical approaches for promoting behavior change. Counts as repeat of Kin 590 w/same topic. Prereq: Admis to Kin major or Ath Trng major or Nutr major; Grade C or better in Kin 350(P); or grad st or cons instr.

561 Neuromechanics of Voluntary Movement. 3 cr. U/G.

An introduction to the major theoretical and empirical perspectives used to examine how the nervous system and musculoskeletal system work cooperatively to produce human movement. Prereq: jr st; a grade of C or better in Kin 461(P) or cons instr.

566 Functional Neuroanatomy. 3 cr. U/G.

The anatomical basis of neuroscience in physical therapy. Prereq: grad st; good standing in DPT prog or cons instr

570 Sociological Aspects of Physical Activity. 3 cr. U/G.

Relationships between sociological factors and human physical activity. Introduction to research relevant to the sociology of sport and other forms of physical activity. Prereq: jr st; must have obtained a grade of C or better in Kin(P) or cons instr.

573 Body Image: Influences and Health-Related Implications. 3 cr. U/G.

In-depth examination of the multidimensional body image construct: body image development, assessment, and modification; impact on health and behavior; body image in special populations. Counts as repeat of Kin 590 with same topic. Prereq: jr st; Psych 101(P).

574 Obesity and Weight Management. 3 cr. U/G.

Examination of the epidemiology of obesity, genetic and environmental contributors, body weight regulation, health and psychosocial consequences, and approaches to assessment, prevention, and treatment. Counts as repeat of

Kin 590 with same topic. Prereq: jr st; grade of C or better in BMS 232(P) or Nutr 235(P).

575 The Social Construction of Obesity. 3 cr. U/G.

Examines how obesity is socially constructed and how it shapes conceptions of fitness and physical activity. Counts as repeat of HMS 590 with same topic. Prereq: jr st; grade of C or better in Kin 351(P); or cons instr.

590 Current Topics in Human Kinetics: (Subtitled). 1-3 cr. U/G.

The specific topic will be announced in the Schedule of Classes each time the course is offered. May be repeated to max of 9 cr. Prereq: jr st, cons instr for grad cr.

635 Pathophysiology. 2 cr. U/G.

The general inflammatory and specific pathologies of the various organ systems. Prereq: grad st; good standing in DPT prog or cons instr

640 Scientific Principles of Interventions. 5 cr. U/G.

The basic therapeutic interventions used to treat impairments and functional limitations in the different biological systems that lead to movement dysfunction. Prereq: grad st; good standing in DPT prog; graduate level Human Gross Anatomy course with lab; Anatomy/physiology, physics, 8 cr each with labs.

641 Cardiopulmonary Evaluation & Treatment. 3 cr. U/G.

The normal and abnormal structure and function of the cardiovascular, pulmonary and lymphatic systems with emphasis on medical and other therapeutic strategies. Prereq: grad st; good standing in DPT prog or cons instr

642 Professionalism and Ethos of Care. 3 cr. U/G.

The ethics of professional practice, fiduciary relationships, rights, duties associated with the patient/therapist relationship, and the role character plays in ethical decision-making. Prereq: grad st; good standing in DPT prog

643 Integument System. 2 cr. G.

Exploration of factors predisposing skin to breakdown; preventative measures, specific examination, and intervention techniques utilized in treating burns, wounds, and amputations. Prereq: Grad st, admis to DPT program; or cons instr.

680 Clinical Fieldwork I. 1 cr. U/G.

The student will be assigned to a clinically based learning experience with an emphasis on practicing recently learned clinical skills on a patient population. Prereq: grad st; good standing in DPT prog or cons instr

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681 Fieldwork II: Basic Skills Experience. 2 cr. G.

Clinically based learning experience focusing on patient evaluation and treatment skills while fostering professional behavior through clinical mentorship. Prereq: grad st, admis to DPT program; Kin 680(P); or cons instr.

699 Physical Therapy Clinical Internship Elective. 1-3 cr. U/G.

Clinical experience with practice skill acquisition, decision making, and ethical professional behaviors consistent with ethical and legal PT practice. Contact hours determined by instructor to include clinical facility work as well as any needed didactic instruction. May not be retaken for cr. Prereq: DPT student in good st & cons instr.

701 Seminar in Human Movement Sciences. 1-3 cr. G.

Research in the Human Movement Sciences subdisciplines including critical review of theories, perspectives and methods. Faculty, student presentations of current work. Retakable to 3 cr max. Prereq: grad st

702 Statistical Analysis in the Health Sciences. 3 cr. G.

Univariate, bivariate, and multivariate analyses as they apply to health science research. Prereq: grad st; intro level statistics course at U/G or G level.

703 Survey of Research in the Human Movement Sciences. 3 cr. G.

Methods for multi-disciplinary human movement inquiry; problem/statistical design; critique of available literature; preliminary thesis/project design. Prereq: grad st; Kin 702(P).

705 Foundations of Clinical Research. 3 cr. G.

Research methodology course with emphasis on the use of clinical research to determine best physical therapy practice. Prereq: grad st; good standing in DPT prog or cons instr

706 Research & Applied Statistics in Physical Therapy. 3 cr. G.

Specific quantitative research designs and statistics with an emphasis on clinical research; methods for critically evaluating research literature. Prereq: grad st, admis to DPT program; or cons instr.

709 Research Practicum. 3 cr. G.

Development of strategies for evaluating and contributing to the evidence for physical therapy practice. Students will select and critically review evidence, develop, execute and present a case report to inform best practice. Prereq: grad st; good standing in DPT program or cons instr.

710 Evidence Based Practice: Levels of Evidence. 1 cr. G.

Strategies for evaluating the evidence underlying physical therapy practice as a framework for creating and evaluating best practice decisions. Prereq: grad st, admis to DPT Program; or cons instr.

711 Evidence Based Practice: Interventions. 1 cr. G.

Focus on information access and retrieval from research literature used to inform physical therapy interventions for treatment of movement disorders. Prereq: grad st; admis to DPT Program or cons instr.

712 Evidence Based Practice: Tests & Measures. 1 cr. G.

Focus on the critical analysis of published clinical research related to physical therapy tests and measures. Prereq: grad st; admis to DPT program or cons instr.

713 Professional Issues in Physical Therapy. 1 cr. G.

Strategies for growth & adaptation of physical therapy practice in the context of a changing health care environment. Prereq: grad st; valid license to practice physical therapy or cons instr

714 Evidence for Practice I. 3 cr. G.

Provides clinicians with a rubric for searching & evaluating the published literature supporting physical therapy practice & informing best practice decisions. Prereq: grad st; valid license to practice physical therapy or cons instr

715 Evidence for Practice II. 3-6 cr. G.

Synthesis of prior coursework in the development and presentation of a clinical practice decision supported with best evidence practices. Retakable to 6 cr max. Prereq: grad st; valid license to practice physical therapy.

716 Seminar: The Culture of Evidence. 1 cr. G.

The role of evidence in physical therapy clinical decision making with application to current interventions. Prereq: grad st; valid license to practice physical therapy or cons instr

717 Pharmacology In Rehabilitation. 2 cr. G.

Pharmacologic agents encountered in physical therapy rehabilitation settings focusing on pharmacodynamics, pharmacokinetics, biotransformation of drugs, and clinical application for relevant drug classifications. Prereq: grad st, admis to DPT Program; or cons instr

718 Clinical Radiology. 1-2 cr. G.

Medical diagnostics emphasizing indications & implications for imaging studies used to augment information obtained from the physical therapy examination. Prereq: grad st, admis to DPT Program; or cons instr

720 Biomechanics Research Methods. 3 cr. G.

Introduction to advanced biomechanics collection techniques. Course focuses on basic programming, data collection/analysis, and presentation skills. Counts as repeat of Kin 590 with same topic. Prereq: grad st; Kin 520(C); or cons instr

725 Interdisciplinary Themes in Biomechanics. 3 cr. G.

Emphasis on biomechanical research themes of an interdisciplinary character. Readings drawn from primary research literature. Prereq: grad st; Kin 520(P) or cons instr.

732 Physical Activity and Health Across the Lifespan. 3 cr. G.

The role of physical activity in the prevention and treatment of various chronic conditions and diseases. Prereq: grad st; Kin 330(P) w/ grade of C or better or cons instr.

733 Advanced Physiological Assessment. 3 cr. G.

Designed to introduce students to advanced physiological testing techniques. Assumes knowledge of basic exercise testing skills, exercise physiology principles. Prereq: grad st; Kin 530(C) or cons instr.

740 Musculoskeletal: Spine. 3 cr. G.

Evaluation and treatment techniques for spinal dysfunction and injury including mechanical assessment, postural training, therapeutic exercise, manual therapy, and modalities. Prereq: grad st, admis to DPT Program; or cons instr

741 Musculoskeletal System: Lower Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of lower extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st, admis to DPT Program; or cons instr.

742 Musculoskeletal: Upper Extremities. 3 cr. G.

Orthopedic physical therapy evaluation and treatment aspects of upper extremity musculoskeletal problems involving skeletal, connective tissue and muscular components. Prereq: grad st; admis to DPT Program or cons instr.

743 Health Systems Review. 2 cr. G.

Provides systems overview of screening procedures necessary to provide a comprehensive physical therapy diagnosis with an emphasis on screening for referral. Prereq: grad st; valid license to practice physical therapy or cons instr

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745 Health Promotion/Wellness for Physical Therapy Practice. 2 cr. G.

Explores many aspects of health / wellness. Prereq: grad st; good standing in DPT prog or cons instr

746 Case-based Clinical Decision Making. 2 cr. G.

Clinical decision-making in physical therapy including formulation of a diagnosis and plan of care supported by evidence from literature. Prereq: grad st; admis to DPT Program or cons instr.

761 Concepts of Human Motor Control. 3 cr. G.

A systematic examination of neuromotor control mechanisms and critical review of research in human motor behavior focusing on variables limiting or facilitating performance and/or skill acquisition. Prereq: grad st, Kin 561(P) or cons instr.

762 Research Practicum in Motor Control. 3 cr. G.

Demonstration/participation laboratory focused on human motor control experimental design. Topics include sampling, subject protection, techniques for quantification of motor performance characteristics and neuromuscular correlates. Prereq: grad st; Kin 561(P) or cons instr.

763 Neural Control of Movement. 3 cr. G.

Fundamental concepts and current issues in how the brain and other neurological structures contribute to the control of movement. Prereq: grad st, Kin 561(P) or cons instr.

764 Neurophysiology of Human Movement. 3 cr. G.

A neurophysiologic perspective on key areas of human motor control. Counts as repeat of Kin(HMS) 590 with same topic. Prereq: grad st, Kin 561(P) or cons instr.

765 Neuromuscular: Adult. 4 cr. G.

Application of motor control and learning, neuroanatomy, and neurophysiology to physical therapy examination and treatment of adults with neurological diagnosis. Prereq: grad st, admis to DPT Program; or cons instr.

766 Neuromuscular: Pediatric. 4 cr. G.

Pediatric onset diagnosis, related examination, interventions, clinical management, and legislation impacting pediatric physical therapy practice. Prereq: grad st; admis to DPT Program or cons instr.

780 Clinical Teaching. 2 cr. G.

Exploration of patient education intervention focusing on patient adherence in the context of learning theory, adult learning, and learning domains. Prereq: grad st, admis to DPT Program; or cons instr.

798 Independent Project. 1-6 cr. G.

Student research in consultation with and supervised by a graduate faculty member. Retakable w/ chg in topic to 6 cr max. Prereq: grad st; cons instr

799 Independent Reading. 1-3 cr. G.

Independent study of a topic selected by the student in consultation with the supervising graduate faculty member. May be repeated with change in topic to max of 6 cr. Prereq: grad st; cons instr.

830 Physiological Adaptations to Exercise. 3 cr. G.

Physiological factors related to performing physical activity and exercise on a chronic basis; various environmental influences on physical performance. Prereq: grad st; a grade of C or better in Kin 530(P).

850 Seminar in Psychological Aspects of Physical Activity: (Subtitled). 3 cr. G.

Advanced seminar on selected topics in the psychology of physical activity. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Kin 550(P) or cons instr.

871 Socialization and Physical Activity. 3 cr. G.

Advanced seminar on research relevant to the development/lack of development of physically active lifestyles. Prereq: grad st; Kin 870(P) or cons instr.

880 PT Clinical Internship I. 8 cr. G.

The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: DPT student in good st.

881 PT Clinical Internship II. 8 cr. G.

The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: DPT student in good st.

882 PT Clinical Internship III. 8 cr. G.

The Doctor of Physical Therapy student will be assigned to a clinical facility for internship practice. Prereq: Kin 881(P); DPT student in good st.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

889 Professional Physical Therapy Credential Preparation. 1 cr. G.

Guidance in preparing for the Federation of State Boards of Physical Therapy licensing exam. Course is offered in a distance learning format. Prereq: DPT student in good standing or grad st & cons instr.

890 Capstone Project. 1-6 cr. G.

Preparation of a research project under the supervision of the student's major professor.

Not open to students selecting options A. Prereq: grad st.

891 Research Seminar. 3 cr. G.

Advanced seminar on the synthesis and critique of research literature within the student's primary and secondary subdisciplines. Not open to option A or C students. Prereq: grad st; completion of all or conc reg in remaining coursework for degree.

895 Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's primary and secondary advisors. Prereq: grad st; cons instr

909 Guided Teaching Experience in Health Sciences. 3 cr. G.

This course provides the student, under the supervision of a faculty member, with the opportunity to design, deliver, and evaluate an undergraduate course. Jointly offered w/ and counts as a repeat of BMS 909, HCA 909, OccThpy 909, and ComsDis 909. Prereq: grad st; Occ Thpy 900 (P); cons instr

910 Advanced Seminar in Health Sciences. 1 cr. G.

Faculty, graduate students, and invited guests will present their research and engage in discussion around themes of broad interest, e.g., public health. Retakable to 4 cr max. Prereq: grad st

930 Practicum and Seminar in Exercise Physiology. 3 cr. G.

Evaluation of current research and methodology in exercise physiology. Prereq: grad st; cons instr

930 (effective 09/05/2017) Seminar in Exercise Physiology. (Subtitled). 1-3 cr. G.

Evaluation of current research and methodology in exercise physiology. Retakable to 9 cr max w/change in topic. Prereq: grad st; cons instr

990 Research and Thesis. 1-6 cr. G.

Preparation of a thesis under the direction of the student's primary and secondary advisors. May be repeated to max of 6 cr. Not open to students selecting options B or C. Prereq: grad st.

991 Doctoral Dissertation. 1-12 cr. G.

Dissertation research Prereq: grad st; admit to Ph.D. candidacy

999 Advanced Independent Study. 1-6 cr. G.

Independent study on topic selected by student and supervising graduate faculty member. Prereq: grad st; cons instr

Physics

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Physics
- Ph.D. in Physics

Overview

The Physics Department is a young department with exceptional strength in several areas. We invite applications from able students interested in experimental and theoretical surface physics and condensed matter physics; in experimental modern optics; in quantum gravity, quantum field theory, cosmology, and relativistic astrophysics; and in physics teaching at a high-school or college level. The primary goal of our graduate education is the training of creative research scientists.

Our research in gravitational physics is in several areas: In gravitational-wave astronomy, we play a leading role in the development for LIGO of templates to extract signals of gravitational-waves from the coalescence of binary neutron stars and from the stochastic background. In early cosmology, recent work includes renormalization methods to investigate inflationary models. In the quantum arena, work involves black-hole evaporation and information loss, and quantization of microscopic topological structures. In relativistic astrophysics we have established limits on the spin and mass of rotating neutron stars. Work in nuclear physics and particle physics includes a study incorporating gluon exchange and quark confining interactions into relativistic bound-state equations, and a study of production mechanisms for the Higgs boson and related intermediate mass bosons.

Research in theoretical physics also includes work in graph theory, fiber bundles, homotopy classes of diffeomorphisms, the quantum theory of measurement and black-hole entropy and information loss. Theoretical work in nonlinear dynamics and chaos concerns maps approximating dynamical systems.

Research in surface physics includes experimental work in electron microscopy, electron holography, electron diffraction, scanning tunneling microscopy and spectroscopy, atomic force microscopy, infrared spectroscopy, synchrotron radiation, and molecular beam epitaxy.

Theoretical work in surface physics focuses on the structure and dynamics of surfaces and interfaces. The theory groups have developed quantum mechanical multiple scattering theories for electron and positron diffraction, photoelectron diffraction, high-resolution electron-energy-loss spectroscopy, x-ray diffraction, and electron holography.

Experimental work in condensed matter physics is also being done in the areas of low-temperature physics, unconventional superconductivity (including high T_c), heavy fermions, materials synthesis and floating zone single crystal growth, oxides, magnetism, ultrasonics, and neutron diffraction. Theoretical work in condensed matter physics also includes research in quantum transport phenomena and electromigration in mesoscopic systems, and superconductivity.

Experimental work in modern optics is being done with ultrafast lasers to study the dynamics of physical, chemical, and biological systems on the molecular and cellular level.

Graduate Minor in Physics

A doctoral student in another department wishing to minor in Physics must choose a minor professor from among the Physics Graduate Faculty. The student and the minor professor plan a program of study consisting of 9 to 12 graduate credits in Physics and complete a Graduate Minor Program Plan for the Physics Department files.

Graduate Faculty

Distinguished Professors

Ourmazd, Abbas, D.Phil., Oxford University, England
 Saldin, Dilano, D.Phil., Oxford University, England
 Weinert, Michael, Ph.D., Northwestern University

Professors

Agterberg, Daniel, Ph.D., University of Toronto, Canada
 Brady, Patrick, Ph.D., University of Alberta, Canada
 Creighton, Jolien, Ph.D., University of Waterloo, Canada
 Gajdardziska-Josifovska, Marija, Ph.D., Arizona State University
 Guptasarma, Prasenjit, Ph.D., Tata Institute of Fundamental Research, India, Chair
 Hirschmugl, Carol J., Ph.D., Yale University
 Lyman, Paul F., Ph.D., University of Pennsylvania
 Raicu, Valerica, Ph.D., University of Bucharest, Romania
 Schmidt, Marius, Dr. rer. nat., Technical University of Munich, Germany

Associate Professors

Patch, Sarah, Ph.D., University of California-Berkeley
 Siemens, Xavier, Ph.D., Tufts University
 Wiseman, Alan, Ph.D., Washington University
 Kaplan, David, Ph.D., California Institute of Technology
 Erb, Dawn, Ph.D., California Institute of Technology
 Schwander, Ph.D., ETH, Zurich, Switzerland

Chang, Phil, Ph.D., University of California, Santa Barbara

Assistant Professors

Ionel Popa, Ph.D., University of Geneva, Switzerland

Assistant Professors

Chang, Phil, Ph.D., University of California, Santa Barbara

Master of Science in Physics

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Letters of Recommendation. Three letters of recommendation are required from persons familiar with the applicant's academic work.
2. [Graduate Record Examinations](#). Both the General Test and the Subject Test in Physics are strongly encouraged (but not required).
3. Undergraduate major in physics or related fields. Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The newly admitted student is assigned to a temporary advisor.

Students in the master's program who are planning to terminate their physics studies with a master's degree should plan and prepare a program of study with the Department Master's Program Advisor.

Option 1: Thesis Option

Credits and Courses

Minimum degree requirement is 30 graduate credits, 18 of which must normally be in physics and 12 of which may be in related fields. Of the 18 credits earned in the Department, at least 6 must be in physics courses numbered above 700, with the remainder in courses at least above 500; research, seminar, and independent study credits do not satisfy the 700 requirement. Six credits are earned through the thesis.

Physics

Thesis

The student must write an acceptable thesis.

Comprehensive Examination

The student must pass a comprehensive oral examination, in part a defense of the thesis.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Option 2: Non-Thesis Option

Credits and Courses

Minimum degree requirement is 30 graduate credits, 18 of which must normally be in physics and 12 of which may be in related fields. Of the 18 credits earned in the Department, at least 6 must be in physics courses numbered above 700, with the remainder in courses at least above 500; research, seminar, and independent study credits do not satisfy the 700 requirement.

Thesis

Not required.

Comprehensive Examination

The student must pass a comprehensive written or oral examination. The non-thesis master's Oral Examination should evaluate the student's achievements in graduate courses and fulfillment of the goals of the student's program of study. In particular, students should be familiar with the materials in the "core" courses (Physics 515, 531, 532, 711 and 720).

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Physics

Admission

Applicant must meet [Graduate School requirements](#) plus departmental requirements as given for admission to the master's program. A master's degree is not a prerequisite for this Ph.D. program.

Reapplication

A student who receives the master's degree must formally reapply for admission to the Graduate School before continuing studies toward the Ph.D.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM. The student plans an individual program of studies in consultation with the major professor. Coursework must include a minimum of 12 credits in physics graduate courses in the 700-999 levels (not including 711, 720, 721, or 990). A student may elect to complete one of the following minor programs: a minor of 9 to

12 credits in a single department; a minor of 12 credits in two or more departments. Traditional fields for the minor are mathematics, other natural sciences, computer sciences and engineering. In planning a minor in a single department, the student is advised by the minor professor; in planning a minor in two or more departments, the student is advised by the major professor. The program of study is to be chosen with the major professor and the departmental academic graduate committee.

Residence

The student must meet minimum Graduate School residence requirements.

Written Qualifying Examination

Prior to taking the oral doctoral preliminary examination, the student must pass a written qualifying examination which evaluates the student's general background in graduate-level physics. This examination is based on subject matter at least as advanced as the material covered by the non-thesis master's comprehensive examination. A student may not continue in the physics graduate program after 4.5 years without having passed this examination.

Doctoral Preliminary Examination and Doctoral Proposal Hearing

The student must prepare a written proposal and pass an oral examination to qualify for formal admission to candidacy for the degree. The oral examination primarily seeks to determine the student's preparation for independent research and the suitability of the proposed dissertation program. This examination shall be taken no later than four semesters after passing the written qualifying examination. However, no student will be required to take the oral examination earlier than the sixth semester of graduate work at UWM.

Dissertation

The candidate must present a dissertation reporting the results of an original and independent research investigation representing substantive creative contribution.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

408 Experiments in Linear Electronics. 3 cr. U/G.

Transistor and integrated circuit characteristics; electronic measurement and control. No cr for students w/cr in ElecEng 330(R). Prereq: jr st; Physics 210(P).

411 Mechanics. 4 cr. U/G.

Kinematics, vector analysis, conservation laws, oscillations, variational methods, chaos, Lagrangian and Hamiltonian mechanics. Prereq: jr st; Physics 210(NP).

420 Electricity and Magnetism I. 3 cr. U/G.

Electrostatics, capacitance, boundary value problems, multipole expansion, dielectrics, magnetostatics, vector potential, magnetic properties of matter, motional emf, inductance, Maxwell's equations in differential form. Counts as repeat of 2 cr of Physics 421. Prereq: jr st; Physics 210(NP); a grade of B- or better in Math 321(P); or Math 321(P) and a grade of B- or better in Physics 370(P); or grad st.

422 Electricity and Magnetism II. 3 cr. U/G.

Conservation laws in electrodynamics, Maxwell's stress tensor, electromagnetic waves, absorption, dispersion, reflection and transmission of plane electromagnetic waves, wave guides, retarded potentials, radiation, electrodynamics and relativity. Counts as repeat of 2 cr of Physics 421. Prereq: jr st, Physics 420(P); or grad st.

441 Introduction to Quantum Mechanics I. 4 cr. U/G.

Historical background and experimental basis, De Broglie waves, correspondence principle, uncertainty principle, Schroedinger equation; hydrogen atom, electron spin, Pauli Principle, applications of wave mechanics. Prereq: jr st; Physics 309(NP); Math 321(C).

442 Introduction to Quantum Mechanics II. 3 cr. U/G.

Continuation of Physics 441, emphasizing perturbation theory and applications to multi-electron systems, including atoms, molecules, and solids. Prereq: jr st; Physics 441(NP).

463 Introduction to Atmospheric Physics. 3 cr. U/G.

Atmospheric phenomena not directly linked with the general circulation: refraction and scattering, visibility, radiation transfers, optics, aerosols and cloud particles, acoustics, radar, atmospheric electricity. Not available for grad cr at this time. Prereq: jr st; Physics 210(P), Math 232(P), or Atm Sci 350(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

501 Special Topics: Mathematical Models of Physical Problems I. 3 cr. U/G.

Selected topics in mathematics for study of the techniques and procedures for stating physical problems in mathematical terms and the physical interpretation of mathematical

Physics

solutions. Prereq: jr st; Physics 210(P); Math 234(P).

502 Special Topics: Mathematical Models of Physical Problems II. 3 cr. U/G.

More selected topics in mathematical models. Prereq: jr st; Physics 210(P); Math 234(P). Physics 501(R).

515 Statistical Mechanics. 3 cr. U/G.

Brief survey of thermodynamics; statistical mechanics; classical and quantum gases. Prereq: jr st; Physics 317(P) & 441(P).

517 Special Relativity. 3 cr. U/G.

Relativistic kinematics, the Lorentz transformation, tensor calculus, applications to motion of particles, electromagnetism. Prereq: jr st; Physics 411(R) & 421(R).

531 Principles of Quantum Mechanics I. 3 cr. U/G.

Vector and Hilbert spaces; Schroedinger equation in 1, 2, and 3 dimensions; systems of many particles; symmetries; angular momentum. Prereq: jr st; Physics 441(P).

532 Principles of Quantum Mechanics II. 3 cr. U/G.

Continuation of 531. Spin; hydrogen atom; variational methods; WKB approximation; perturbation theory; scattering theory; Dirac equation. Prereq: jr st; Physics 531(P).

541 Elementary Particles. 3 cr. U/G.

Accelerators and detectors; special unitary groups; quark model of hadrons; Feynman diagrams; electromagnetic, weak and strong interactions of quarks and leptons; Higgs boson. Prereq: jr st; Physics 441(P).

551 Introduction to Solid State Physics I. 3 cr. U/G.

Crystal structure, reciprocal lattice; crystal binding; elastic waves; phonons, lattice vibrations; thermal properties of insulators; free electron Fermi gas. Band structure; semiconductor crystals; Fermi surface. Prereq: jr st; Physics 441(P) or cons instr.

575 Vacuum Science and Technology. 3 cr. U/G.

Viscous and molecular flow, vacuum materials and seals, metal-to-ceramic seals, evaporation and vapor pressures, vacuum pumps, vacuum gauges, mass spectrographs, chemical reactions at surfaces, outgassing. Prereq: jr st; Physics 441(P).

610 The Art and Science of Teaching Physics. 1 cr. U/G.

Participants critique lectures, videotapes of experienced teachers, each other; address conceptual problems facing beginning students; gain familiarity with demonstrations, classroom technology; discuss their own classes. Prereq: appt as undergrad TA or grad st.

651 Introduction to Solid State Physics II. 3 cr. U/G.

Transport, superconductivity, dielectric properties, ferroelectric crystals, magnetism, magnetic resonance, optical phenomena in insulators, nanostructures, non-crystalline solids, point defects, alloys, dislocations. Prereq: jr st; Physics 551(P).

670 Electron Microscopy Laboratory. 3 cr. U/G.

Diffraction, imaging, and spectroscopy methods for study of morphology, crystallinity, and composition of solids in a transmission electron microscope. Prereq: sr st; Physics 551(P) or cons instr.

698 Research Experience for Teachers. 1-6 cr. U/G.

Enrichment of students' physics background. Work with faculty mentor to develop an innovative teaching program for use in students' own classroom. Open only to practicing science teachers with demonstrable expertise in physics. May be retaken to 9 cr max. Prereq: sr st; current teaching contract.

705 Molecular, Cellular, and System Biophysics. 3 cr. G.

Cell structure and the molecular basis for life. Molecular and cellular interactions. Supracellular organization, signalling, and communication. Self-similarity and cooperativity. Prereq: grad st

706 Biophotonics. 3 cr. G.

Biophotonics and bioimaging; overview of application of optics in biology and medicine based on the understanding of basic optics, spectroscopy, and imaging theory. Prereq: grad st

707 Structural Molecular Biophysics. 3 cr. G. Methods in molecular biophysics. Prereq: grad st; major in science-based discipline & Physics 210(P), or writ cons instr.

711 Theoretical Physics-Dynamics. 3 cr. G.

Lagrange equations, canonical formulation, principle of least action, normal coordinates, rigid bodies, special relativity, mathematical methods. Prereq: grad st; Math 321(C) or 322(C); or 701(C) or 702(C).

716 Advanced Topics in Statistical Physics. 3 cr. G.

Systems of interacting particles; critical phenomena; transport theory; irreversible processes and fluctuations; model calculations for interacting systems of particles. Prereq: grad st; Physics 515(P), 532(P).

717 Gravitation. 3 cr. G.

General theory of relativity. Metric, covariant derivative, and curvature. Einstein field equations. Newtonian and weak-field limits. Gravitational waves. Experimental tests. Black

holes and relativistic stars. Prereq: grad st; Physics 517(P).

718 White Dwarfs, Neutron Stars, and Black Holes. 3 cr. G.

Physics of compact objects; newtonian and relativistic stellar structure and stability; pulsars, x-ray sources; accretion disks; gravitational collapse; stellar-size and supermassive black holes; quasars. Prereq: grad st; Physics 717(P) or cons instr.

720 Electrodynamics I. 3 cr. G.

Maxwell's equations; Helmholtz theorem; scalar and vector potentials; boundary value problems; plane wave solutions. Prereq: grad st; Physics 711(P).

721 Electrodynamics II. 3 cr. G.

Wave guides, radiation by charges; radiation reaction; radiation scattering, damping and dispersion; covariant formulation of electrodynamics. Prereq: grad st; Physics 720(P).

731 Quantum Mechanics. 3 cr. G.

Mathematical formalism of quantum mechanics. Observables and transformation theory, scattering perturbation, other approximation methods. Prereq: grad st; Physics 532(P) & 711(P).

735 High Energy Physics. 3 cr. G.

Special relativity applied to high energy collisions, experimental techniques, ionization and radiation at high energy, weak interactions theory, Π -meson and strange particle interactions, ultra-high energy phenomena. Prereq: grad st & Physics 732(P).

751 Solid State Theory I. 3 cr. G.

Phonons, plasmons, magnons, fermion fields and the hartree-fock approximation, and electron many-body techniques and the electron gas. Prereq: grad st; Physics 531(P) & Physics 651(P).

752 Solid State Theory II. 3 cr. G.

Dynamics of electrons in a magnetic field: energy bands, cyclotron resonance, impurity states, optical absorption and excitons in semiconductor crystals; electrodynamics of metals; green's functions. Prereq: grad st & Physics 532(P) & 751(P).

770 Electron Microscopy. 3 cr. G.

Kinematical and dynamical theory of electron diffraction. Transfer function theory of imaging. Electron and x-ray spectroscopies. Applications to surfaces and interfaces. Prereq: grad st; Physics 551(P) or cons instr.

775 Surface Physics I. 3 cr. G.

Survey of experimental techniques in surface physics research. Prereq: grad st; Physics 515(P) & 575(P).

Physics

781 Medical Radiation Physics. 3 cr. G.

Physical principles of the generation, interaction, detection, and measurement of radiation in medical applications; basics of radiation protection. Prereq: grad st

782 Physics of Medical Imaging. 3 cr. G.

Basic theoretical knowledge of the physics of diagnostic radiology using x-rays, magnetic resonance, nuclear medicine, and ultrasounds. Prereq: grad st

784 Radiotherapy Physics. 3 cr. G.

Radiation physics for work as a hospital physicist, including accelerators for radiation therapy, quality characteristics of treatment beams, treatment planning, treatment techniques, quality assurance, oncology. Prereq: grad st

786 Medical Physics Practicum. 3 cr. G.

Training with clinical medical imaging and therapy equipment, and dosimetry instrumentation. Prereq: grad st; Physics 781(P)

801 Special Topics in Theoretical Physics: (Subtitled). 2-3 cr. G.

Discussion of recent research or advanced special topics. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

807 Group Theory and Its Applications to Physics. 3 cr. G.

Representations of discrete and continuous groups, including rotation groups, unitary groups and crystal point and space groups. Symmetries of elementary particles. Molecular orbitals, energy bands. Counts as repeat of Math 807. Prereq: grad st; Physics 532(P).

811 Nonlinear Dynamics and Chaos. 3 cr. G.

Iteration of maps, numerical integration, strange attractors in dissipative systems, fractal dimensions, multifractals, entropy. Chaos in hamiltonian systems, perturbation theory, kam theorem. Quantum chaos. Prereq: grad st; Physics 711(P).

817 Gravitation and Cosmology II. 3 cr. G.

Experimental tests in gravitation. Gravitational waves: generation, detection. Spinning black holes. Cosmology: idealised cosmologies; present state of the universe; nucleosynthesis; inflation; recent developments. Prereq: grad st; Physics 717(P) or cons instr.

818 Advanced Topics in Gravitational Physics. 3 cr. G.

Topics depend on student interest. Initial value problem. Spinors and positive mass. Singularity theorems. Modern kaluza-klein theory. Approaches to quantum gravity. Prereq: grad st; Physics 717(P).

831 Quantum Field Theory I. 3 cr. G.

Group theory, canonical and path integral quantization, feynman rules, quantum electrodynamics, renormalization, quantum

chromodynamics, electroweak theory, spontaneous symmetry breaking. Prereq: grad st; Physics 732(P).

852 Superconductivity. 3 cr. G.

Properties of type I and type II superconductors, bcs and ginzburg-landau theory, vortices, and flux dynamics. Prereq: grad st; Physics 532(P) & 651(P).

853 Superfluidity. 3 cr. G.

Bose-Einstein condensation. Properties of superfluid 4HE, 3HE and 3HE-4HE mixtures. Prereq: grad st; Physics 551(P) & 651(P) or physics 515(P).

854 Electron Phonon Interaction. 3 cr. G.

Wave propagation in metals. Interaction of electrons with the lattice in normal metals, superconductors, and magnetic materials. Prereq: grad st; Physics 532(P) & 651(P).

900 Colloquium. 1 cr. G.

Lectures by staff and visitors on research in various areas of physics. Prereq: grad st.

903 Seminar in Theoretical Physics: (Subtitled). 1-3 cr. G.

Discussion of special topics of interest to research students in theoretical physics. Retakable w/chg in topic to 9 cr max. Prereq: grad st & cons instr.

904 Seminar in Surface Studies: (Subtitled). 1-3 cr. G.

Special topics in the chemistry and physics of surface studies. Specific topics and any additional prerequisites announced in Timetable each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons instr.

906 Seminar in Biophysics: (Subtitled). 1-3 cr. G.

Special topics in experimental biophysics. Retakable with change in topic to 9 cr max. Prereq: grad st; cons instr.

990 Research. 1-9 cr. G.

Prereq: grad st & cons instr.

999 Independent Reading. 1-3 cr. G.

For the benefit of graduate students unable to secure needed content in regular courses. Prereq: grad st, cons instr.

Political Science

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Political Science
- Ph.D. in Political Science

Overview

The Department of Political Science offers graduate programs of study in political science with concentrations in five fields: American politics; comparative politics; international relations; political theory; and public administration and public policy.

The master's program is designed to provide students with a basic grounding in the scope and methodology of the discipline, while at the same time allowing maximum flexibility in developing a program of study that will meet students' career objectives. It is recommended that students preparing themselves for Ph.D. work emphasize empirical theory, quantitative skills and strategies and techniques of conducting research. Students may select coursework to help them prepare for such career fields as governmental service, public and private education, community service, and private industry. In developing an appropriate and coherent program of study, each graduate student works closely with the major professor and committee of advisors.

The Department accommodates the master's student who attends part time by scheduling sufficient graduate-level courses in the late afternoons and evenings to enable the student to earn a master's degree through part-time attendance.

In the Ph.D. program the departmental emphasis is on conceptual and quantitative work. The Department requires that the student be broadly trained and accordingly encourages each student to take advantage of offerings in related disciplines to strengthen expertise in political change. The graduate of the program is qualified for a career in university teaching, in government service or in the private sector where the analytical skills and knowledge of the social scientist are required. Graduate degrees are conferred on the basis of a level of achievement which is acquired by independent reading and research as well as by taking courses. They are never conferred solely on the basis of prescribed courses and residency requirements.

Graduate Faculty

Dolan, Kathleen, Ph.D., University of Maryland-College Park
 Heo, Uk, Ph.D., Texas A&M University
 Holbrook, Thomas, Ph.D., University of Iowa

Horowitz, Shale, Ph.D., University of California – Los Angeles
 Ihrke, Douglas, Ph.D., Northern Illinois University
 Lee, Mordecai, Ph.D., Syracuse University

Associate Professors

Armstrong, Dave, Ph.D., University of Maryland
 Beck, Robert, Ph.D., Georgetown University
 Benesh, Sara C., Ph.D., Michigan State University
 Bohte, John, Ph.D., Texas A&M University
 Ferguson, Kennan, Ph.D., University of Hawai'i
 Kaheny, Erin, Ph.D., University of South Carolina
 Rast, Joel, Ph.D., University of Oregon
 Redd, Steven B., Ph.D., Texas A&M University
 Shah, Paru, Rice University
 Sugiyama, Natasha, Ph.D., University of Texas-Austin

Assistant Professors

Ascher, Ivan, Ph.D., University of California-Berkeley
 Chikoto, Grace, Ph.D., Georgia State University
 Park, Hong Min, Ph.D, Washington University
 Reuter, John, Ph.D., Emory University

Master of Arts in Political Science

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Undergraduate major or substantial work in the field of political science.
2. Undergraduate grade point average of at least 3.0 (4.0 scale).
3. Three letters of recommendation from persons familiar with applicant's scholastic ability and achievements.
4. Submission of [Graduate Record Examination](#) scores. Applications will not be considered until scores are received.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The incoming student is advised by the chair of the departmental Graduate Committee; as the student develops specialized interests within the discipline, the student selects a major professor from within that area of specialization.

Credits and Courses

Minimum degree requirement is 30 graduate credits, 24 of which must be in political science and 6 of which may be in related fields, all of which must be taken at the 700 level or above.

All students will take three courses dealing with the scope and method of political inquiry.

Pol Sci 700 should be taken during the first semester.
 Pol Sci 701 should be taken during the first semester.
 Pol Sci 702 should be taken during the second semester.

Master's Paper

A formal thesis is not required. However, each student shall prepare and defend orally a paper that demonstrates conceptual ability and research competence in some recognized area (sub-field) of political science. It is expected that the master's paper will be prepared in a scholarly fashion, normally conforming to the format characteristic of journal articles published in the chosen area of study. A statement setting forth additional guidelines and criteria of evaluation will be made available.

For full-time students it is expected that the master's paper will be defended prior to the completion of four semesters (two years) of graduate work. Consequently, the Department encourages students to choose paper topics for graduate seminars that may serve as the basis for the master's paper. Postponement of the oral defense of the master's paper beyond four semesters requires the approval of the Graduate Committee.

Comprehensive Examination

An oral defense of the master's paper is required. Master's papers will be defended before a three-person committee composed of one of the student's advisors and two other faculty members selected by the chair of the Department in consultation with the student and the advisor.

The committee will be selected at least one full semester prior to anticipated submission of the master's paper. The student must obtain committee approval of the research topic and methodology immediately following the selection of the committee.

A student must enroll for at least 3 credit hours of Pol Sci 990 for final preparation of the paper.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Political Science

Admission

An applicant must meet [Graduate School requirements](#) plus these departmental requirements to be considered for admission to the program:

1. Master's degree in political science.
2. Evidence of a high standard of achievement in graduate work at the master's level.

Political Science

3. Submission of [Graduate Record Examination](#) scores, except for applicants receiving a M.A. degree from UWM.

All applicants for admission to the Ph.D. program will be evaluated on the basis of their prior academic record, scores on the [Graduate Record Examination](#), and three letters of recommendation.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The incoming student is advised by the chair of the departmental Graduate Committee; as that student develops specialized interests within the discipline, the student selects a major professor from within that area of specialization.

Course of Study

Minimum degree requirement is 54 graduate credits beyond the bachelor's degree, 27 of which must be earned in residence at UWM at the doctoral level.

Areas of Concentration

In consultation with the major professor students plan a program of studies through which a high level of competence is gained in two substantive fields (hereafter referred to as "major" or "prelim" fields). The department offers five fields of study:

- American Politics
- Comparative Politics
- International Relations
- Political Theory
- Public Administration and Public Policy

Competence in these fields is demonstrated by a written and oral preliminary examination. In addition to the fields listed above, students may petition the graduate committee to be examined in an alternative field. This must be a coherent field that is not covered by one of the existing prelim areas.

Distribution Requirement

To ensure broad exposure to the discipline, students must take a minimum of three courses outside of their prelim fields, at least two of which must be in a single field. Courses used to satisfy this requirement must be taken from the departmental offerings in the five substantive fields described above. Courses that bridge two or more fields of study cannot be used to satisfy this requirement if one of those fields falls within a student's prelim areas.

All courses taken to satisfy the distribution requirement must be political science courses numbered 700 or above.

Core Research Requirements

Attainment of the Ph.D. denotes a high level of competence in research skills relevant to the discipline of political science. Thus, all students must complete the core departmental research seminars Political Science 700, 701, and 702. Since skills learned in these courses are important elements in dealing successfully with subject matter presented in other seminars, students should enroll in these seminars immediately upon entering the graduate program.

Students must earn at least three additional credits in research methodology from courses offered by the Department of Political Science or other departments. Students using a course from outside the Department of Political Science to satisfy this requirement may enroll on a "Credit/No Credit" basis, where the grade of "Credit" demonstrates satisfactory completion of the requirement. Upon successful petition to the departmental Graduate Committee, a student may gain exemption from this requirement, based on coursework completed in the five years prior to entering the graduate program. Students who receive this exemption must still complete at least 27 credits in residence. Credits earned to meet the research requirement may count toward the 54 credits of work required for the Ph.D. if they carry graduate credit and are taken for a grade.

In some cases, competence in foreign language skills is necessary for significant disciplinary research. Students may fulfill the research requirements, beyond Political Science 700, 701, and 702 through demonstration of a reading knowledge of one foreign language. Competence is established through examination, by an appropriate UWM language department. The student must perform at a level equivalent to six semesters of college-level work in the language.

Evaluation of Student Progress

The Department annually evaluates the progress of each student, in order to identify areas of strength and weakness as an aid to the student and the student's major professor in planning the program of study. This evaluation is also used to determine whether or not the student should be encouraged to pursue further graduate work.

Residence

The student must meet minimum Graduate School residence requirements.

Doctoral Preliminary Examination

The student must pass a doctoral written and oral preliminary examination covering both of his or her fields of study. The preliminary exam is taken during the semester following the completion of coursework.

Dissertation

The candidate, working under the supervision of the major professor and the candidate's dissertation committee, must write an acceptable dissertation. A dissertation prospectus must be written during the last semester of coursework and will be defended at the end of the following semester as part of the preliminary examination. Guidelines for preparation of the dissertation are available from the Graduate School.

Dissertation Defense

The candidate must, as a final step toward the degree, pass an oral examination in defense of the dissertation. The candidate who does not successfully defend a thesis within five years of admission to candidacy may be required to take another comprehensive preliminary examination and be readmitted to candidacy.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

301 British Politics. 3 cr. U/G.

Political process in Great Britain in the context of contemporary national setting; emphasis on party system and constitutional order. Comparative politics course. Prereq: jr st.

302 Politics of Eastern Europe. 3 cr. U/G.

Evolution of modern nation-state systems in Eastern Europe; interactions among nationalism, communism, and democracy in the countries of the region since 1945. Comparative politics course. Prereq: jr st.

310 Russian and Post-Soviet Politics. 3 cr. U/G.

Domestic politics of Russia and the other states of the former Soviet Union; special emphasis is placed on transitions to and from authoritarianism, political institutions, and market reforms. Comparative politics course. Prereq: jr st.

312 The Politics of Authoritarian Regimes. 3 cr. U/G.

Comparison of modern authoritarian regimes. Emphasis is on their domestic politics and methods of rule. Comparative politics course. Prereq: jr st.

316 International Law. 3 cr. U/G.

Rules and principles of behavior which govern nations in their relations with one another, as illustrated in texts and cases. International politics course. Prereq: jr st.

320 Politics of Developing Countries. 3 cr. U/G.

Comparative analysis of political problems confronting developing countries. Comparative politics course. Prereq: jr st.

Political Science

321 Politics of Revolution in Developing Nations. 3 cr. U/G.

The theory and description of political revolutions and rapid political change in the twentieth century. Comparative politics course. Prereq: jr st.

325 Latin American Politics. 3 cr. U/G.

Analysis of contemporary governments in Latin America, with particular emphasis on the social way of life, the politics of economic organization and government in action. Comparative politics course. Prereq: jr st.

328 The Arab-Israeli Conflict. 3 cr. U/G.

Competing views about the Arab-Israeli conflict, especially its Palestinian dimension. History and evolution of the conflict; current issues and possible solutions. Comparative politics course. Jewish 328 & Pol Sci 328 are jointly offered; they count as repeats of one another. Counts as a repeat of Hebr St 238 with same topic. Prereq: jr st.

329 African Politics. 3 cr. U/G.

The process of political change in contemporary Africa, with emphasis on the problems of nationalism and nation-building. Comparative politics course. Prereq: jr st; Pol Sci 106(R).

330 The Politics of International Economic Relations. 3 cr. U/G.

Politics of international trade, finance, and investment. Politics of industrial policy and economic development. Economic crisis and policy responses. International politics course. Prereq: jr st.

333 Seminar in Comparative Politics: (Subtitled). 3 cr. U/G.

Intensive study in selected aspects of comparative politics. Retakable w/chg in topic to 9 cr max. Enrollment limited to 15 students. Comparative politics course. Prereq: jr st.

334 German Politics and the New Europe. 3 cr. U/G.

Development of the two German republics after 1945; domestic and European issues of a unified Germany. Comparative politics course. Prereq: jr st.

335 Comparative Political Systems. 3 cr. U/G.

Government and politics in various Western and developing countries, stressing common experience as well as differences conditioned by diverse circumstances. Comparative politics course. Prereq: jr st.

338 Seminar in International Relations: (Subtitled). 3 cr. U/G.

Intensive study in selected aspects of international relations. Add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 6 cr max. Enrollment limited to 15 students. International politics course. Prereq: jr st.

339 European Integration. 3 cr. U/G.

Evolution of the European Union, its institutions, and key policy developments related to the single market, common currency, enlargement, and the democratic deficit. Comparative or international politics course. Prereq: jr st.

340 Politics of Nuclear Weapons. 3 cr. U/G.

Survey of nuclear war issues, including the effects of nuclear weapons, defense against nuclear attack, arms control, nuclear weapons proliferation, and nuclear ethics. International politics course. Prereq: jr st; course in pol sci or related field recom.

341 Politics and Markets in Pacific-Rim Countries: (Subtitled). 3 cr. U/G.

Introduction to the political-economic relationships among Pacific-Rim countries. Retakable w/chg in topic to 6 cr max. Comparative politics course. Prereq: jr st.

359 Problems of American Foreign Policy. 3 cr. U/G.

Analysis of problems confronting the United States in principal regions of the world, emphasizing the content and instrumentalities of recent policy, and considering alternative solutions. International politics course. Prereq: jr st.

361 History of International Political Thought. 3 cr. U/G.

History of international political thought. Statist and internationalist theories of sovereignty, war, intervention, and international law. Political theory or international politics course. Prereq: jr st.

365 Theories and Methods in International Politics. 3 cr. U/G.

Empirical, theoretical, and quantitative analyses of international relations. International politics course. Prereq: jr st.

368 Gender and Politics in Developing Nations. 3 cr. U/G.

Gender and politics in Latin America, East/South Asia, the Middle East, integrating works from political science, feminist theory, development studies, public health, women's studies. Counts as a repeat of Pol Sci 333 w/same subtitle. Enrollment limited to 15 students. Comparative politics course. Prereq: jr st.

370 International Conflict. 3 cr. U/G.

Theoretical and quantitative studies of international conflict and war. Includes individual, national, and systemic approaches. International politics course. Prereq: jr st.

381 The Development of Western Political Thought. 3 cr. U/G.

Political theory from the Greek era to the present. Political theory course. Prereq: jr st;

grade of C or better in English 102(P) or score level 4 on EPT.

382 Modern Political Thought. 3 cr. U/G.

Liberal democracy, traditional conservatism, fascism, communism and socialism, with emphasis on the development and problems of democracy. Political theory course. Prereq: jr st.

384 The Philosophy of Law. 3 cr. U/G.

The idea of law and its relationship to morality. Issues of legal obligation, rights, responsibility, and punishment. Philos 384 & Pol Sci 384 are jointly offered; they count as repeats of one another. Political theory course. Prereq: jr st; 3 cr in philos or previous course in political theory or law studies recom.

385 American Political Thought. 3 cr. U/G.

Survey of main currents of American political thought from colonial times to the present. Political theory course. Prereq: jr st.

386 Contemporary Political Theory. 3 cr. U/G.

Survey of current work in different branches of political theory, including formal, analytical, and critical theory. Political theory course. Prereq: jr st.

387 Topics in American Politics: (Subtitled). 3 cr. U/G.

Intensive study in selected aspects of American politics. Retakable w/chg in topic to 6 cr max. American politics course. Prereq: jr st.

389 Politics and Philosophy: 3 cr. U/G.

Ideas and methods in recent political theory, including the history of political thought, analytical political philosophy, and critical theory. Political theory course. Retakable w/chg in topic to 6 cr max. Prereq: jr st; one course in political theory.

390 Political Data Analysis. 3 cr. U/G.

Research design, measurement, and techniques of political data analysis. Research methods course. Prereq: jr st; satisfaction of GER Quantitative Literacy Part A req.

392 Survey Research. 3 cr. U/G.

Theory and practice of survey techniques. Planning, design, sampling, types of data, questionnaire construction, interviewing, field operation, and coding examples in a variety of fields. Research methods course. Prereq: jr st.

405 State Government: (Subtitled). 3 cr. U/G.

Selected topics in state government and politics with special emphasis on Wisconsin. Retakable w/chg in topic to 6 cr max. American politics course. Prereq: jr st.

408 The American Presidency. 3 cr. U/G.

Study of the office and powers of the president, with an analysis of his major roles as chief administrator, legislative leader, political

Political Science

leader, initiator of foreign policies, Commander-in-Chief and head of state. American politics course. Prereq: jr st.

411 Constitutional Law: Government Powers and Federalism. 3 cr. U/G.

Constitutional interpretation, with emphasis on separation of powers, federalism, and property. American politics course. Prereq: jr st.

412 Constitutional Law: Civil Rights and Liberties. 3 cr. U/G.

Cases in civil rights and liberties in such areas as equal protection, due process, and First Amendment freedoms. American politics course. Prereq: jr st.

416 Judicial Process. 3 cr. U/G.

Trial and appellate court structure; litigation in federal and state contexts; key actors in the judicial process, including litigants, lawyers, judges, and juries. American politics course. Prereq: jr st.

416 (effective 09/05/2017) Judicial Politics. 3 cr. U/G.

Trial and appellate court structure; litigation in federal and state contexts; key actors in the judicial process, including litigants, lawyers, judges, and juries. American politics course. Prereq: jr st.

417 The Supreme Court. 3 cr. U/G.

Behavior of U.S. Supreme Court justices and other appellate judges and courts within the judicial and political systems. American politics course. Prereq: jr st.

419 Constitutional Interpretation. 3 cr. U/G.

Analysis of contemporary interpretive themes, including judicial activism, the living Constitution, and critical theories of law. American politics course. Prereq: Pol Sci 411(P) or 412(P).

421 Party Politics in America. 3 cr. U/G.

The role of political parties in the nominating process, campaigns, fund raising, voter choice, and the governing processes of Congress and the presidency. American politics course. Prereq: jr st; Pol Sci 103(P) or 104(P).

423 Conduct of American Foreign Affairs. 3 cr. U/G.

Descriptive analysis of the way American foreign policy is formulated and carried out by federal agencies. International Politics course. Prereq: jr st.

426 Congressional Politics. 3 cr. U/G.

The role of Congress in shaping public policy, with emphasis on the impact of elections, lawmaking procedures, congressional committees, political parties, interest groups, and presidents. American politics course. Prereq: jr st.

444 Politics and the Bureaucracy. 3 cr. U/G.

The role of the bureaucracy in policymaking. Political resources of bureaucracy, its ability to influence policy outcomes. Political controls on bureaucracy, and proposals for reform. American politics course. Prereq: jr st.

450 Urban Political Problems. 3 cr. U/G.

Reading and analysis of specific urban problems and governmental responses. American politics course. Prereq: jr st.

452 Administrative Law. 3 cr. U/G.

An examination of due process, privacy, and other constitutional and legal issues as they arise in the regulatory, investigatory, and enforcement activities of administrative agencies. American politics course. Pol Sci 452 & Pub Adm 452 are jointly offered; they count as repeats of one another. Prereq: jr st.

464 Sex, Gender, and the Law. 3 cr. U/G.

Topics in federal and state law pertaining to women, gender, and feminism, such as reproductive rights, domestic violence, and pay equity. American politics course. Prereq: jr st.

467 Elections and Voting Behavior. 3 cr. U/G.

Psychological and social components of voting behavior, current electoral trends, and role of voters in the governing process. American politics course. Prereq: jr st.

471 Problems in Law Studies: (Subtitled). 3 cr. U/G.

Discussion of selected problems in contemporary law and politics, such as civil rights movements or law and sexuality. Retakable w/chg in topic to 6 cr max. American politics course. Prereq: jr st.

473 Public Opinion. 3 cr. U/G.

Formation of opinions within and among political publics; role of public opinion in the development and practice of governmental policy. Prereq: jr st.

700 (875) Scope and Methods of Political Science. 3 cr. G.

Critical examination of the normative and empirical methodologies of political science. Prereq: grad st.

701 (817) Techniques of Political Science Research. 3 cr. G.

Introduction to basic techniques of collecting, coding, processing, analyzing, and presenting political data. Prereq: grad st; one undergrad stats course or cons instr.

702 Advanced Techniques of Political Science Research. 3 cr. G.

Advanced course in quantitative analysis stressing the application of econometric techniques to the study of politics. Prereq: grad st; Pol Sci 701(P).

704 Seminar in Nonprofit Organizations. 3 cr. G.

Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Nonprof 704, Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

705 Professionals and Volunteers in Nonprofit Organizations. 3 cr. G.

Seminar in techniques of management of professionals and volunteers in nonprofit organizations. Nonprofit 705 & Pol Sci 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

711 Current Topics in Political Science: (Subtitled). 1-3 cr. G.

This course will address a specific topic or methodological approach of general disciplinary importance. Retakable w/chg in topic & cons advisor & instr to 6 cr max. Prereq: grad st.

715 Introduction to Comparative Politics I. 3 cr. G.

First part of a two-semester introductory seminar in comparative politics, emphasizing the logic of comparison and introducing broad themes in the subfield. Prereq: grad st

716 Intro to Comparatv Politics II. 3 cr. G.

The second course in a graduate introduction to comparative politics. Foundation for students considering further work in comparative politics; emphasis on empirical research literature. Prereq: grad st; Pol Sci 715(P) or cons instr

720 Theoretical and Methodological Issues of Comparative Politics. 3 cr. G.

Seminar on theory construction, research design, and the logic of comparative social inquiry. Prereq: grad st.

725 Judicial Politics and Behavior. 3 cr. G.

Readings in the field of judicial politics and behavior, with particular attention to decision making in collegial courts and to scientific methods of analysis. Prereq: grad st.

727 Seminar in Constitutional Law. 3 cr. G.

Major trends in constitutional case law and in critical analysis of the role of the court in american democracy. Prereq: grad st; cons instr.

749 Seminar in American Political Institutions. 3 cr. G.

Overview of political institutions including executives, legislatures, bureaucracies, courts, interest groups and others and the role they play in the political and policy process. Prereq: grad st.

Political Science

750 Seminar in the Study of American Political Behavior. 3 cr. G.

Readings and research on a broad range of topics related to political behavior. Concentration on the political science literature on mass political behavior with some attention to the behavior of political elites. Prereq: grad st.

751 Seminar in Public Policy Formation. 3 cr. G.

Nature and consequences of constraints upon policy-makers in political institutions. Prereq: grad st.

763 Scope and Dynamics of Public Administration. 3 cr. G.

The field of public administration, including organization theory, public management, the politics of administration, and the role of government in policy-making. Pol Sci 763 & Pub Adm 763 are jointly offered; they count as repeats of one another. Prereq: grad st.

769 Analyzing and Evaluating Public Policies and Programs. 3 cr. G.

Examination of methods, including cost-benefit analysis and decision analysis, that aid policy makers and administrators in understanding and assessing public and nonprofit sector policies and programs. Pol Sci 769 & Pub Adm 769 are jointly offered; they count as repeats of one another. Prereq: grad st.

791 Nonprofit Advocacy and Public Policy. 3 cr. G.

Strategies and methods of nonprofit advocacy and their use by nonprofit organizations in shaping public policy. Implications of the public policy process for nonprofit organizations. Nonprofit 791 & Pol Sci 791 are jointly offered; they count as repeats of one another. Prereq: grad st.

793 Law of Nonprofit Organizations. 3 cr. G.

Legal concepts and issues relevant to the formations and operations of nonprofit organizations. Complying with applicable federal and state statutes and regulations. Nonprof 793 & Pol Sci 793 are jointly offered; they count as repeats of one another. Prereq: grad st.

801 Proseminar in Political Theory. 3 cr. G.

Political theory for graduate students in any field, based on historical and contemporary texts that illustrate different understandings of politics and political theory. Prereq: grad st.

814 Major Political Theorists: (Subtitled). 3 cr. G.

Consideration of selected political theorists, periods, or traditions. Attention given to issues of textual interpretation, historical context, and conceptual analysis. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

815 Problems in Political Theory: (Subtitled). 3 cr. G.

Selected concepts and controversies in the historical and contemporary literature of political theory, such as authority, obligation, equality, justice and the explanation of human conduct. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

816 Seminar in Positive Political Theory: (Subtitled). 3 cr. G.

Selected topics in rationality-based approaches to the study of politics. Retakable w/chg in topic to 6 cr max. Prereq: grad st; Pol Sci 701(817)(P) & 875(P).

817 Feminist Theory and Politics. 3 cr. G.

Examination and analysis of historical and theoretical aspects of feminist theory and politics including liberal, cultural, radical, postmodern, and queer political theory. Prereq: grad st.

818 Theories of International Political Economy. 3 cr. G.

Analysis of major political theories of international economic relations. Examine international political economy issues in industrial developing, and communist countries. Prereq: grad st; intro courses in Econ & Intlrel.

855 Comparative Urban Politics. 3 cr. G.

Examination of critical roles, structures, and processes of urban politics in different cultural settings. Selected to facilitate comparisons between the urban political process in developed and underdeveloped nations. Prereq: second semester grad student.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirements. Fee assessed for 1 cr. Prereq: grad st.

913 Seminar in Urban Political Process. 3 cr. G.

Analysis of the forces and processes that shape urban political life, with particular emphasis on patterns of government, political culture, power structures, and civic participation in urban and metropolitan communities. Pol Sci 913 & Urb Std 913 are jointly-offered; they count as repeats of one another. Prereq: grad st.

914 Seminar in Intergovernmental Relations. 3 cr. G.

Policy issues in intergovernmental relations and the complex governmental context in which Americans live and work. Pol Sci 914 & Pub Adm 914 are jointly offered; they count as repeats of one another. Prereq: grad st.

925 Applied Bayesian Modeling for the Social Sciences. 3 cr. G.

Theoretical foundations of Bayesian in comparison to Frequentist inference as well as applications of MCMC simulation to GLMs, hierarchical, time-series and measurement

models. Prereq: grad st; Pol Sci 935(P) or equiv.

926 Seminar in the Legislative Process. 3 cr. G.

Analysis of the legislative process and the role of the legislature in the political system and research in legislative behavior. Prereq: grad st.

929 Seminar in Voting Behavior. 3 cr. G.

Voter decision making within and between elections. Prereq: grad st.

935 Seminar in Advanced Political Science Methodology. 3 cr. G.

An advanced seminar in selected topics on political science methodology. Prereq: grad st; Pol Sci 701(817)(P).

936 Applied Bayesian Modeling for the Social Sciences. 3 cr. G.

Theoretical foundations of Bayesian in comparison to Frequentist inference as well as applications of MCMC simulation to GLMs, hierarchical, time-series and measurement models. Prereq: grad st; Pol Sci 935(P) or equiv.

950 Seminar in Comparative Politics: Western Nations. 3 cr. G.

Prereq: grad st.

952 The Politics of Developing Nations: (Subtitled). 3 cr. G.

Variable content course. Retakable w/chg in topic to 6 cr max. Prereq: grad st.

953 Seminar in American Foreign Policy. 3 cr. G.

Analysis-in-depth of selected issues in the formulation and execution of American foreign policy, emphasizing recent problems, changes in world conditions, and methods of studying American policy. Prereq: grad st.

956 Political Culture and Behavior: Industrial Nations. 3 cr. G.

Political culture and mass political behavior in industrialized societies, including theories of ideology, multiculturalism, and political parties. A data-based paper is required. Prereq: grad st; Pol Sci 701(817)(P) or equiv prep in statistics.

960 International Conflict. 3 cr. G.

Examines positive theories and quantitative research pertaining to causes and resolution of international conflict. Prereq: grad st.

962 Ethnic Conflict. 3 cr. G.

Origins, strategies, duration, and termination of ethnic conflicts; international intervention. Prereq: grad st.

963 Seminar in Judicial Process and Behavior. 3 cr. G.

Prereq: grad st.

964 Seminar in Constitutional Politics. 3 cr. G.

Various approaches to the study of constitutional politics, including law as ideology, noninterpretivism, originalism, and departmentalism. Prereq: grad st; Pol Sci 727(P).

972 Interest Groups and Public Policy. 3 cr. G.

Research seminar in the formal and informal role of interest groups in policy development enactment, and administration access and tactics of political pressure, analysis of private and public power relationships. Prereq: grad st.

973 Political Parties. 3 cr. G.

Selection of problems and design of research on the organization and processes of political parties. Prereq: grad st.

974 Seminar in Politics and Public Policy. 3 cr. G.

Research in the formulation and execution of public policy in a democratic society. Prereq: grad st.

975 Comparative Authoritarianism. 3 cr. G.

Domestic and international politics of authoritarian regimes; methods of rule, regime survival strategies, and political economy. Prereq: grad st.

976 Seminar in Comparative Public Policy: (Subtitled). 3 cr. G.

Major theories and methods in comparative public policy relevant to specific areas of the world. Area focus varies from semester to semester. Retakable w/ chg in topic to 6 cr max. Prereq: grad st.

990 Research and Thesis. 1-3 cr. G.

Prereq: grad st; cons instr.

999 Independent Work. 1-3 cr. G.

Individual work directed by a member of the graduate faculty. Prereq: grad st & cons instr.

Psychology

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Psychology
- Ph.D. in Psychology

Overview

The Department of Psychology offers two graduate degrees: the Ph.D. in Psychology and the M.S. in Psychology. Study is available in the following concentrations, which we refer to as programs.

Ph.D. in Psychology (includes earning the M.S.)

- Clinical Psychology program (accredited by the American Psychological Association).
- Behavior Analysis program (curriculum approved by the Behavior Analysis Certification Board, Inc.®).
- Health Psychology program.
- Neuroscience program.*

M.S. in Psychology

- Terminal Behavior Analysis program.
- Terminal Health Psychology program.

*Please note that the Department of Biological Sciences and several other departments also offer opportunities for doctoral study in neuroscience.

All programs train students in the facts, methodologies, and theories of psychology, with special emphasis on developing research competence. The department has well-equipped laboratories and an on-campus training clinic. The city of Milwaukee provides additional opportunities for training at hospitals, social service agencies, and the Medical College of Wisconsin.

Note that all four of the department's doctoral programs are actually combined M.S./Ph.D. programs, although students who already have a master's degree in psychology or neuroscience are also encouraged to apply. If admitted, they will not be required to earn the M.S. at UWM if their master's degree included an empirically based thesis.

Transfer from a PhD program to any another PhD program in our department requires reapplication.

Although it is possible for the academic portion of the doctoral program to be completed in four years, most students require five or more years. Doctoral students are expected to be enrolled

full time and to earn their Ph.D.s within seven years of initial enrollment, exclusive of the one-year internship required in the clinical program.

Students seeking only master's-level training may apply to either the health psychology or the behavior analysis specializations; there are no other terminal master's programs in the Department of Psychology. Transfer from health psychology to behavior analysis, or vice versa, requires reapplication. It is possible to complete requirements for the M.S. in two or three years of full-time study. Part-time study is allowable, as long as the M.S. is earned within seven years of enrolling.

Students may not earn more than two degrees from the Department of Psychology at UWM. Therefore, students who earned a bachelor's degree in psychology from UWM are not eligible to apply for admission to the doctoral program unless they earned a master's degree in psychology elsewhere.

The department refers students interested in Counseling Psychology or School Psychology to the Department of Educational Psychology.

Graduate Faculty

Professors

Davies, W. Hobart, Ph.D., Michigan State University, Chair
 Fleming, Raymond, Ph.D., Uniformed Services University of the Health Sciences
 Frick, Karyn, Ph.D., Johns Hopkins University
 Helmstetter, Fred J., Ph.D., Dartmouth College
 Klein-Tasman, Bonita, Ph.D., Emory University
 Osmon, David C., Ph.D., University of South Dakota
 Reddy, Diane M., Ph.D., Uniformed Services University of the Health Sciences
 Swain, Rodney A., Ph.D., University of Southern California

Associate Professors

Cahill, Shawn, Ph.D., State University of New York-Binghamton
 Hannula, Deborah, Ph.D., University of Illinois, Urbana-Champaign
 Larson, Christine, Ph.D., University of Wisconsin-Madison
 Lee, Hanjoo, Ph.D., University of Texas, Austin
 Lima, Susan D., Ph.D., University of Massachusetts-Amherst
 Lisdahl, Krista M., Ph.D., University of Cincinnati
 Merritt, Marcellus, Ph.D., Howard University
 Mosack, Katie, Ph.D., Ohio State University
 Moyer, James R., Ph.D., Northwestern University
 Ridley, Robyn, Ph.D., University of Missouri-Columbia
 Tiger, Jeffrey, Ph.D., University of Kansas

Assistant Professors

Diba, Kamran, Ph.D., Brown University

Driscoll, Ira, Ph.D., University of Lethbridge
 Greenberg, Adam, Ph.D., Johns Hopkins University
 Kodak, Tiffany, Ph.D., Louisiana State University

Master of Science in Psychology

Application

Application must be made to the Graduate School.

Applicants are admitted only at the beginning of each academic year. Applications must be submitted by December 1. Important: It is essential to consult the department's website for important information, including the departmental admissions brochure:

<http://uwm.edu/psychology/graduate/application/>

Admission

An applicant must meet [Graduate School](#) requirements plus the following departmental requirements to be considered for admission to the program:

1. Completion of an undergraduate major in psychology (or neuroscience).
2. Submission of scores on the General Test of the [Graduate Record Examination \(GRE\)](#).
3. Receipt of positive recommendation by the Departmental Admissions Committee.

Admission is based on evaluation of an applicant's entire record. In evaluating each application, the Admissions Committee examines such factors as GRE scores, grades, research record (e.g., research apprenticeships, publications, presentations, and senior or honors theses), and letters of recommendation.

Students without an undergraduate major in psychology (or neuroscience) may be considered for admission provided the following courses are completed: introductory statistics, a laboratory course in research methods of psychology, and an advanced laboratory course in psychology. Students with one of these courses are eligible to apply, but the two remaining courses would have to be completed within three semesters of enrollment. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Students satisfying only this very minimal requirement should understand that additional work may be required to enroll in specific graduate-level courses.

As part of their doctoral requirements, Ph.D. students must earn a master's degree in psychology that includes a thesis derived from empirical research; they do this by fulfilling the requirements of the "General Psychology

Psychology

Track” for the M.S. degree while enrolled simultaneously in the Ph.D. program. An exception is that students who already have earned a master’s degree based on an empirical thesis in psychology or neuroscience from another college or university are exempt from the requirement of earning the M.S. in our department.

Advising and the Major Professor

Graduate School and departmental regulations require students to have a major professor to direct their research activities. It is important for students to start their research early in their graduate studies. Admittees are assigned to a major professor they have chosen during the admissions process.

Before the end of the second semester, the student must form an advisory committee of three departmental faculty members, including the student’s major professor. Students are free to change their major professor at any time. The Department also provides a Graduate Program Coordinator, who advises about courses and program requirements and who approves programs of study. The Graduate Program Coordinator is also available to help students who wish to change their major professors to find new ones.

Credits and Courses: General Psychology Track

Students in the general psychology track must be simultaneously enrolled in the doctoral program. The minimum requirement for the M.S. is 30 graduate credits of psychology, 24 of which must be earned in formal coursework (excluding practica) and 6 of which must be earned through an acceptable thesis.

Thesis

The student, under the direction of an advisor, must develop an acceptable thesis based on empirical research. The student must pass an oral examination in defense of the thesis.

Time Limit

The student must complete all degree requirements within three years of initial enrollment.

Credits and Courses: Specialization in Health Psychology

Health psychology is concerned with the psychological variables that influence physical health and illness. The M.S. program in health psychology offers training in research and theories relevant to health promotion. The program of study consists of core health psychology coursework, research coursework, psychology breadth coursework, and an optional field placement. Current research

topics include gender and health, cancer prevention and health education, reproductive health and STD prevention, patient advocacy and self-care behaviors, the effects of stress and mechanisms of coping with it, and child abuse prevention. Research is conducted in the laboratory as well as in clinical settings, and many members of the faculty have strong ties to the Milwaukee community.

Course of Study

The course of study consists of at least 36 credits, distributed as follows:

Core Health Psychology Courses (12 credits)
Psych 955 (Seminar in Social Psychology and Health)

Any three of the following courses:

Psych 578 Psychology of Race, Ethnicity, and Health

Psych 754 Proseminar in Biological Psychology

Psych 756 Psychophysiology

Psych 711 Current Topics in Psychology (health-related topic)

Psych 833 Neuropsychology

Psych 854 Behavioral Neuroscience

Psych 930 Seminar in Social Psychology

Psych 954 Seminar in Physiological Psychology

Research coursework (15 credits)

Psych 510 Advanced Psychological Statistics

Psych 610 Experimental Design

Psych 932 Seminar in Evaluation Research or an acceptable equivalent course, as determined by area faculty

Psych 790 Master’s Research -- 6 cr

Breadth coursework (9 credits)

Students choose breadth courses in consultation with their advisors.

The M.S. specialty in health psychology emphasizes the application of psychological theories to health-related issues. Although students are exposed to theories and applications in coursework, the field placement option offers a further opportunity to learn by doing. Students are encouraged to take at least 3 credits of 812 (Field Placement in Psychology) in their area of interest.

Thesis or Project

The student, under the direction of an advisor, has the option of developing either an acceptable thesis based on empirical research or an acceptable project (a review or theoretical paper). In either case, students must demonstrate their ability to formulate a research idea and pursue independent and original investigation. The student must pass an oral examination in defense of the thesis, but no oral examination is required for a project.

Time Limit

The student must complete all requirements within seven years of initial enrollment.

Credits and Courses: Specialization in Behavior Analysis

Behavior analysis focuses on how the interactions between an organism and its environment regulate its behavior. This M.S. specialization prepares students to become Board Certified Behavior Analysts® as well as to continue on to advanced studies. Students may focus on either basic or applied studies and must complete a final empirical thesis or empirical project, which may be conducted in laboratory or field settings. Research areas include the study of choice behavior in pigeons; procedures to enhance students’ verbal skills (as in acquiring a second language and writing concisely); and the use of behavior analytic techniques to address repetitive behavior disorders and developmental disabilities, including autism.

The Behavior Analysis Certification Board (BACB), Inc® has approved our course sequence as meeting the coursework requirements for eligibility to take the Board Certified Behavior Analyst Examination® to become BCBA’s (nationally) and licensed behavior analysts (in Wisconsin). The BACB® also requires applicants to be experienced in providing behavior-analytic services. We have developed relationships with local providers to assist students in completing their practicum hours.

Course of Study

The course of study consists of at least 31 credits, distributed as follows:

Core behavior analytic coursework (16 credits)

Psych 502 Applied Behavior Analysis

Psych 714 Conditioning and Learning

Psych 724 Proseminar in Behavior Analysis

Psych 725 Ethical and Professional Conduct for Behavior Analysts

And any one of the following four courses:

Psych 736 Functional Assessment and Intervention

Psych 914 Seminar in Stimulus Control

Psych 915 Seminar in Operant Behavior

Psych 919 Seminar in Classical Conditioning Research Methods (9 credits)

Psych 510 Advanced Psychological Statistics

Psych 610 Experimental Design

Psych 620 Single-Subject Research Methods

Six credits in 790 Master’s Research

Depending on students’ goals and the advice of their advisors, they also may enroll in Psych 730 (Practicum in Behavior Analysis).

Thesis or Project

The student, under the direction of his or her major professor, must develop an empirical thesis or empirical project, which the student must defend in an oral examination. Students focusing on basic studies complete a thesis.

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Depending on the recommendation of their advisors, students focusing on applied studies complete either a thesis or a project that demonstrates their competence at delivering services.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Psychology

Application

Application must be made to the Graduate School.

Applicants are admitted only at the beginning of each academic year. Applications must be submitted by December 1. Important: It is essential to consult the department's website for important information, including the departmental admissions brochure:

<http://uwm.edu/psychology/graduate/application/>

Admission

An applicant must meet Graduate School requirements and the following departmental requirements to be considered for admission to the program:

1. Completion of an undergraduate major in psychology (or neuroscience).
2. Submission of scores on the General Test of the [Graduate Record Examination](#).
3. Receipt of a positive recommendation by the Departmental Admissions Committee.

Admission is based on evaluation of an applicant's entire record. In evaluating each application, the Admissions Committee examines such factors as [GRE](#) scores, grades, research record (e.g., research apprenticeships, publications, presentations, and senior or honors theses), and letters of recommendation.

Students without an undergraduate major in psychology (or neuroscience) may be considered for admission provided the following courses are completed: introductory statistics, a laboratory course in research methods of psychology, and an advanced laboratory course in psychology. Students with one of these courses are eligible to apply, but the two remaining courses would have to be completed within three semesters of enrollment. No course credits earned in making up deficiencies may be counted as program credits required for the degree. Students satisfying only this very minimal requirement should understand that additional work may be required to enroll in specific graduate-level courses.

As part of their doctoral requirements, Ph.D. students must earn a master's degree in psychology that includes a thesis derived from empirical research; they do this by fulfilling the requirements of the "General Psychology Track" for the M.S. degree while enrolled simultaneously in the Ph.D. program. An exception is that students who already have earned a master's degree based on an empirical thesis in psychology or neuroscience from another college or university are exempt from the requirement of earning the M.S. in our department.

Advising and the Major Professor

Graduate School and departmental regulations require students to have a major professor to direct their research activities. Entering students are assigned to the major professor they have chosen during the admissions process. Students are free to change their major professor at any time. The Department provides a Graduate Program Coordinator, who advises about courses and program requirements and who approves programs of study. The Graduate Program Coordinator also is available to help any student who wishes to change his/her major professor.

Course of Study

The minimum degree requirement is 54 graduate credits beyond the bachelor's degree, at least 27 of which must be earned in residence at UWM.

Departmental doctoral curriculum

Only courses numbered 700 or above and a few departmentally-designated undergraduate/graduate courses, including Psych 510 and 610, may be counted in the doctoral curriculum, which is specified in the department's Doctoral Student Handbook.

Curricula

Clinical Psychology Curriculum

The Clinical Psychology curriculum consists of a sequence of required clinical courses, including courses in professional ethics, issues, and research methods in clinical psychology; developmental psychopathology; foundations of psychotherapy; assessment (two semesters); and empirically-supported interventions. Other required courses include a two-course statistics sequence, history of psychology, multicultural issues in counseling or clinical psychology, and lifespan developmental psychology. Also, Clinical Psychology students must fulfill American Psychological Association (APA) requirements by completing one course from each of the following areas: biological bases of behavior, cognitive/affective bases of behavior, and social bases of behavior.

In addition to classroom courses, students also must complete a sequence of practicum and

community placement courses for intensive training in assessment, diagnosis, therapy, and professional practice and, later, a pre-doctoral, extramural, full-time (2,000 hours) internship. Students should consult the department's Doctoral Student Handbook for details.

Completion of a departmental minor is optional for clinical students (available areas: Behavior Analysis, Cognition and Perception, Developmental Psychology, Health Psychology, Neuroscience, and Quantitative Methods).

The clinical program strongly adheres to the scientist-practitioner model of training. It is designed to train psychologists as generalists. However, our faculty members interests cluster in three primary areas including neuroscience/neuropsychology, cognitive/behavioral and behavioral therapies, and pediatric/health psychology. As a result, students often leave the clinical program with a focus in one or more of these areas. The clinical program is accredited by the American Psychological Association (APA).* The program has been accredited continually since 1980.

In addition, the clinical program is a member of the Academy of Psychological Clinical Science. Membership in the Academy is granted only after a thorough peer review process. Our membership in the Academy indicates our commitment to excellence in scientific training and to using clinical science as the foundation for designing, implementing, and evaluating assessment and intervention procedures.

*Office of Program Consultation and Accreditation 750 First Street, NE Washington, DC 20002-4242. Phone: 202-336-5979

Behavior Analysis Curriculum

The Behavior Analysis curriculum consists of a sequence of required behavior analysis courses, including conditioning and learning, applied behavior analysis, single-subject research methods, ethics and professional issues for behavior analysts, proseminar in behavior analysis, and two advanced courses chosen in consultation with the major professor. Other required courses include a two-course statistics sequence, completion a departmental minor area of study (available areas: Cognition and Perception, Developmental Psychology, Health Psychology, Neuroscience, Psychopathology, and Quantitative Methods) and one breadth course chosen in consultation with the major professor. Students should consult the department's Doctoral Student Handbook for details.

Students may focus on either the experimental or applied analysis of behavior, and those who choose the applied focus must complete practicum hours. The Behavior Analysis

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Certification Board, Inc® has approved our course sequence as meeting the coursework requirements for eligibility to take the Board Certified Behavior Analyst Examination® to become BCBA's (nationally) and licensed behavior analysts (in Wisconsin). The BACB® also requires applicants to be experienced in providing behavior-analytic services. We have developed relationships with local providers to assist students in completing their practicum hours.

Behavior analysis emphasizes environmental control of the behavior of the individual. The program provides broad theoretical, conceptual, and research training. Students and faculty members work together to investigate the fundamental relations between people's behavior and environmental events as well as techniques to apply these basic findings to a variety of situations in which a change in behavior is desired. Current research projects include verbal behavior, stimulus control, and the treatment of individuals with developmental disabilities, including autism.

Health Psychology Curriculum

The Health Psychology curriculum consists of a core course in health psychology, two other courses in health psychology chosen in consultation with the major professor, completion of two departmental minor areas of study (available areas: Behavior Analysis, Cognition and Perception, Developmental Psychology, Neuroscience, Psychopathology, and Quantitative Methods) and one breadth course chosen in consultation with the major professor. Students should consult the department's Doctoral Student Handbook for details.

Health psychology, which is concerned with the psychological variables that influence physical health and illness, has become a dominant force in the health sciences. The program offers training in research and theories relevant to health promotion. Faculty members and students work together on projects focused on gender and health, cancer prevention and health education, reproductive health and STD prevention, patient advocacy and self-care behaviors, the effects of stress and mechanisms of coping with it, and child abuse prevention. Research is conducted in the laboratory as well as in clinical settings, and many members of the faculty have strong ties to the Milwaukee community.

Neuroscience Curriculum

The Neuroscience curriculum includes four core courses (behavioral neuroscience, cellular and molecular neuroscience, cognitive neuroscience, and proseminar in biological psychology). Other required courses include a two-course statistics sequence, seminar in neuroscience (three semesters of official

enrollment), and three electives, chosen in consultation with the major professor. Students should consult the department's Doctoral Student Handbook for details.

Neuroscience is devoted to the study of the nervous system. The curriculum is designed to provide students with the intellectual and technical skills necessary for a productive career in academics or industry. Students are part of the greater Milwaukee Area Neuroscience group, which includes faculty members and students from various departments at UWM, the Medical College of Wisconsin, and Marquette University. Students learn a wide range of techniques working with laboratory animals and human subjects. These include experimental design, behavioral testing and analysis, neurophysiology, aseptic surgical techniques, quantitative protein and mRNA assays, immunohistochemistry, eyetracking, and functional magnetic resonance imaging (fMRI). Current research topics include cellular and molecular mechanisms of learning and memory; mapping brain areas involved in memory and emotion in humans and rodents using fMRI; effects of exercise on cerebral blood flow; mechanisms of recovery from brain damage; visual attention; effects of aging on learning and memory; and the role of calcium and calcium-binding proteins in ischemic cell death.

Multicultural Requirement

Clinical students must complete a course in multicultural issues in clinical or counseling psychology.

Developmental Psychology Requirement

Clinical students must complete a graduate-level lifespan developmental psychology course.

Extrdepartmental Minors and Certificates (optional)

If they wish, and with the approval of their major professors, students may complete, in another department, a coherent program of at least 8 graduate credits (undergraduate/graduate courses taken for graduate credit apply). They may also, if they wish, complete one or more graduate certificate programs.

Residence

The student must meet minimum Graduate School residence requirements. Please note the requirement of earning at least 27 graduate credits at UWM. For more information on residence, see the Graduate School [Doctoral Requirements](#) page.

Doctoral Preliminary Examination

Students must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree. The preliminary

examination can be taken only after the master's degree has been earned and all relevant coursework has been completed satisfactorily. The format of the examination depends on the program. Specific guidelines for preliminary examinations can be found in the department's Doctoral Student Handbook.

Clinical Internship Requirement

With the approval of the department's Clinical Training Committee, clinical students are eligible to begin a required one-year, 2,000-hour internship after they have passed the preliminary examination and the doctoral dissertation proposal hearing.

Dissertation Defense

The candidate must write a dissertation that demonstrates the ability to formulate a research topic and pursue independent and original investigation. A doctoral dissertation committee must have at least five members, at least three of whom must be tenure-track or tenured faculty in the UWM Department of Psychology who hold Graduate Faculty status. A maximum of two committee members can be individuals who have doctoral degrees but who do not have Graduate Faculty status at UWM.

Final Oral Examination

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

The student must complete all degree requirements within seven years of initial enrollment (four years if entering with a master's degree), excluding internship.

For additional information on the Ph.D., see the Graduate School [Doctoral Requirements](#) page.

Courses

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored programs before course work level, content and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

502 Applied Behavior Analysis. 4 cr. U/G. Learning and motivation of human behavior in applied settings. Lab work in community agencies using operant methods, behavior modification, programmed instruction, AV systems. Lec, Lab. Prereq: jr st; Psych 325(P).

503 Perception. 3 cr. U/G. The nature of perception and its relation to environmental and internal processes. Systems course. Prereq: jr st; 9 cr in psych.

505 Cognitive Processes. 4 cr. U/G. Human information processing, emphasizing vision and language. Topics: pattern recognition; sensory-specific memory systems,

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short- and long-term; modern approaches to mental imagery and operations. Lec, lab. Prereq: jr st; Psych 325(P).

510 Advanced Psychological Statistics. 3 cr. U/G.

Topics include probability and sampling theory, correlational methods, and nonparametric techniques. Foundations course. Prereq: jr st & Psych 210(P); or grad st.

514 Conditioning and Learning. 4 cr. U/G.

Principles of conditioning and learning. Lec, lab. Required special course fee assessed; announced in Schedule of Classes each semester. Prereq: jr st; Psych 325(P).

550 History of Psychology. 3 cr. U/G.

The important philosophical and scientific antecedents of contemporary psychology. Systems course. Prereq: jr st; 9 cr in psych.

551 Learning and Motivation Theories. 3 cr. U/G.

Contemporary psychological theories, with special emphasis on theories of learning. Systems course. Prereq: jr st; 9 cr in psych.

578 Psychology of Race, Ethnicity, and Health. 3 cr. U/G.

Psychological theory and research on how health is related to race and ethnicity. Foundations course. No cr for students w/cr in Psych 611 w/similar topic. Prereq: jr st, Psych 101(P); or grad st.

610 Experimental Design. 3 cr. U/G.

Design and analysis of single and multi-factor experiments; tests for trends; multiple comparisons. Foundations course. Prereq: jr st & Psych 210(P); or grad st.

611 Current Topics: (Subtitled). 3 cr. U/G.

Specific topics and any additional prerequisites will be announced in the Schedule of Classes each time the course is offered. Foundations course. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

620 Single-Subject Research Methods. 3 cr. U/G.

A review of single-subject research methods. Foundations course. Prereq: jr st & Psych 325(P), or grad st; or cons instr.

654 Advanced Physiological Psychology. 4 cr. U/G.

Advanced topics in physiological psychology. Lec, lab. Required special course fee assessed; announced in Schedule of Classes each sem. Prereq: jr st; Psych 254(P) & 325(P).

657 Neurobiology of Learning and Memory. 3 cr. U/G.

Functional and structural alterations in nervous system underlying organism's ability to learn/remember. Principles drawn from molecular and cellular neurobiology,

neurophysiology, neuroanatomy, and behavioral neuroscience. Systems course. Counts as repeat of Psych 611 w/same topic. Prereq: jr st.

660 Experimental Child Psychology. 4 cr. U/G.

Experimental investigation of child behavior and development. Lec, lab. Prereq: jr st; Psych 260(R) & 325(P).

677 Experimental Social Psychology. 4 cr. U/G.

Experimental investigation of social behavior. Lec, lab. Prereq: jr st; Psych 230(R) & 325(P).

680 Psychology of Aging. 3 cr. U/G.

Extension of principles of general psychology to the process of aging. Systems course. Prereq: jr st; Psych 325(P) or cons instr.

702 Applied Behavior Analysis. 3 cr. G.

Use of learning principles and procedures to solve behavior problems. 3 hrs lec, 1 hr dis. Prereq: grad st.

705 Information Processing. 3 cr. G.

Introduction to cognitive psychology from an information processing perspective. Core course in cognition for the cognition/perception area. Prereq: grad st.

706 Psychology of Language. 3 cr. G.

An overview of the cognitive processes involved in language comprehension. An advanced course in cognition for the cognition/perception area. Prereq: grad st; some background in linguistics or cognitive psych recom, e.g. Psych 705(R).

710 Survey of Clinical Research Methods. 3 cr. G.

Various research methods in clinical psychology. Prereq: grad st.

711 Current Topics in Psychology: (Subtitled). 1-4 cr. G.

Specific topics and any additional prerequisites will be announced in the schedule of classes each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

712 Professional Ethics and Issues in Clinical Psychology. 3 cr. G.

Introduction to clinical practice and ethics. Prereq: grad st.

714 Conditioning and Learning. 3 cr. G.

Principles of classical conditioning and instrumental learning. 3 hr lec, 1 hr dis Prereq: grad st.

724 Proseminar in Behavior Analysis. 3 cr. G.

A review of conceptual, methodological, and professional issues associated with the science and application of behavior analysis. Prereq: grad st.

725 Ethical and Professional Conduct for Behavior Analysts. 3 cr. G.

Ethical and professional issues pertaining to behavior analysts working in clinical, educational, academic, and other settings. Prereq: grad st; cons instr.

727 Cognitive Neuroscience. 3 cr. G.

How the brain enables the mind; broad introduction to cognitive neuroscience, with emphasis on a converging methods approach. Counts as repeat of 711 w/same topic. Prereq: grad st.

730 Practicum in Behavior Analysis. 3 cr. G.

Hands-on experience providing behavior analysis services. Retakable to 12 cr max. Prereq: grad st; cons instr & placement supervisor.

734 Introduction to Scientifically-Validated Treatments. 1 cr. G.

The use of psychological interventions for treating numerous psychological conditions. Prereq: grad st; cons instr.

736 Functional Assessment and Intervention. 3 cr. G.

Methods for determining the variables of which behavior is a function and selecting function-based interventions. Prereq: grad st

741 Foundations of Psychotherapy. 3 cr. G.

Introduction to psychotherapies: origins, orientations, procedures, and empirical support. Prereq: grad st.

742 Empirically-Supported Interventions. 3 cr. G.

Research-supported therapy protocols for a variety of behavioral disorders; didactic instruction and role-play practice/feedback. Prereq: grad st; some background in psychopathology & systems of psychotherapy recom.

745 Hormones and Behavior. 3 cr. G.

Effects of hormones on behavior and brain function in various species. Counts as repeat of Psych 711 with same topic. Prereq: grad st

750 The History of Psychology. 3 cr. G.

Examination of the grounding of modern psychological theory and practice in the history of western culture. 3 hrs lec, 1 hr dis. Not open to students with cr in Psych 550(ER). Prereq: grad st.

754 Proseminar in Biological Psychology. 3 cr. G.

Overview of current topics in neuroscience including neuropsychopharmacology, neuropsychology, psychophysiology, and behavioral medicine. Prereq: grad st.

756 Psychophysiology. 3 cr. G.

Experimental investigation of physiological factors in behavior. 2 hrs lec; 1 hr dis. Not open

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to students with cr in Psych 656(ER). Prereq: grad st.

760 Experimental Child Psychology. 3 cr. G. Investigation of experimental research relating to infant and child behavior. Lec, Lab, Dis. No cr for students w/cr in Psych 660(ER). Prereq: grad st.

762 Lifespan Developmental Psychology. 3 cr. G. Survey of developmental theory from a life-span perspective, with an emphasis on historical roots of developmental psychology, contemporary integrated theoretical perspectives, and cross-cultural perspectives. Prereq: grad st.

782 The Aging Brain. 3 cr. G. Effects of aging process on brain function; resulting effects on psychological function. Counts as repeat of Psych 711 with same topic. Prereq: grad st.

790 Masters Research. 1-6 cr. G. Retakable. Prereq: grad st & cons advisory committee.

791 Project in Psychology. 3 cr. G. Independent research with a faculty member to fulfill the master's thesis requirement for incoming students with a master's degree without a thesis. Prereq: grad st; cons advisory committee.

799 Advanced Independent Study. 1-6 cr. G. Retakable w/chg in topic. Prereq: grad st & sponsorship by a faculty member.

802 First-Year Clinical Psychology Practicum. 3 cr. G. Administration of psychological tests to clinic clients; interviewing, contact with referred sources, feedback of test results to clients, written reports and co-therapy with experienced therapist. Retakable to 6 cr max. Prereq: grad st; clinical training prog; cons instr.

811 Community Placement in Clinical Psychology. 3 cr. G. Specific agency and additional prerequisites announced in the schedule of classes each time the course is offered. Retakable w/chg of placement to 9 cr max. Prereq: grad st; cons instr & placement supervisor.

812 Field Placement in Psychology. 3 cr. G. Retakable for cr. Prereq: grad st; cons instr & placement supervisor.

821 Practicum in Assessment I. 3 cr. G. Practical experience utilizing techniques used in Assessment I (Psych 831). Prereq: grad st; Psych 712(P), 801(P), 912(P); clinical training prog. Conc reg Psych 831(C) by clinical Psych students.

822 Practicum in Assessment II. 1-3 cr. G. Practical experience utilizing techniques used in Assessment II (Psych 832). Prereq: grad st; Psych 821(P); clinical training prog. Psych 832(C) by clinical psych students.

831 Assessment I. 3 cr. G. Objective techniques used in the appraisal of personality and intellectual processes. Prereq: grad st.

832 Assessment II. 3 cr. G. Neuropsychological, child-focused, and projective techniques used in the appraisal of personality and intellectual processes. Prereq: grad st; Psych 831(P).

833 Neuropsychology. 3 cr. G. Anatomy, pathology, and neuropsychology of the higher brain functions in humans. Prereq: grad st.

834 Seminar in Advanced Assessment: 3 cr. G. Specific topics and any additional prerequisites will be announced in the Timetable each time the course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st; Psych 831(P).

842 Practicum in Therapy. 4 cr. G. Supervised practicum experience with therapeutic techniques used in clinical psychology. Prereq: grad st; Psych 712(P).

844 Practicum in Clinical Supervision. 3 cr. G. Practicum to enhance theoretical and practical skills for supervising clinical work. Retakable to 12 cr max. Prereq: grad st; completion of all required clinical Psych courses & practica.

845 Practicum in Empirically-Supported Interventions. 1-3 cr. G. Application of techniques learned in Psych 742 (Empirically-Supported Interventions). Retakable once to 3 cr max. Prereq: grad st; Psych 742(C).

854 Behavioral Neuroscience. 3 cr. G. Introduction to current research and theory regarding the neural basis of behavior. Not open to students who have cr in Psych 654(ER). Prereq: grad st.

888 Candidate for Degree. 0 cr. G. Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Graduate Research. 1-6 cr. G. Retakable. Prereq: grad st & sponsorship by a grad faculty member.

911 Current Topics and Techniques in Clinical Psychology: (Subtitled). 3 cr. G. Retakable w/chg in topic to 9 cr max for masters students & 12 cr max for doctoral students. Prereq: grad st.

912 Developmental Psychopathology. 3 cr. G. Seminar on concepts and research in the scientific study of psychopathology across the lifespan. Prereq: grad st.

914 Seminar in Stimulus Control. 3 cr. G. Seminar on topics of traditional and contemporary theoretical interest in stimulus control. Prereq: grad st; Psych 714(P) or equiv.

915 Seminar in Operant Behavior. 3 cr. G. Prereq: grad st.

919 Seminar in Classical Conditioning. 3 cr. G. Seminar on topics of empirical and theoretical interest in classical conditioning. Prereq: grad st; Psych 714(P) or equiv.

930 Seminar in Social Psychology. 3 cr. G. Prereq: grad st.

932 Proseminar in Evaluation Research. 3 cr. G. In-depth examination of experimental and quasi-experimental methodologies for assessing the impact of social innovations; factors impeding implementation of such methodologies; utilization of available findings. Prereq: grad st.

933 Seminar in Neuroscience. 1 cr. G. Student presentations in cellular, molecular, and behavioral neuroscience. Retakable to 3 cr max. Psych 933 & Bio Sci 933 are jointly offered; students may enroll under only one of the curricular areas in any single semester. Prereq: grad st in Bio Sci, Psych, or Ed Psych or cons instr

954 Seminar in Physiological Psychology. 3 cr. G. Prereq: grad st.

955 Seminar in Social Psychology and Health. 3 cr. G. Theoretical and empirical contributions of social psychology to health. Prereq: grad st.

961 (860) Seminar in Child-Clinical Psychology. 3 cr. G. Diagnosis, etiology, therapy, and research in child-clinical psychology are discussed and criticized. Prereq: grad st.

990 Doctoral Research. 1-6 cr. G. Retakable. Prereq: grad st & admis to candidacy for Ph.D. degree.

995 Clinical Psychology Internship. 1 or 3 cr. G. Required internship for students in the clinical psychology PhD program. Retakable. Students who have passed dissertation defense enroll for 1 cr; all others enroll for 3 cr. Prereq: clinical psych doctoral student; dissertator status; proposal hearing passed; cons instr.

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995 (effective 09/05/2017) Clinical Psychology Internship. 1 or 3 cr. G.

Required internship for students in the clinical psychology PhD program. Retakable. Students who have passed dissertation defense enroll for 1 cr; all others enroll for 3 cr. Prereq: clinical psych doctoral student; dissertator status; proposal hearing passed; cons instr.

Public Administration

School/College: College of Letters and Science and Lubar School of Business

Degrees Conferred:

- Master of Public Administration (Presented Jointly)

Overview

The College of Letters and Science and the Lubar School of Business offer and present jointly the Master of Public Administration (MPA).

The program is designed to provide theoretical and practical preparation for careers in public and non-profit administration with three areas of concentration: municipal management, general public administration, and non-profit management.

MPA/MUP Program

A coordinated degree program has been designed to allow students to obtain both the Master of Public Administration and the Master of Urban Planning degrees concurrently.

This program is intended to combine professional training in planning with applied administrative and managerial skills. The MPA/MUP requirements are described later in this section.

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Ihrke, Douglas, Ph.D., Northern Illinois University (Public and Nonprofit Administration)

Lee, Mordecai, Ph.D., Syracuse University (Urban Planning)

Ragins, Belle Rose, Ph.D., University of Tennessee (Business)

Associate Professors

Alwan, Layth C., Ph.D. University of Chicago (Business)

Bohte, John, Ph.D., Texas A+M University (Political Science)

Freeman, Sarah, Ph.D., University of Michigan (Business)

Singh, Romila, Ph.D., Drexel University (Business)

Assistant Professors

Andersson, Fredrik, Ph.D., University of Missouri-Kansas City (Public and Nonprofit Administration)

Chikoto, Grace, Ph.D., Georgia State University & Georgia Institute of Technology (Public and Nonprofit Administration)

Master of Public Administration

Admission

An applicant must meet Graduate School requirements and hold a bachelor's degree from an accredited college or university to be considered for admission.

There are no fixed prerequisites in terms of prior academic training; but background in public administration, American governmental institutions, economics, statistics, and computer applications in social science is beneficial. Each student's academic preparation is evaluated at the time of application. A personal interview may be required.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

The MPA program requirements to be considered for admission are:

1. An undergraduate grade point average of at least 3.0 (4.0 scale).
2. Three letters of recommendation from persons familiar with applicant's academic ability and achievement.
3. Submission of scores on the [Graduate Record Examination \(GRE\)](#) or the [Graduate Management Admission Test \(GMAT\)](#).

Candidates seeking admission to the MPA/MUP program must apply to and be admitted to both programs. The requirements for admission to the MUP program are detailed in the Urban Planning section of this Bulletin.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at the time of admission should immediately contact the Program Director.

Credits and Courses

The Master of Public Administration degree requires satisfactory completion of 39-42 credits of prescribed graduate study and appropriate coursework.

Minimum Grade Requirements in the Core Courses

In order to demonstrate mastery of the critical Core Course material, MPA students must achieve a grade point average of 3.0 in the six Core Courses, and, regardless of average, students must earn a grade of B- or better in each Core Course. If a grade of C+ or lower is earned in any Core Course, that course must be repeated in an effort to earn the minimum grade of B-. If the student's grade point average in the six Core Courses is below 3.0, the student must repeat one or more Core Courses in which a grade of lower than B was earned in an effort to establish a grade point average of 3.0 in the Core. (For purposes of this requirement, the grade point average for the Core Courses will be calculated on the basis of only the highest grade earned; that is, the grade earned in the first attempt at a Core Course will not be averaged with the grade earned in the repeat.)

Credits and Courses: Core

Students entering the MPA program will be placed, at the discretion of the MPA Director, in one of two tracks (A or B) within the core. The minimum degree requirement is 39 credits for Track A students and 42 credits for Track B students.

Required Core Courses (18*-21 credits)

Bus Mgmt 709 Analytic Models for Managers (3 cr)

Bus Adm 738 Human Resource Management (3 cr)

Pub Adm /Urb Plan 630 Budgeting and Finance in the Public Sector (3 cr)

Pub Adm 763 Scope and Dynamics of Public Administration (3 cr)

Pub Adm 769 Analyzing and Evaluating Public Policies and Programs (3 cr)

* Pub Adm 921 Public Service Administrative Internship (3 cr) – waived for students with significant experience in the public or nonprofit sector; see Track A

One seminar in organizational management and leadership (3 cr) selected from the following list:

Bus Adm 441 Diversity in Organizations

Bus Adm 443 Special Topics in Human Resources Management

Bus Adm 706 Managing in a Dynamic Environment

Bus Adm 737 Managerial Decisions and Negotiations

Credits and Courses: Track A*

Students with significant public or nonprofit sector work experience may, at the discretion of the MPA Director, have the Government/Nonprofit Administrative Internship course (Pub Adm 921) waived. Students seeking placement in this track will need to meet with the MPA Director to discuss

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this possibility and will be required to provide documentation of current public or nonprofit sector work experience.

Credits and Courses: Track B

Students with no significant public or nonprofit sector work experience are required to enroll in and successfully complete the Government/Nonprofit Administrative Internship course (Pub Adm 921). As part of the requirements for this course, Track B students are required to obtain, with the assistance of the MPA Director, one or more internships in either the public or nonprofit sector while enrolled in the MPA program.

Every student must select and complete the requirements for one of the following three concentrations:

Municipal Management (18 Cr)

Select two of the following course options (total of 6 cr):

Pub Adm 730 Budgeting for Public Sector Professionals (3 cr)
Pub Adm 965 Municipal Management (3 cr)
Pub Adm 750 Public Administration Risk and Analysis (3 cr)

Select two of the following course options (total of 6 cr):

Pol Sci/Pub Adm 914 Seminar in Intergovernmental Relations (3 cr)
Urb Plan 651 Land Use Planning Practice (3 cr)
Urb Plan 684 Planning Local Economic Development (3 cr)
BOTH UrbPlan 701 Introduction to Land Use Planning (1 cr)
and
UrbPlan 702 Introduction to Planning Law (2 cr)

**Other courses may be substituted with the approval of the MPA Director.

Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration.

General Public Administration (18 Credits)

Select four of the following five courses:

Bus Adm 441 Diversity in Organizations (if not used to satisfy seminar in organizational management requirement)
Pub Adm 400 Ethics and Responsibility in Public Administration (3 cr)
Pub Adm/Pol Sci 452 Administrative Law (3 cr)

Pub Adm 705 Government Public Relations (3 cr)
Pub Adm 750 Public Administration Risk and Analysis (3 cr)
Pol Sci/Pub Adm 914 Seminar in Intergovernmental Relations (3 cr)
Pub Adm 958 Seminar in Public Administration (3 cr)

Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration.

Nonprofit Organization and Management (18 credits)

Bus Adm 766 Marketing for Nonprofit Organizations (3 cr) **OR**
Bus Adm 767 Services and Relationship Marketing (3 cr)
BusMgmt 724 Accounting for Nonprofit Organizations
Nonprof (Pol Sci) 789 Theory and Role of Nonprofit Organizations (3 cr)
Pub Adm 958 Seminar in Public Administration (3 cr)

Also required: At least six additional elective credits selected by the student with the approval of the MPA Director that relate to the student's substantive interests within the discipline of public administration.

Credits and Courses: Capstone Seminar (3 Credits)

Every student will be required to take the capstone seminar, Pub Adm (Pol Sci) 959 - Capstone Seminar in Public Administration. The course requirements will include the completion and written and oral presentation of a project on a topic selected with the assistance of the instructor. This course will also be devoted to coverage of special issues and problems of the public administration profession, including administrative ethics.

Total Degree Credits Required: 39*-42 cr

Thesis
Not required.

Time Limit
The student must complete all degree requirements within seven years of initial enrollment. Students in the MPA/MUP program (see below) are allowed up to seven years to complete all requirements for both degrees.

MPA/MUP Coordinated Degree Program

This program allows students to complete master's degrees in Public Administration and in Urban Planning concurrently. The

coordinated degree requires 42-45 credits of required courses and completion of a concentration in Public Administration (18 credits). However, because some courses completed for the core requirements of the MUP also may count toward the MPA concentration, students may complete the dual degree with a minimum of 54-57 credits. The total number of credits will depend on the student's track and choice of concentration in public administration.

Required Courses in Urban Planning (27 credits)

UrbPlan 701 Introduction to Land Use Planning, 1 cr
UrbPlan 702 Introduction to Planning Law, 2 cr
UrbPlan 711 Planning Theories and Practice, 3 cr
UrbPlan 720 Urban Development Theory and Planning, 3 cr
UrbPlan 721 Applied Planning Methods, 3 cr
UrbPlan 740 Data Analysis Methods I, 3 cr
UrbPlan 810 Planning Policy Analysis, 6 cr
UrbPlan 811 Applied Planning Workshop, 3 cr

And any one of the following courses (3 credits):

UrbPlan 751 Introduction to Urban Design and Physical Planning, 3 cr
UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning, 3 cr
UrbPlan 857 Urban Design as Public Policy, 3 cr

Required Courses in Public Administration (18 credits)

Bus Adm 738 Human Resource Management, 3 cr
Pol Sci/UrbPlan 630 Budgeting and Finance in the Public Sector, 3 cr
Pol Sci 763 Scope and Dynamics of Public Administration, 3 cr
Pol Sci 921 Public Service Administrative Internship,* 3 cr **OR**
UrbPlan 991 Legislative/Administrative Agency Internship, 3 cr
Pol Sci 959 Capstone Seminar in Public Administration, 3 cr

One seminar (3 cr) in organizational management and leadership selected from the following list:

Bus Adm 443 Special Topics in Human Resources Management, 3 cr
Bus Adm 732 Transforming Organizations, 3 cr
Bus Adm 737 Managerial Decisions and Negotiations, 3 cr

* The internship requirement will be waived for students with significant public sector work experience.

Concentration Requirement (18 credits)

Completion of all the requirements for one of the concentrations in Public Administration. A maximum of six credits of MUP core courses

Public Administration

may be used as electives in the MPA concentrations.

Comprehensive Exam

Completion of the comprehensive exam in Urban Planning is required. (See Urban Planning)

Master of Science in Criminal Justice/Master of Public Administration

Both departments collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving professional practice in the field of criminal justice.

Admission

Students are admitted to both graduate programs separately and admission requirements are consistent with those specified by the UWM Graduate School, the MS in Criminal Justice and the MPA program.

Credit and Courses

Students accepted into this MS/MPA program complete the following courses:

M.S. in Criminal Justice

Courses

Crj 773 Perspectives on Crime & the Criminal Justice System 3 cr. G.

Crj 743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G.

Crj 756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.

12 additional credit hours of courses must be taken within the criminal justice program.

12 credit hours of courses successfully completed for the MPA, selected with the consent of the student's advisor.

Total Degree Credits for Master of Science in Criminal Justice: 33 cr

Master of Public Administration

Students entering the MPA program will be placed, at the discretion of the MPA Director in one of two tracks (A or B) within the core. The minimum degree requirement is 39 credits for Track A and 42 for Track B.

Track A

Students with significant public or nonprofit sector work experience may, at the discretion of the MPA Director, have the Government/Nonprofit Administrative Internship course (Pub Adm 921) waived. Students seeking placement in this track will need to meet with the MPA Director to discuss this possibility and will be required to provide documentation of current public or nonprofit sector work experience.

Track B

Students with no significant public or nonprofit sector work experience are required to enroll in and successfully complete the Government/Nonprofit Administrative Internship course (Pub Adm 921). As part of the requirements for this course, Track B students are required to obtain, with the assistance of the MPA Director, one or more internships in either the public or nonprofit sector while enrolled in the MPA program.

Required/Core Courses (15 credits)

Bus Adm 738 - Human Resource Management (3 cr)

Pub Adm 763 - Scope and Dynamics of Public Administration (3 cr)

Pub Adm 769 - Analyzing and Evaluating Public Policies and Programs (3 cr)

One course in statistics selected from the following list:

Bus Mgmt 709 - Analytic Models for Managers (3 cr)

Pub Adm 792 - Decision Making for Public and Nonprofit Organizations (3cr)

Crj 756 – Proseminar: Analysis of Criminal Justice Research (3 cr)

One seminar in organizational management and leadership (3 cr) selected from the following list:

Bus Adm 441 - Diversity in Organizations
Bus Adm 443 - Special Topics in Human Resources Management

Bus Adm 706 - Managing in a Dynamic Environment

Bus Adm 737 - Managerial Decisions and Negotiations

Capstone Seminar (3 Credits)

Every student will be required to take the capstone seminar, Pub Adm(Pol Sci) 959: Capstone Seminar in Public Administration. The course requirements will include the completion and written and oral presentation of a project on a topic selected with the assistance of the instructor. This course will also be devoted to coverage of special issues and problems of the public administration profession, including administrative ethics.

General Public Administration (9 Credits)

Select any three of the following courses:

BusMgmt 724 – Accounting for Nonprofit Organizations

Pub Adm 400 - Ethics and Responsibility in Public Administration (3 cr)

Pub Adm/Urb Plan 630 – Budgeting and Finance in the Public Sector (3 cr)

Pub Adm 750 - Public Administration Risk and Analysis (3 cr)

Pub Adm/Pol Sci 914 - Seminar in Intergovernmental Relations (3 cr)

Pub Adm 958 - Seminar in Public Administration (3 cr)

Pub Adm 965 - Municipal Management (3 cr)

Concentration (12 Credits)

Satisfied by 12 credits taken in Crj courses.

Internship (0-3 Credits)

Pub Adm 921 - Government/Non-profit Administrative Internship (3 cr). An internship is mandatory for students with no public sector work experience.

Total Degree Credits for Master of Public Administration: 48-51 cr

The total credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated MS/MPA degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Courses

400 Ethics and Responsibility in Public Administration. 3 cr. U/G.

How public administrators make ethically-sound decisions; moral and value systems that shape public administration; temptations that can cause officials to stray from ethical standards. Counts as repeat of Pol Sci 387 w/"Administrative Ethics & Responsibility" subtitle. Prereq: jr st.

452 Administrative Law. 3 cr. U/G.

An examination of due process, privacy, and other constitutional and legal issues as they arise in the regulatory investigatory, and enforcement activities of administrative agencies. American politics course. Pol Sci 452 & Pub Adm 452 are jointly offered; they count as repeats of one another. Prereq: jr st.

461 (Pol Sci 461) Organizational Theory and Practice. 3 cr. U/G.

Analysis of the role of organizations in contemporary society, with particular emphasis on governmental organizations that have formal regulation of individual group behavior as their basic functions. Prereq: jr st.

630 Budgeting and Finance in the Public Sector. 3 cr. U/G.

Examination of the budgeting process in the public sector; development of skills in budgeting and financial management. Topics include capital budgeting, debt management, revenue forecasting, and auditing. Jointly-

Public Administration

offered w/& counts as repeat of UrbPlan 630.

Prereq: sr st or cons instr.

705 (effective 09/05/2017) Government Public Relations and Advocacy. 3 cr. G.

External communications by public sector managers and planners for purposes of democratic accountability, fulfilling the mission of the agency, and communicating with elected officials. Pub Adm 705 & UrbPlan 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

705 Government Public Relations. 3 cr. G.

External communication in public administration for democratic accountability and fulfilling the mission of the agency, such as responsiveness, outreach, and public sector advertising. Pub Adm 705 & UrbPlan 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

730 Budgeting for Public Sector Professionals. 3 cr. G.

Budgeting skills for effective local and state government management; financial reporting, revenue collection and administration, pension funds, debt issuance, analytical techniques used in public budgeting. Prereq: grad st

750 Public Administration Risk and Analysis. 3 cr. G.

Efficiency analysis; return-on-investment analysis; shared services vs. privatization; total employee compensation as a management tool; risk mitigation; the government purchasing process. Prereq: grad st.

763 Scope and Dynamics of Public Administration. 3 cr. G.

The field of public administration, including organization theory, public management, the politics of administration, and the role of government in policy-making. Pol Sci 763 & Pub Adm 763 are jointly offered; they count as repeats of one another. Prereq: grad st.

769 Analyzing and Evaluating Public Policies and Programs. 3 cr. G.

Examination of methods, including cost-benefit analysis and decision analysis, that aid policy makers and administrators in understanding and assessing public and nonprofit sector policies and programs. Pol Sci 769 & Pub Adm 769 are jointly offered; they count as repeats of one another. Prereq: grad st.

792 (Pol Sci 792) Decision-Making for Nonprofit and Public Organizations. 3 cr. G.

Research methods including research design, measurement, and analysis. Qualitative and quantitative decision-making methods. Understanding and using basic statistical concepts and techniques in decision making. Nonprof 792 & Pub Adm 792(Pol Sci 792) are jointly offered; they count as repeats of one another. Prereq: grad st

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

914 Seminar in Intergovernment Relations. 3 cr. G.

Policy issues in intergovernmental relations and the complex governmental context in which Americans live and work. Pol Sci 914 & Pub Adm 914 are jointly offered; they count as repeats of one another. Prereq: grad st.

921 (Pol Sci 921) Public Service Administrative Internship. 3 cr. G.

This course combines a supervised field placement in a governmental agency or non-profit organization with class sessions and assignments designed to augment the work experience. Prereq: grad st; cons instr.

958 (Pol Sci 958) Seminar in Public Administration: (Subtitled). 3 cr. G.

Selected topics covering different aspects of public administration. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

959 (Pol Sci 959) Capstone Seminar in Public Administration. 3 cr. G.

Seminar in public administration focusing on administrative ethics and applied research. Requires written and oral presentation of research project. Prereq: grad st; completion of MPA core curriculum.

965 (Pol Sci 965) Municipal Management. 3 cr. G.

The political, social, and economic contexts in which the urban manager functions, with an emphasis on managing municipal service delivery and resources. Pub Adm 965(Pol Sci 965) & Urb Std 965 are jointly offered; they count as repeats of one another. Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study in a subject area of special need or interest after consultation with a faculty member. Prereq: grad st

Public Health

School/College: Joseph J. Zilber School of Public Health

Degrees Conferred:

- Master of Public Health
- [Ph.D. in Environmental and Occupational Health \(pre-Fall 2015\)](#)
- [Ph.D. in Environmental Health Sciences](#)
- Ph.D. in Public Health with a Concentration in Community and Behavioral Health Promotion

Related Certificate

- [Graduate Certificate in Public Health](#)

Overview

The Zilber School of Public Health offers a Master of Public Health (MPH), a Ph.D. in Public Health with a Concentration in Community and Behavioral Health Promotion, and a Ph.D. in Environmental Health Sciences.

Master of Public Health

The Zilber School of Public Health (SPH) offers a Master of Public Health (MPH), a professional master's degree program with five distinct tracks of study. The MPH program provides students with a broad understanding of public health practice and allows specialization in Biostatistics, Community and Behavioral Health Promotion, Environmental Health Sciences, Epidemiology, or Public Health Policy and Administration.

Like most MPH programs, the Zilber SPH's program imparts knowledge and skills in each of these core disciplines in public health, helping prepare all students to analyze information and consider solutions to public health problems using a social justice lens at the community, institutional, and societal levels. Courses have been designed to teach program- and track-level competencies as defined by Zilber SPH faculty. Program-level competencies reflect key public health skills including systems thinking, ethics, analytical methods, communications/informatics, diversity/culture, leadership, and professionalism. In addition, students engage in a specific track of study, gaining deeper competency in one of the five areas. Upon graduation students are prepared for positions in a range of population health settings and/or for doctoral-level study.

Biostatistics

The Biostatistics track builds on the classic Public Health Biostatistics skill and knowledge base and takes advantage of special knowledge

of its faculty in the areas of genetics, bioinformatics, network analysis, causal inference, and big data science. Students have the opportunity to learn and apply statistical genetics in the context of complex disease study, high throughput computing used in "big" data science, applications in evidence-based patient-centered outcome studies, and population-based epidemiological studies. Courses include topics and material such as interpretation of personalized and evidence-based medicine in the context of public health; basic understanding of genetics and epigenetics; general "omic" approaches and concepts; as well as classic Biostatistics topics such as Survival and Categorical data analysis.

Community and Behavioral Health Promotion

The Community and Behavioral Health Promotion (CBHP) track focuses on promoting the health of communities through innovative approaches to community engagement and collaborative practice. Coursework addresses theories and frameworks in social and behavioral science, evidence-based methods for program planning (including assessment) and implementation, and program evaluation. Students apply a social justice and equity-centered approach to public health training and practice. Methodological approaches address quantitative, qualitative, and community-engaged techniques.

Environmental Health Sciences

The Environmental Health Sciences track offers students an opportunity to specialize in environmental threats to the public's health, while simultaneously obtaining a strong scientific background that connects environmental sources, distributions, exposures, and biological mechanisms to ultimate health impacts. Students benefit from faculty expertise in environmental and developmental toxicology, environmental epidemiology, and the use of animal models to research public health issues. Didactic coursework includes introduction to the core disciplines of public health, specialization in areas such as environmental epidemiology and risk assessment, along with student-selected opportunities to deepen knowledge in the areas of the biological, chemical, and built environment. A Field Experience with a public health agency or another environmental health-based community partner and Capstone incorporate environmental health theories with crosscutting public health competencies like communication, public health biology, systems-thinking, and leadership.

Epidemiology

The Epidemiology track is unique in its emphasis on integrating epidemiologic theory and methods with essential interdisciplinary

tools for analyzing socio structural processes that influence health and advancing health equity. Our comprehensive and multidisciplinary curriculum facilitates learners' analysis of interrelationships among theory, research, and practice, as well as among historical and contemporary structures of inequality. Students are thereby prepared to engage in rigorous, collaborative, evidence-informed, and reflexive public health praxis. Through both didactic and experiential learning, students apply social justice, epidemiologic, and critical social theories to research and practice while developing skills in reframing public health issues, applied epidemiological methods, epidemiologic data analysis, social epidemiology, and building community partnerships. Graduates are able to collect, analyze, and interpret epidemiological data from health equity perspectives, generate theory-driven research questions, and work in collaboration with diverse community partners to promote systems-level social change for eliminating health inequities.

Public Health Policy and Administration

The Public Health Policy and Administration (PHPA) track is unique in its focus on equipping students with an inter-sectoral, systems-level, applied approach to informing public health policy and administration that promotes health equity. Emphasizing a comprehensive perspective and integrated strategy that links theory with practice, the PHPA curriculum provides students with a foundational understanding of social and policy theory, quantitative and qualitative methods, and policymaking and its broader context. Graduates obtain a breadth of knowledge and skills applicable to a variety of fields in the public and private sectors as well as the ability to effectively apply their knowledge and tools to practice.

Doctoral of Philosophy in Public Health

Students will choose between two concentrations in the Ph.D. in Public Health offered by UW-Milwaukee's Joseph J. Zilber School of Public Health. The two concentrations share a common core of four courses for a total of 12 credits toward the required coursework. Students in the concentration in Biostatistics will select an elective to replace the introductory biostatistics course, as they will likely enter the program having already completed that level. The following sections describe each concentration in more detail.

Public Health

Concentration in Community and Behavioral Health Promotion (CBHP)

The Community and Behavioral Health Promotion (CBHP) doctoral program is designed to train students in social and behavioral science aspects of public health research and intervention with a particular emphasis on the development of community-level interventions. Faculty interest areas include: maternal, infant, and child health; health disparities; obesity; nutrition; food security; HIV and STD prevention; adolescent health; violence prevention; substance abuse prevention; creating healthy environments; and promoting mental health.

Students entering the program will be trained at the graduate level in health promotion from a public health perspective. Students will also have exposure to other key areas of public health (environmental health, epidemiology, biostatistics, and policy and administration), which will allow them to be integrated into the broader public health profession upon graduation. The Ph.D. in Public Health with a concentration in CBHP requires 72 course credits beyond the Bachelor's degree. Coursework includes core courses as outlined below, research and methods courses, electives, and credits taken as pre-dissertation research supporting CBHP faculty research. In addition, students will prepare for public health leadership through their own original research.

Student research in community and behavioral health promotion may focus on the social and behavioral determinants of disease and injury, the interaction of social and behavioral factors with other disease susceptibility or health promoting factors, or on interventions that seek to improve health through social and behavioral strategies within a community.

This program aligns with UWM's mission to further academic opportunities at all levels for women, minority, part-time students, and financially or educationally disadvantaged students. In addition, the program consistently strives for diversity within its faculty ranks to achieve the University's goal for cultural competency in teaching and learning.

Upon graduation, a student completing the requirements for the Ph.D. in Public Health with a concentration in Community and Behavioral Health Promotion will be able to:

1. Identify individual, organizational, community, and societal influences on health, health behaviors, disease, injury, illness, and disability
2. Develop, implement, and evaluate behavioral and structural interventions to prevent disease and injury, alleviate illness

- and disability, improve the quality of life, and reduce health disparities
3. Conduct and disseminate rigorous and innovative social and behavioral science research of relevance to public health
 4. Serve as an expert social and behavioral scientist on a collaborative team of public health investigators
 5. Appreciate the history and philosophy of public health, health behavior, health education, and health communication as well as understand similarities and differences of these disciplines from other social science disciplines

Concentration in Biostatistics

The Biostatistics doctoral program is designed to train students in the development of techniques, methods and tools to conduct public health research using rigorous statistical, bioinformatics and general quantitative methods. Faculty interest areas include: bioinformatics, statistical genetics, network analysis, causal inference, biostatistical methods, and high throughput computing.

Students entering the program will be trained at the graduate level in the analysis of data from genetics and genomics, electronic medical records, and population-based epidemiological studies. Such research will include approaches requiring large populations, large data sets, and as needed, the collection, processing and analysis of data used in the pursuit of improving the public's health. Graduates of this program will be able to participate and execute the study design, data collection, analysis and dissemination of results. Technical areas include database management, causal inference, network analysis, medical and population genetics, as well as tools and techniques for acquiring, processing, warehousing, and analyzing public health data. Other areas of expertise include data mining, computer-based decision support systems, statistical genetics, and computational biology. The Ph.D. in Public Health with a concentration in Biostatistics requires 69 course credits beyond the Bachelor's degree. Coursework includes core courses as outlined below, methods courses, electives, and credits taken as doctoral research.

Upon graduation, a student completing the requirements for the Ph.D. in Public Health with a concentration in Biostatistics will be able to:

1. Develop new statistical methodologies to solve problems in biomedical, clinical, public health, or other fields
2. Contribute to the body of knowledge in the field of biostatistics by writing and successfully submitting manuscripts for publication in a peer-reviewed journal

3. Perform all responsibilities of a statistician in collaborative research; in particular: design studies, manage and analyze data and interpret findings from a variety of biomedical, clinical or public health experimental and observational studies
4. Communicate statistical information effectively with individuals with varying degrees of statistical knowledge through written and oral presentations
5. Use statistical, bioinformatic and other computing software to organize, analyze, and visualize data
6. Review and critique statistical methods and interpretation of results in published research studies, presentations, or reports
7. Demonstrate solid theoretical knowledge necessary for the development and study of new statistical methods
8. Understand and implement modern statistical approaches emerging in the literature to improve biomedical and public health

Graduate Faculty

(Professors' home departments, programs, or schools appear in parentheses)

Professors

Carvan, Michael III Ph.D., Texas A&M University (School of Freshwater Sciences)
Cisler, Ron, Ph.D., University of Wisconsin Milwaukee (College of Health Sciences)
Etsel, Ruth, M.D., Ph.D., University of North Carolina at Chapel Hill
Florsheim, Paul, Ph.D., Northwestern University
McLellan, Sandra, Ph.D., University of Cincinnati Medical Center (School of Freshwater Sciences)
McRoy, Susan, Ph.D., University of Toronto (College of Engineering and Applied Science)
Schutz, Aaron, Ph.D., M.P.P., M.A., University of Michigan (School of Education)
Strath, Scott, Ph.D. University of Tennessee (College of Health Sciences)
Swartz, Ann, Ph.D., University of Tennessee (College of Health Sciences)
Tonellato, Peter, Ph.D., University of Arizona
Velie, Ellen, Ph.D., University of California at Berkeley
Weinhardt, Lance, Ph.D., Syracuse University

Associate Professors

Cho, Young, Ph.D., University of Illinois at Chicago
Do, D. Phuong (Phoenix), Ph.D., M.Phil, The RAND Graduate School
Harley, Amy, Ph.D., M.P.H., Ohio State University
Huang, Chiang-Ching Spencer, Ph.D., University of Michigan
Klos, Lori, Ph.D., Cornell University (College of Health Sciences)

Public Health

Laiosa, Michael, Ph.D., State University of New York, Upstate Medical University
Malcoe, Lorraine Halinka, M.P.H., Ph.D., University of California at Berkeley
Miller, Todd, Ph.D., University of Maryland
Ngu, Emmanuel, Dr.P.H., M.Sc, University of North Carolina at Chapel Hill
Svoboda, Kurt, Ph.D., S.U.N.Y at Stony Brook
Yan, Alice, Ph.D., University of Maryland

Assistant Professors

Auer, Paul, Ph.D., Purdue University
Carnegie, Nicole Bohme, Ph.D., University of Washington
Hussein, Mustafa, Ph.D., The University of Tennessee
Kalkbrenner, Amy, Ph.D., M.P.H., University of North Carolina at Chapel Hill
Laestadius, Linnea, Ph.D., M.P.P., Johns Hopkins University
Loyd, Jenna, Ph.D., University of California at Berkeley
Ma, Hongbo, Ph.D., University of Georgia
Meier, Helen, Ph.D., M.P.H., University of Michigan
Simanek, Amanda, Ph.D., University of Michigan
Walker, Renee, Dr.P.H., M.P.H., University of Pittsburgh
Wang, Yang, Ph.D., University of Nebraska
Zheng, Cheng, M.S, Ph.D., University of Washington

Non-Faculty

Adjunct Associate Professor

Swain, Geoffrey R. MD, MPH, Medical College of Wisconsin (University of Wisconsin-Madison School of Medicine & Public Health)

Master of Public Health

Admission

An applicant must meet Graduate School requirements plus the following program requirements to be considered for admission to the program. These materials will be considered in a holistic admissions process with special attention to ensure a diverse student body.

1. Three letters of recommendation from persons familiar with the applicant's academic experience and potential for graduate work in public health.
2. CV or resume.
3. Score report from the General Test of the [Graduate Record Examination \(GRE\)](#), taken within the last five years.
4. The admissions committee may consider [GMAT](#), LSAT, MCAT scores in place of [GRE](#) scores. Students requesting this or any other exception should apply in writing for consideration by the Applications Review Committee.
5. Address the following two Short Essay questions, limiting responses to no more

than 500 words (approximately 250 words per question):

- Describe how your professional, volunteer, and educational background has led you to seek a degree in Public Health.
 - How will your desired track of study help you reach your personal and professional goals in Public Health?
6. International applicants must also meet admission standards set and monitored by UWM's Center for International Education.

An MPH Application Checklist is available on the program website to assist applicants in organizing the application, and this check list must be submitted, along with the CV or resume. Applicants must note their desired track of study on the check list.

Successful applicants to the Environmental Health Sciences track will have upper-level chemistry, biology, and mathematics through at least one semester of calculus.

Advisor

Each student will be assigned a track-specific Faculty Advisor during Orientation week preceding the first semester. Faculty Advisors assist the student in the development of an individual Plan of Study designed to advance the career goals of the student and consistent with track curricula. The Advisor plays an important role in connecting the Field Experience, Capstone, and career goals for each student.

UWM's Zilber School recognizes the importance of a strong faculty advising program coupled with a sound system for monitoring student progress in all programs. A school wide student evaluation each semester assesses progress and ensures that students are on track for graduation. Feedback in December to students will be through faculty advisors, while students will receive a letter in May signed by the faculty advisor and program director confirming progress and noting any guidance for subsequent years, including plans and timetable for remediation when necessary.

Administrative offices of the Zilber School of Public Health have staff assigned on policies and procedures for admission, academic progression, and graduation. If deemed necessary, any student can petition to the Zilber SPH's Office of Academic and Student Affairs for a reassignment of Faculty Advisor. Program track faculty will make every effort to accommodate requests to give all students opportunities for success in the program.

Credits and Courses

All students enrolled in the MPH program take a common set of core classes designed to give basic skills and knowledge of public health concepts. The core curriculum consists of at least 20 credit hours, including at least three credits Field Experience and a two-credit capstone seminar. In addition to the common core, students complete the required coursework in one of five specialization tracks: Biostatistics, Community and Behavioral Health Promotion, Environmental Health Sciences, Epidemiology, or Public Health Policy and Administration. The MPH degree varies from 42-44 credits depending on the track. Students must maintain a cumulative G.P.A. of 3.0 or better in order to progress through the program.

Unless noted, all courses are 3 credits.

MPH Required Common Core Courses (at least 20 credits)

PH 702 Introduction to Biostatistics
PH 703 Environmental Health Sciences
PH 704 Principles and Methods of Epidemiology
PH 705 Principles of Public Health Policy and Administration
PH 706 Perspectives in Community and Behavioral Health
PH 790 Field Experience in Public Health (at least 3 credits)
PH 800 Capstone in Public Health (2 credits)

Transcript-Designated Concentrations

Biostatistics Concentration

(22 track credits for a total of 42 credits in this concentration)

Required Courses (13 credits)

PH 710 Seminar in Biostatistics and Bioinformatics (1 credit)
PH 711 Intermediate Biostatistics
PH 712 Probability and Statistical Inference
PH 713 Analyzing Observational and Experimental Data
PH 718 Data Management and Visualization in R

"S"electives—Choose three (9 credits minimum)

PH 707 Introduction to Statistical Computing (1 credit)
PH 709 Public Health Informatics
PH 714 Statistical Genetics and Genetic Epidemiology
PH 715 Applied Categorical Data Analysis
PH 716 Applied Survival Analysis
PH 717 Applied Longitudinal Data Analysis
PH 720 Special Topics in Biostatistics (1-3 credits)
PH 721 Introduction to Translational Bioinformatics

Public Health

PH 722 Introduction to Bioinformatics in Biomedical and Public Health Sciences
PH 723 Clinical Trials

Community and Behavioral Health Promotion Concentration

(24 track credits for a total of 44 credits in this concentration)

Required Courses (15 credits)

PH 701 Public Health Principles and Practice
PH 725 Theories and Models of Health Behavior
PH 726 Community Health Assessment
PH 727 Program Planning and Implementation in Public Health
PH 728 Program Evaluation in Public Health

Methods "S" electives—Choose two (6 credits minimum)

PH 729 Survey Research Methods in Public Health
PH 736 Advanced Qualitative Methods
PH 776 Qualitative Approaches in Public Health Policy and Administration
PH 831 Community Engagement and Participatory Research Approaches in Public Health

Electives—Choose one (3 credits minimum)

PH 719 Social Justice in Public Health
PH 740 Special Topics in Public Health
PH 752 Public Health and Mental Health
PH 999 Independent Study (1-3 credits)
Kin 732 Physical Activity and Health Across the Lifespan
Other classes as approved by advisor

Environmental Health Sciences Concentration

(23 track credits for a total of 43 credits in this concentration)

Required Courses (11 credits)

PH 701 Public Health Principles and Practice
PH 743 Environmental Risk Assessment
PH 750 Seminar in Environmental Health Sciences (1 credit x 2)
PH 762 Environmental Epidemiology

Built Environment "S" elective—Choose one

ARCH 790 Special Topics: LEED for Existing Buildings: Operations and Maintenance Assessment for Environmental, Economic, and Social Impact
Geog 520 Physical Geography of the City
Geog 880/UrbPlan 880 Challenges to Urban Sustainability
Geog 945 The Internal Structure of the City
IE 580 Ergonomics
UrbPlan 791 Intro to Urban GIS for Planning
Other classes as approved by advisor

Chemical Environment "S" elective—Choose one

PH 741 Environmental Health Microbiology

PH 744 Environmental Toxicology
PH 745 Developmental Toxicology
Other classes as approved by advisor

Biological Environment "S" elective—Choose one

PH 741 Environmental Health Microbiology
PH 745 Developmental Toxicology
PH 775 Mechanisms of Infectious Disease (2 credits)
Other classes as approved by advisor

Elective

Choose one additional course from the Built, Chemical, or Biological "S" electives listed above or other classes as approved by advisor.

Epidemiology Concentration

(24 track credits for a total of 44 credits in this concentration)

Required Courses (15 credits)

PH 700 Structures of Inequality and Population Health
PH 758 Social Epidemiology
PH 759 Applied Quantitative Methods for Studying Population Health and Health Disparities
PH 761 Epidemiology Field Methods
PH 763 Epidemiology in Action for Equity

Content "S" electives—Choose one (3 credits minimum)

PH 762 Environmental Epidemiology
PH 768 Cancer Epidemiology
PH 769 Nutritional Epidemiology
Other classes as approved by advisor

Electives—Choose two (6 credits minimum)

PH 713 Analyzing Observational and Experimental Data
PH 714 Statistical Genetics and Genetic Epidemiology
PH 715 Applied Categorical Data Analysis
PH 716 Applied Survival Analysis
PH 717 Applied Longitudinal Analysis
PH 727 Program Planning and Implementation in Public Health
PH 728 Program Evaluation in Public Health
PH 729 Survey Research Methods in Public Health or Soc 752 Fundamentals of Survey Methodology (not both)
PH 784 Social Policy as Health Policy
PH 868 Links between Infectious and Chronic Disease
Geog 525 Geographic Information Science (4 credits)
UrbPlan 692 Special Topics in Urban Planning: Data Analysis and Visualization
Other classes as approved by advisor

Public Health Policy and Administration Concentration

(24 track credits for a total of 44 credits in this concentration)

Required Courses (12 credits)

PH 700 Structures of Inequality and Population Health
PH 776 Qualitative Approaches in Public Health Policy and Administration
PH 777 Survey of Quantitative Research and Methods for Public Health Policy and Administration
PH 779 Public Health Policymaking and Policy Analysis

Fundamental Methods "S" Elective—Choose one

PH 728 Program Evaluation in Public Health
Econ 450 Health Economics
Pub Adm 630 Budgeting and Finance in the Public Sector

Administrative "S" Elective—Choose one

Bus Adm 755 Health Care Administration and Delivery Systems
BusMgmt 718 Concepts and Practice of Nonprofit Management
Ed Pol 601 Foundations of Community-Based Organizations
Pub Adm 763 Scope and Dynamics of Public Administration

Content Elective—Choose at least one (3 credits minimum)

PH 719 Social Justice in Public Health
PH 725 Theories and Models of Health Behavior
PH 774 Crime Policies and Public Health
PH 784 Social Policy as Health Policy
PH 786 The Science and Policy of Sustainable Diets
Bus Adm 757 Managed Care and Integrated Health Networks
BusMgmt 725 Governance and Executive Leadership of Nonprofit Organizations
Ed Pol 611 Community Policies and Urban Minority Youths
Ed Pol 630 Race and Public Policy in Urban America
Geog 564 Urban Environmental Change and Social Justice
Pol Sci 464 Sex, Gender, and the Law
Urb Std 965 Municipal Management
Other classes as approved by advisor

Methods Elective—Choose at least one (3 credits minimum)

PH 711 Intermediate Biostatistics
PH 726 Community Health Assessment
PH 728 Program Evaluation in Public Health
PH 736 Advanced Qualitative Method
BusMgmt 721 Fundraising and Development for Nonprofit Organizations
Civ Eng 492 Environmental Impact Assessment
Ed Pol 602 Proposal Writing and Fundraising Skills for Community-Based Organizations
Ed Pol 711 Community Organizing: Collective Action for Social Change
NonProf 791 Nonprofit Advocacy and Public Policy

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Pub Adm 630 Budgeting and Finance in the Public Sector
Pub Adm 730 Budgeting for Public Sector Professionals
Pub Adm 769 Analyzing and Evaluating Public Policies and Programs
Sociol 752 Fundamentals of Survey Methodology
UrbPlan 791 Intro to Urban GIS for planning
Other classes as approved by advisor

Field Experience

PH 790 Field Experience in Public Health (Minimum of three credits total, Satisfactory/Unsatisfactory; may be taken for 1, 2, or 3 credits in a given semester)

The purpose of the Field Experience is to provide students with a practical public health experience that allows them to apply the knowledge and skills learned in the classroom to public health problems. Students work with their Faculty Advisor and school staff to identify a placement that matches the student's public health interests and career goals. Students complete three credits (80 contact hours per one credit, 240 hours total) with the organization. Many students choose to complete their field experience working in a local health department or community-based organization with public health-related programs and services. The experience is a mentored placement engaging both a Faculty Advisor and a Site Preceptor.

The over-arching objectives of the practice experience are:

- To demonstrate practical skills related to specified track competencies that are useful to public health professions and that are not available solely through academic instruction.
- To explain the political, economic, environmental, and social contexts in which the public health activities for the particular project are conducted, integrating principles of social and environmental justice as they relate to the project.
- To characterize key features of the organizational and/or community contexts that might or do have an impact on the public health activities necessary for the particular project.
- To apply a minimum of 4 specified competencies learned in the MPH coursework in a public health practice setting. Two MPH Program competencies are REQUIRED:
 - Practice professionalism, demonstrated by integrity, respect, transparency, sound judgment, and constructive interactions with

colleagues, community members, stakeholders and the public at large.

- Communicate effectively about public health issues with diverse audiences using a variety of strategies and modalities.

Capstone

PH 800 Capstone in Public Health (2 credits), completed in the final year of study

The capstone requires students to integrate the knowledge and skills learned in the classroom, Field Experience, and/or lab into some aspect of professional public health practice. Students work with their Faculty Advisor to write a project proposal the semester prior to the capstone reflecting the student's interests and career goals. Students then implement the project during their final semester of the program. The project has both a written paper and oral presentation component, in addition to attending a weekly seminar. The capstone project is an opportunity for students to demonstrate public health competencies.

Thesis

Not required. See capstone for similar culminating experience.

Comprehensive Examination

Not required. See capstone for similar culminating experience.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Public Health

Admission

There are differences in applicable baccalaureate programs for the two concentrations in the Ph.D. in Public Health. CBHP also describes four specific areas for evaluation of candidates. Other admission requirements are the same for both concentrations.

Applicants to the Ph.D. program in Public Health with a concentration in Biostatistics should have completed academic programs that facilitated development of solid analytical skills. Applicable baccalaureate programs include mathematics, statistics, computer science, and engineering. Baccalaureate degrees in related fields will be considered. A minimum undergraduate grade point average of 3.00 (A=4.00) is required. Applicants from diverse backgrounds are encouraged to apply. Each application will be evaluated individually primarily on the basis of academic achievement, although relevant work experience will also be considered.

Applicants to the Ph.D. program in Public Health with a concentration in CBHP should have completed academic programs that facilitated development of solid analytical and communication skills. Applicable baccalaureate programs include those in the social and behavioral sciences, health and health-related sciences, and biological sciences. Baccalaureate degrees in related fields will be considered. At least one statistics course is preferred for admission. A minimum undergraduate grade point average of 3.00 (A=4.00) is preferred. While a completed master's degree in public health or the social and behavioral sciences is encouraged, a master's degree is not a prerequisite for admission. For those applicants without a master's degree in a relevant field, most successful candidates will have work, research and/or volunteer experiences that contribute to career development in community health and health promotion. Demonstrated communication and analytic skills are required. Applicants from diverse backgrounds with a strong interest in community health and health promotion are encouraged to apply. Each application will be evaluated individually on the basis of four key areas:

1. Academic record/achievement.
2. Work, research, and/or community experience.
3. Commitment/interest/awareness of public health and community health promotion.
4. Matching interest with current Community and Behavioral Promotion Health faculty.

[Graduate Record Examination \(GRE\)](#) scores from the general test (verbal, quantitative, analytical writing) are required of all applicants. Submitted test scores must be from a test taken within 5 years of the date of application. While there is not a minimum [GRE](#) score requirement, strong quantitative, verbal and writing skills are critical to successfully completing the program.

Students must meet UWM Graduate School [admission requirements](#). For international applicants whose native language is not English, the UW-Milwaukee [Center for International Education Website](#) provides English Language Proficiency Requirements including required TOEFL or IELTS scores. Students who attended an international university must also pay an additional fee for evaluation of international transcripts.

In addition, a personal statement, and at least three letters of recommendation from individuals familiar with the applicant's scholarship, research achievements, and/or academic potential are required for the application. The letters of recommendation should address the candidate's potential for achievement in a graduate program from an academic as well as personal (e.g., commitment, integrity, ethical) standpoint. At

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least one letter must be from a university faculty member.

A select group of the most qualified candidates will be invited to participate in an interview process. In-person or internet-facilitated interviews (Skype, etc.) will be required for finalist candidates prior to admission.

Applicants may be admitted with course deficiencies at the discretion of the ZSPH Graduate Program Committee. The student is expected to rectify these course deficiencies with a grade of B or better within three enrolled semesters. The academic program unit will monitor deficiencies. No course credits earned in making up deficiencies may be counted as program credits required for the degree. For students entering with an advanced degree, the Admissions Committee can grant credit for relevant coursework at its discretion, but at least half of the graduate credits required for the Ph.D. must be completed at UW-Milwaukee in doctoral status in accordance with Graduate School policy. Thesis, dissertation, and research credits must be completed at UW-Milwaukee.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. The entering student is assigned an advisor/major professor at admission based on fit and focus. The major professor serves as the student's research mentor and will guide the student in course selection, program planning, and research design. Students may change their advisor/major professor if the fit and focus change over time. Such changes will need approval of the graduate program committee. The major professor must have graduate faculty status.

Reapplication

A student who receives the Master of Public Health degree must formally reapply to the Zilber School of Public Health to gain admission to the Ph.D. program in Public Health before continuing studies toward the Ph.D.

Residence

The student must meet minimum [Graduate School residence requirements](#).

Course of Study

The concentrations in Biostatistics and CBHP require the same core Ph.D. courses (12 credits). The credits and courses are described below for each concentration.

Concentration in Biostatistics

Minimum degree requirement is 60 graduate credits beyond the bachelor's degree (plus an additional 9 credits dedicated toward

dissertation writing and research), at least 35 of which must be earned in residence at UWM. The student, in consultation with the major professor, must create a plan of study and submit to the Biostatistics Faculty by the end of the first year. Minimum course requirements for all work requires approximately two to three full years of study.

Credits and Courses

Unless noted, all courses are 3 credits.

Required Core Ph.D. Courses (12 credits)

PH 702 Introduction to Biostatistics**
PH 704 Principles and Methods of Epidemiology
PH 801 Seminar in Public Health Research
PH 819 Social and Environmental Justice in Public Health

** It is expected that PH 702 will be waived for the majority of PhD students based on prior training, and an additional elective will be substituted

Required Methods Courses (27 credits)

MthStat 761 Mathematics Statistics
MthStat 762 Mathematical Statistics
Math 571 Introduction to Probability Models, **OR** Math 771 Theory of Probability, **OR** MCW 04285 Introduction to Bayesian Analysis
PH 711 Intermediate Biostatistics
PH 713 Analyzing Observational and Experimental Data
PH 718 Data Management and Visualization in R TBD
PH 822 Practice of Biostatistical Consulting TBD
PH 8XX Statistical Computing TBD
PH 911 Generalized Linear Models TBD

Electives (at least 21 credits)

PH 710 Seminar in Biostatistics and Bioinformatics (1 credit) TBD
PH 714 Statistical Genetics and Genetic Epidemiology
PH 715 Applied Categorical Data
PH 716 Applied Survival Analysis TBD
PH 717 Applied Longitudinal Data Analysis TBD
PH 720 Special Topics in Biostatistics
PH 721 Introduction to Translational Bioinformatics
PH 723 Design, Conduct and Analysis of Clinical Trials TBD
PH 758 Social Epidemiology
PH 762 Environmental Epidemiology
PH 768 Cancer Epidemiology TBD
PH 769 Nutritional Epidemiology TBD
PH 722 Introduction to Bioinformatics in Biomedical and Public Health Sciences TBD
PH 8XX Statistical Learning TBD
PH 8XX Network Analysis TBD
PH 8XX Causal Inference TBD

CompSci 708 Scientific Computing
CompSci 711 Pattern Recognition - Statistical, Neural, and Fuzzy Approaches
Bio Sci 597 RNA Structure, Function, and Metabolism
Bio Sci 490 Molecular Genetics
MthStat 564 Time Series Analysis
MthStat 565 Nonparametric Statistics
Math 768 Applied Stochastic Processes
MthStat 863 Hypothesis Testing
MthStat 869 Advanced Topics in Mathematical Statistics

Doctoral Thesis (at least 9 credits)

PH 990 Research and Dissertation (3 credits, repeatable)

Preliminary/Qualifying Exam Process

The qualifying exams must be successfully completed within five years of initial enrollment in the Ph.D. program.

Students must successfully complete a preliminary examination process before formally achieving dissertator status. When the student is sufficiently prepared, a doctoral preliminary examination to determine the student's knowledge and achievement is taken. The exam evaluates the student's general knowledge of mathematical statistics, and general biostatistical and quantitative methods. Students must pass this examination to continue in the program. With permission of the examination committee, the student may repeat this examination once within one year. After successful completion of the qualifying process, the student will concentrate on the development of the dissertation.

Concentration in Community and Behavioral Health Promotion

A minimum of 69 credits of coursework beyond the bachelor's level must be completed to earn the degree, at least 35 of which must be earned in residence at UW-Milwaukee. The course list consists of required common Ph.D. core courses, CBHP core courses, research and methods courses, and elective courses. Also, students will be required to complete three credits of supervised research under the tutelage of the primary advisor prior to the required dissertation research requirement. This is to ensure that all students obtain hands-on, supervised research training. After achieving dissertation status, students will enroll in three research credits per semester for at least two semesters.

The assemblage of elective courses is not exhaustive but reflects a starting point for the new program. With few exceptions, all of the courses are graduate-level courses. Those that are designated as Undergraduate/Graduate (U/G) classes are taught at the level of advanced undergraduate students, but include

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additional material and assignments consistent with graduate-level curricula. Zilber School of Public Health faculty will continue to expand the choice of elective courses as future programs develop.

In addition to regular coursework and research, doctoral students are expected to attend monthly seminars. ZSPH hosts the seminar series, "On Public Health," regularly during the lunchtime and evening hours. The seminar series provides doctoral students the opportunity to meet with ZSPH faculty and affiliated Center scientists who will present on critical public health-related research and new developments in all areas of public health. Seminars are free and open to the public. Students must regularly attend the On Public Health series in-person or remotely to successfully progress in the Ph.D. program.

Credits and Courses

Unless noted, all courses are 3 credits.

Common Required PhD Courses (12 credits)

PH 702 Introduction to Biostatistics
PH 704 Principles and Methods of Epidemiology
PH 801 Seminar in Public Health Research
PH 819 Social and Environmental Justice in Public Health

CBHP PhD Required Core Courses (18 credits)

PH 725 Theories and Models of Health Behavior
PH 727 Program Planning & Implementation in Public Health
PH 820 Maternal and Child Health Foundations, Policy and Practice
PH 826 Principles of Community Intervention Research
PH 831 Community Engagement and Participatory Research Approaches in Public Health
PH 919 Core Seminar in Community and Behavioral Health Promotion

Research and Methods Required Courses (18 credits)

Choose one of the following:

PH 711 Intermediate Biostatistics
Soc Wrk 962 Applied Multiple Regression Analysis
PH 759 Applied Quantitative Methods for Studying Population Health and Health Disparities

Choose one of the following:

PH 714 Applied Categorical Data Analysis
PH 715 Applied Survival Analysis
PH 716 Applied Longitudinal Data Analysis
Soc 982 Advanced Quantitative Analysis
Ed Psy 823 Structural Equation Modeling

Ed Psy 826 Analysis of Cross-Classified Categorical Data
PH 827 Research Design in Community and Behavioral Health Promotion
PH 736 Advanced Qualitative Methods
PH 728 Advanced Seminar in Evaluation Design and Methods
PH 729 Survey Research Methods in Public Health

CBHP Elective Courses (9 cr.)

ANTHRO 803 Survey of Cultural Anthropology
ANTHRO 744 Theories of Social Action: Understanding Agency & Social Structure
PH 758 Social Epidemiology
PH/HS 917 Seminar in Health Outcome Assessment
PH 734 Public Health and Mental Health
PH 768 Cancer Epidemiology
PH 769 Nutritional Epidemiology
Soc 917 Sociology of Inequality
Soc 982 Advanced Quantitative Analysis
Soc 715 Systematic Sociological Theory
Geog 725 Advanced Geographic Information Science: Geographic Modeling
Geog 734 GIS and Society
Soc Wrk 705 Individual Behavior and Social Welfare
Ed Pol 711 Community Organizing: Collective Action for Social Change: (Subtitled)
Kin 732 Physical Activity and Health Across the Lifespan
Other electives may be considered

Pre-Dissertation Research

PH 990 Research and Dissertation

Doctoral Thesis (at least 9 credits)

PH 990 Research and Dissertation (3 credits, repeatable)

Preliminary/Qualifying Exam Process

The qualifying exams must be successfully completed within five years of initial enrollment in the Ph.D. program.

The preliminary exam is designed to assess a student's mastery of knowledge and skills to ensure adequate preparation for individual dissertation research. Students taking the preliminary exam are expected to demonstrate knowledge, competency and mastery of core public health concepts, issues and content relevant to the CBHP PhD Program. The preliminary exam consists of three sections: an open book integrative review, a closed book exam focusing on a case study, and an oral exam. (Please refer to the CBHP Qualifying Exam Policies and Procedures.) At the discretion of the examining committee, a student who fails the qualifying process may be allowed one additional attempt with all or part of the examination. After successful completion of the qualifying process, the student will

concentrate on the development of the dissertation.

Dissertation Proposal Hearing

In consultation with his or her primary faculty advisor, the dissertator will develop a dissertation research plan and form a dissertation advisory committee. The composition of the dissertation committee must be in compliance with the rules and regulations of the Graduate School. The dissertator then submits a written dissertation plan to be reviewed and formally approved by the dissertation advisory committee. The research plan must clearly outline the student's obligation for completing an original piece of work of sufficient quality, which is to be determined by the committee. The review and approval process will include a formal presentation to the committee.

Dissertation

Upon approval of the dissertation proposal, students will proceed with an original and significant research investigation under the supervision of their major professor, culminating in a written dissertation.

Dissertation Defense

The dissertator must, as the final step toward the degree, pass an oral examination in defense of the dissertation. The dissertation defense will be publically announced and open to the academic community. Once the defense is completed, students will be encouraged to revise their dissertation and submit it for publication.

Once the committee has formally approved the dissertation document and the oral defense, and the Chair of the appropriate program has certified completion of all requirements, the candidate is awarded the Ph.D. in Public Health.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

Courses

700 Structures of Inequality and Population Health. 3 cr. G.

Foundations of public health, critical social theory, and social justice praxis, which provide essential interdisciplinary tools for analyzing sociostructural processes and advancing social and health equity. Prereq: grad st

701 Public Health Principles and Practice. 3 cr. G.

Examination of fundamental principles designed to improve the health of the public, public health theories, domains, and practices.

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702 Introduction to Biostatistics. 3 cr. G.

Development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health. Includes lab section with introduction to SAS, including macros and core statistical analysis functions. Prereq: grad st; Math 116 with B or better, or equivalent, or cons instr

703 Environmental Health Sciences. 3 cr. G.

Survey of effects environment has on humans, and effects humans have on environment, emphasis on toxicology and infectious disease. Prereq: grad st

704 Principles and Methods of Epidemiology. 3 cr. G.

Quantitative study of patterns and determinants of health in human populations applying biomedical and social epidemiology perspectives. Problem-based lab includes surveillance, measurement, study design, and causal inference applications. Prereq: grad st; PH 702(C) or cons instr

705 Principles of Public Health Policy and Administration. 3 cr. G.

The role of policy in influencing population health, policies that promote public health, the policymaking process, and the planning and administration of health systems. Prereq: grad st; PH 704(R)

706 Perspectives on Community & Behavioral Health. 3 cr. G.

Philosophical underpinnings, conceptual frameworks, and strategies for the application of behavioral and social science concepts to the goals of public health. Prereq: grad st

707 Introduction to Statistical Computing. 1 cr. G.

Introduction to statistical methods as implemented in SAS, including macros and core statistical analysis functions Prereq: grad st; PH 702(C) or cons instr

708 Health Systems and Population Health. 3 cr. G.

Using fundamental concepts of health systems design, international comparisons, and case studies, this course demonstrates strategies through which health systems could improve health and reduce inequities by addressing social vulnerabilities. Prereq: grad st

709 Public Health Informatics. 3 cr. G.

Overview of the rapidly emerging and evolving field of public health informatics - active learning and exposure to new and relevant public health informatics methods, applications, and tools. Prereq: grad st

711 (810) Intermediate Biostatistics. 3 cr. G.

Introduction to modern multivariable statistical analysis, based on generalized linear models. Topics include linear regression, logistic regression, one-way and two-way ANOVA,

longitudinal analysis, missing data, and mixed models. Prereq: grad st; PH 702(P) or cons instr

712 Probability and Statistical Inference. 3 cr. G.

Introductory graduate-level course that provides students with a mathematical treatment and understanding of key concepts in probability and distribution theory and statistical inference, and their applications in public health. Prereq: grad st; Math 231 (P) & 232 (P) or equivalent, or cons instr

713 Analyzing Observational and Experimental Data. 3 cr. G.

Analyze data from both experiments and observational studies within a causal inference framework as it applies to public health. Covers randomization, confounding, blocking, ANOVA, counterfactuals, selection bias, and measurement error. Prereq: grad st; PH 704(C), PH 711 (C) or PH 759 (C) or cons instr

714 Statistical Genetics and Genetic Epidemiology. 3 cr. G.

Introduction to statistical methods for the analysis of family and population based genetic data, including methods can be used in linkage analysis, family-based and population-based association studies. Prereq: grad st; PH 702(P) and PH 711(P) or cons instr

715 Applied Categorical Data. 3 cr. G.

Data analysis techniques for various kinds of categorical data for public health related examples using SAS. Prereq: grad st; PH 711(P) and PH 712(P) or cons instr

716 Applied Survival Analysis. 3 cr. G.

This course covers basic concepts and techniques in the statistical analysis of survival data. Prereq: grad st; PH711(P) and PH712(P); or cons instr.

717 Applied Longitudinal Data Analysis. 3 cr. G.

This course will cover data analysis techniques for longitudinal data with focus on application in public health with related examples using SAS. Prereq: PH 711 and PH 712; cons instr.

718 Data Management and Visualization in R. 3 cr. G.

This course covers basic concepts and techniques for statistical programming with the R computing language. Prereq: PH711; cons instr.

719 Social Justice in Public Health. 3 cr. G.

This course is designed to introduce you to the major social variables (e.g., socioeconomic status, race, poverty, social support, neighborhood environment) that affect public health. Prereq: grad st

720 Special Topics in Biostatistics: (Subtitled). 1-3 cr. G.

Survey of an area in Biostatistics. Specific credits and add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

721 Introduction to Translational Bioinformatics. 3 cr. G.

Review bioinformatics knowledge and analytical skills, high-throughput technologies that produce various omic data, along with the methodologies to analyze and interpret different layers of information. Prereq: grad st; PH 711(P) or cons instr

723 Design, Conduct and Analysis of Clinical Trials. 3 cr. G.

Introduction to the design, conduct and analysis of phase I-IV clinical trials, with an emphasis on phase III trials and ethical issues in clinical research. Prereq: grad st; PH 711 (P), or cons instr

725 Theories and Models of Health Behavior. 3 cr. G.

Examine theories of health behavior targeted to each level of the social ecological model, including historical and public health context. Assess utility of these theories in various domains. Prereq: grad st

726 Community Health Assessment. 3 cr. G.

Introduction to the concepts and techniques of community health assessment; conducting and critically analyzing community assessments. Prereq: grad st; PH 701(P) or cons instr

727 Program Planning & Implementation in Public Health. 3 cr. G.

Systematic approach to planning and implementing public health programs, examining program monitoring, methods of impact assessment, and measuring efficiency. Prereq: grad st

728 Program Evaluation in Public Health. 3 cr. G.

Students design and present research and evaluation plans, receive guidance on developing conceptual frameworks and hypotheses, collecting and analyzing data, and developing program evaluation plans. Prereq: grad st; PH 702(P) or cons instr

729 Survey Research Methods in Public Health. 3 cr. G.

The application of survey methods with emphases on sampling, survey design and planning, and data collection procedures. Prereq: grad st; PH 702(P) or cons instr

732 Youth Mental Health Practice for Non Mental Health Professionals. 3 cr. G.

Examination of mental health principles and practices from a public health professional's perspective, including ethical guidelines,

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necessary interpersonal skills, and mental health screenings and referrals to services. Prereq: grad st

740 Special Topics in Public Health: (Subtitled). 3 cr. G.

Topics of current interest in public health. May be repeated w/ chg in topic to 9 cr max. Prereq: grad st.

741 Environmental Public Health Microbiology. 3 cr. G.

Environmental health microbiology is the study of microbial processes in water, land, and food that affect human health. Prereq: grad st; completed minimum of one undergraduate microbiology course.

743 Environmental Risk Assessment. 3 cr. G. Risk assessment practices from an environmental health perspective, complexities and challenges of regulation, management, and mitigation of risks for both human and ecosystem health. Prereq: grad st; PH 702(P) & PH 703 (P) or cons instr

744 Environmental Toxicology. 3 cr. G.

This course will cover the occurrence, fate and transport, and toxic action of natural and synthetic chemicals encountered in the air, water, and soil. Prereq: grad st; CHEM 100 (or equivalent) with B or better, and BIO SCI 150 (or equivalent) with B or better, or cons instr

745 Developmental Toxicology. 3 cr. G.

An introduction to the field of developmental toxicology and how environmental contaminants influence vertebrate development, including humans. Prereq: grad st.

750 Seminar in Environmental Health Sciences. (Subtitled). 1-3 cr. G.

Survey of an area in environmental health. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max.

752 Public Health and Mental Health. 3 cr. G.

Understanding mental health and mental illness from a public health perspective; designed for an interdisciplinary audience of students, researchers and practitioners. Prereq: grad st.

758 Social Epidemiology. 3 cr. G.

Foundations of social epidemiology, including key concepts, theoretical frameworks, and methods for studying social and structural determinants of population health and health inequity. Prereq: grad st; PH 700(P), PH 702(P), and PH 704(P); or cons instr

759 Applied Quant Methods for Studying Population Health & Health Disparities. 3 cr. G.

Using STATA on real data to build regression models, perform diagnostics, and interpret results. Utilize social theory to put results into

context. Prereq: grad st; PH 700(P), PH 702(P), PH 704(P), or cons inst.

761 Epidemiology Field Methods. 3 cr. G.

Prepares students to conduct epidemiologic field studies. Introduction of reviewing literature, designing questionnaires, developing surveillance systems, conducting emergency outbreak investigations, applying for IRB approval, and public relations. Prereq: grad st; PH 700(P), 702(P), and PH 704 (P) or cons instr

762 Environmental Epidemiology. 3 cr. G.

Expands upon basic epidemiological principles to tackle current problems in studies of health impacts of contaminants in air, water, food supply, consumer products, and indoor spaces, emphasizing a cross-disciplinary approach. Prereq: grad st; PH 703(C) and PH 704(P) or cons instr.

763 Epidemiology for Equity. 3 cr. G.

Students will integrate epidemiology methods with the principles, methods, and skills of participatory action research aimed at structural change to promote social and/or environmental justice and health equity. Prereq: grad st; PH 700(P), 702(P), PH 704(P), and PH 790 (C); or consent of instructor

768 Cancer Epidemiology. 3 cr. G.

The course will provide an introduction to cancer epidemiology and prevention evaluating methods to study cancer etiology and survival with a particular focus on understanding cancer disparities. Prereq: grad st; PH 702(P) and PH 704(P); or cons instr grad st; PH 702(P) and PH 704(P); or cons instr.

769 Critical Perspectives on Nutritional Epidemiology and the Food System. 3 cr. G.

This course offers a synthesis of nutritional epidemiological methods and food systems perspectives to build students critical understanding of diets, nutrition, and their public health implications. Prereq: grad st; PH702(P), PH704(P), and PH705(P); or consent of instructor

774 Violence and Health. 3 cr. G.

This course examines relationships between violence and health from an interdisciplinary perspective in order to develop analytical, practical, and self-reflexive skills for intervening in violence and promoting health equity. Prereq: grad st

775 Mechanisms of Infectious Disease. 2 cr. G.

Molecular and cellular means by which microorganisms facilitate infection, withstand or evade immune response, induce damage to host, and ensure transmission to human populations. C L Sci 775 & PH 775 are jointly offered; they count as repeats of one another. Prereq: grad st; lc & la course in medical microbiology

776 Qualitative Approaches in Public Health Policy and Administration. 3 cr. G.

Introduces students to foundational approaches to qualitative research for use in public health policy & administration. It provides opportunities to practice foundational data collection, research analysis, reflexivity, & research design skills. Prereq: grad st

777 Quantitative Research Methods for PH Policy & Administration. 3 cr. G.

Introduces quantitative methods commonly used in public health policy and administration decision-making, skills to analyze quantitative research and to apply knowledge generated from research to the public health policy and administration context. Prereq: grad st; PH 702(P) or cons instr

779 Public Health Policymaking and Policy Analysis. 3 cr. G.

Introduces students to key frameworks for public health policymaking and policy analysis. Students apply concepts to a real world public health problem of their choice. Prereq: grad st; PH705(P) or MSP760(P) or cons instr.

780 Seminar in Public Health Policy and Administration. (Subtitled). 1-3 cr. G.

Survey of an area in Public Health Policy and Administration. Specific credits and add'l prereqs announced in Schedule of Classes each time course offered. Retakable w/chg in topic to 9 cr max. Prereq: grad st

781 Public Health Administration. 3 cr. G.

This course introduces basic concepts, best-practice leadership, and management principles with the emphasis on organizational behavior in public health settings. Prereq: grad st.

784 (effective 09/05/2017) Social and Economic Policy as Health Policy. 3 cr. G.

This course examines how social and economic policies, including education, income redistribution, and housing shape population health. A broad overview of the social determinants of health is introduced/reviewed and current knowledge of the impact. grad st; a course covering multiple regression, including PH 711(P), PH 759(P), or cons inst.

785 (effective 09/05/2017) Principles of Public Health Economics. 3 cr. G.

The course introduces the application of microeconomic theories and models to explain major topics and trends in public health and health care settings. Prereq: grad st. or cons instr

790 Field Experience in Public Health. 1-6 cr. G.

Apply skills learned in the classroom to real world public health problems in a mentored field placement, engaging both faculty and site preceptors. Prereq: grad st; PH 701(P), PH 702(P), PH 703(P), PH 704(P), PH 705(P), PH 706(P), and PH 707(P) or cons instr

Public Health

800 Capstone in Public Health. 2 cr. G.

Application of acquired public health knowledge, experience and competencies in developing a public health project that demonstrates readiness for professional practice. Satisfactory/Unsatisfactory only. Prereq: grad st; PH 790(P) or cons instr.

801 Seminar in Public Health Research. 3 cr. G.

Immersion in interdisciplinary collaborative approaches to public health research. Prereq: grad st; 1 course in stats/biostats and 1 course in research methods; or cons instr.

804 Advanced Epidemiology. 3 cr. G.

Advanced training in epidemiological concepts, principles and methods in the context of population health and health equity. grad st; PH758, PH823, or cons instr

808 Writing a Federal Grant in the Public Health Sciences. 3 cr. G.

This course is designed to provide students a hands-on experience with all aspects of preparation of a hypothesis driven grant application to a federal agency such as the NIH or NSF. Prereq: grad st. admis to a PhD program.

813 Practice of Biostatistical Consulting. 3 cr. G.

This course teaches the elements of statistical consulting, appropriate statistical analysis approaches, and how to interpret findings and effectively communicate with clients. Prereq: grad st; PH 711, PH 713, & PH 718; or cons instr.

818 (effective 09/02/2017) Statistical Computing. 3 cr. G.

This course will cover the theory and application of common algorithms used in statistical computing. Prereq: grad st; PH 711(P), MthStat 762(P), and PH 718(P) or cons instr.

819 Social and Environmental Justice in Public Health. 3 cr. G.

Social and environmental justice perspective on public health problems and concerns. Jointly offered w/ & counts as a repeat of Soc Wrk 819. Prereq: grad st

820 Maternal and Child Health Foundations, Policy and Practice. 3 cr. G.

The foundations of MCH, historical context, financing, challenges, and opportunities in advancing MCH at state, national and international level including the integration of men. Prereq: grad st; PH 702(P), 704(P) or cons instr

823 Applied Analysis of Binary Outcomes in Public Health Research. 3 cr. G.

Apply principles of epidemiology, statistics, and study design in analyzing a public health dataset of choice, covering confounding,

modification, bias, missing data, and interpretation in light of limitations. Prereq: PH702 (P), PH 704(P), and doctoral standing; or consent of instructor.

825 Social and Behavioral Science in Public Health. 3 cr. G.

Overview of the contribution and use of social and behavioral sciences approaches in public health research, policy, planning/evaluation, practice, and interventions. Prereq: grad st

826 Principles of Community Intervention Research. 3 cr. G.

Seminar covering classic in community-based public health research and the development of conceptual and methodological skills in community engagement. Counts a repeat of PH 740 with similar topic. Prereq: grad st.

827 Research Design in Community and Behavioral Health Promotion. 3 cr. G.

Examination of experimental, quasi-experimental, and nonexperimental study designs, focus groups, and coding with qualitative software. Prereq: grad st; admis to doctoral prog; PH 801(P) & 702(P) or cons instr.

831 Community Engagement and Participatory Research Approaches in Public Health. 3 cr. G.

Effective approaches to engaging communities in health interventions and addressing health disparities. Prereq: grad st.

859 Racial/Ethnic Health Disparities in the United States. 3 cr. G.

The course will analyze studies of racial/ethnic health disparities, with a focus to include multi-level and temporal perspectives to better understand the social context in which the determinants of racial/ethnic health are embedded. Counts as repeat of PH 740 w/similar topic. Prereq: grad st; a course covering multiple regression, including PH 711(P), PH 759(P) , or cons instr.

864 (effective 09/05/2017) Research Ethics in Epidemiology and Public Health. 3 cr. G.

Training in research ethics and ethical analysis in the context of public health and epidemiology research. Covers all topics outlined in the NIHs Responsible Conduct of Research Training. Prereq: grad st; PH801, PH704, or cons instr

865 (effective 01/22/2018) Critical Methodologies for Health Equity Research. 3 cr. G.

Analyzes interdisciplinary critical methodologies for researching health inequities across diverse axes of power and considers how to integrate these methodologies into epidemiologic and public health research to advance health equity. Prereq: grad st; PH 700(P), and PH 758(P) or PH 859(P), or cons instr

868 Epidemiologic Links Between Infectious and Chronic Disease. 3 cr. G.

Discussion of social patterning of infection, epidemiologic and physiologic links between infections and chronic disease, and methodological considerations in the evaluation of such associations. Prereq: grad st; PH702(P), PH704(P), and PH759(P) or PH711(P); or consent of instructor

870 (effective 09/05/2017) Epidemiology in Health Policy and Advocacy. 3 cr. G.

Using epidemiologic evidence to inform public health policy, through engagement with the policy process, communication with policymakers, and evidence-based appraisal of policy alternatives and advocacy for sound policy. grad st; PH 779(P), PH804; or cons instr

904 (effective 09/05/2017) Survey of Analytic Methods for Epidemiology. 3 cr. G.

Survey of advanced analytic approaches to the conduct of epidemiologic research in the pursuit of causal inference. Prereq: grad st; PH804 or permission of instructor.

911 (effective 09/02/2017) Generalized Linear Models. 3 cr. G.

This course will cover theory of advanced biostatistics models with focus on generalized linear models and will also cover generalized estimating equation, generalized linear mixed models. We will emphasize implementation in R. Prereq: grad st; PH 711(P), MthStat 762(P), and PH 718(P) or cons instr.

990 Research and Dissertation. 1-8 cr. G.

Original research in any public health discipline Prereq: grad st.

999 Independent Study. 1-3 cr. G.

Independent study on a topic not available as a regular course, directed by a member of the graduate faculty. Prereq: grad st; cons instr.

Social Work

School/College: Helen Bader School of Social Welfare

Degrees Conferred:

- Master of Social Work (MSW)
- Ph.D. in Social Welfare

Related Certificates

- [Applied Gerontology](#)
- [Graduate Certificate in Applied Data Analysis Using SAS®](#)
- [Non-Profit Management](#)
- [Trauma-Informed Care](#)
- [Women's Studies](#)

State of Wisconsin Credentials

- [School Social Work Certification](#)
- [Substance Abuse Certification](#)

Overview

The Helen Bader School of Social Welfare (HBSSW) offers a program of graduate studies in social work. As a department in an urban research university, the mission of the Department of Social Work is to promote positive change through social work research, scholarship, education, and community partnerships. The Department promotes the values of the social work profession through a commitment to social justice and diversity, a dedication to public service, and an emphasis on individual and community well-being. The goal of the MSW program is to prepare graduates with specialized knowledge and skills for advanced practice and leadership with diverse populations and communities.

In furtherance of its mission, the goals of the Social Work Department are:

1. To educate students to become highly skilled, culturally competent, and ethical social workers and to provide leadership for the practice of social justice.
2. To create and disseminate knowledge leading to social work and interdisciplinary innovations.
3. To engage in research and apply results that inform social work policy, practice, advocacy, education, and future research.
4. To collaborate with community partners in promoting evidence-informed practice, educational and research partnerships, and social and economic justice.

HBSSW offers students access to the University computer system, special interview training rooms, and specialized audiovisual materials.

Master in Social Work (MSW)

The MSW curriculum is designed to prepare students for advanced-level professional Social Work practice, and builds upon a solid base of coursework in human behavior, practice methods, research, and policy. The MSW program is accredited by the Council on Social Work Education and can prepare students for state certification requirements.

Specializations

Upon completion of the Professional Foundation requirements—through coursework or exemption—students enter into the Advanced Curriculum and choose one of five specialized concentrations: Physical Health; Behavioral Health and Mental Health; Gerontology; Children and Families; and Community and Organizational Leadership. With careful faculty advising, students are able to develop a course of study that builds upon their individualized interests, experiences, and strengths.

Concentration Areas

Physical Health: This concentration is designed to prepare students for advanced and clinical practice in a variety of health care settings. Students in the health concentration are prepared to address the multifaceted world of health care through coursework designed to expose them to issues of chronic health, health care delivery, health policy, and the social determinates of health across the life course. Health concentration students are trained in case management and assessment skills, and the role of social work in multidisciplinary health care teams. Students develop a solid understanding of how access to health systems, policies, and programs impact health. Students who graduate with a concentration in health are prepared for practice in a variety of settings from hospitals and primary care clinics, to community health settings and long term care.

Behavioral Health and Mental Health: This concentration is designed to prepare students for advanced social work practice involving the delivery of mental health and addictions services to individuals, families, small groups, and the community. Students are exposed to issues, approaches, and technologies for application in prevention, treatment, administration, and policy. These are related to risks and problems with: alcohol and other drugs, mental health and mental illness, intimate partner violence, community violence, and other behavioral health concerns across the lifespan. Coursework provides students with knowledge, values, and skills to prepare them for professional practice in a variety of private and public settings related to mental health, addictions, and substance abuse.

Gerontology: This concentration is designed to aid students in understanding the complexity of the aging process from the perspective of the individual, family, society and social policy.

The concentration will cover the physical, psychological and social processes of aging including family roles and responsibilities, cultural diversity, social support networks and the use of health and social services. Major developmental issues during the second half of life will be presented and interventions to facilitate adaptation to developmental change will be described. Coursework will enable students to: understand late-life mental disorders; develop assessment skills; formulate, implement and evaluate treatment plans; and become aware of issues related to age and ageism as they influence social work practice. **Children and Families:** The social work profession has a long history of commitment to ensuring the well-being of children. Furthermore, professionals recognize the family system as being significant in the lives of children. The family system, in its various forms, represents a significant social institution, essential to communities and to society as a whole. This concentration focuses on the study of family systems, child and family welfare, and interventions to enhance the lives of children and families. Students in this concentration develop the advanced practice knowledge and skills necessary to provide services to children and families in a wide variety of settings.

Community and Organizational Leadership: Often described as "macro" practice, this concentration is for students who are interested in social change with organizations and communities. Social work within this concentration is about creating social and policy change, strengthening community and organizational systems, developing leadership skills, and addressing social injustices. Students will prepare for roles in leadership and administration, program development, planning, policy, and community practice.

Double Concentration: Students who are interested in gaining knowledge and skills relevant to both macro practice techniques and a second "direct practice" concentration may choose a "Double Concentration" sequence. This sequence is a combination of Community and Organizational Leadership and a second concentration (Physical Health, Behavioral Health and Mental Health, Gerontology, or Children and Families), and may require up to an additional semester of coursework. Four semesters of Field Placement are required with two semesters of that Field experience being within a direct practice field setting and two semesters of a Community and Organizational Leadership-based field placement. Students who have interests that range from direct social work practice to more leadership social work roles will benefit from this option.

Practice Method Areas

Direct Practice

By providing advanced-level knowledge and skills to address the changing impact of

Social Work

interpersonal and social problems, this specialty prepares students who are interested in using direct practice to help individuals, families, and groups.

Macro Practice

This method is for students who are interested in planned change with organizations and communities. Students will prepare for roles in planning, policy, administration, program development and community practice.

Double Methods

Students who are interested in gaining knowledge and skills relevant to both Direct Practice and Macro Practice techniques and settings may choose a "Double Methods" sequence. This combination of methods tracks may require up to an additional semester of coursework. Four semesters of Field Placement are required with two semesters of Direct Practice experience and two semesters of Macro Practice experience. Students who have interests that range from direct social work practice to more administrative social work roles will benefit from this option.

Master of Social Work/Master of Arts in Women's Studies Coordinated Degree Program

The College of Letters and Science and the Helen Bader School of Social Welfare collaboratively offer a coordinated program designed to provide students with theoretical and practical exposure to evolving professional practice and the field of feminist research and scholarship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Doctoral Program

The goals and objectives of the doctoral program reflect the Department's concern with urban social problems, social and economic equity and well-being, cultural diversity, and the empowerment of individuals, families, organizations, and communities to effect change. The program will prepare students to make significant contributions to social work education and the knowledge base of the profession.

The program emphasizes three areas of specialization: Addiction and Behavioral Health, Applied Gerontology, and Family and Child Welfare.

Graduate Faculty

Professors

Berger, Lisa, Ph.D., University of Wisconsin-Milwaukee
McMurtry, Steven, Ph.D., University of Wisconsin-Madison
Rose, Susan, Ph.D., University of Illinois-Chicago

Associate Professors

Blakey, Joan Ph.D. University of Chicago, Chair
Brondino, Michael, Ph.D., University of South Carolina-Columbia
Lie, Gwat-Yong, Ph.D., University of Wisconsin-Madison, Associate Dean
Mersky, Joshua, Ph.D., University of Wisconsin-Madison
Otto-Salaj, Laura, Ph.D., Temple University
Pate, David, Ph.D., University of Wisconsin-Madison
Rolock, Nancy, Ph.D. University of Illinois-Chicago
Topitzes, James (Dimitri), Ph.D., University of Wisconsin-Madison

Assistant Professors

Kavanaugh, Melinda, Ph.D. University of Wisconsin-Madison

Master of Social Work

Admission

Application must be made to both the Graduate School and the MSW program. Program application materials are available for the Fall semester only. All applications must be completed and submitted on or before January 2. Applicants must meet Graduate School and program requirements for admission, including:

1. Undergraduate grade point average of 2.75 or better.
2. Completion of at least 21 semester credits in the social and behavioral sciences (i.e., psychology, sociology, political science, economics, anthropology, and/or their equivalents).
3. Submission of a program application which includes three letters of recommendation, a narrative statement, and a comprehensive professional resume.

Please see complete requirements and instructions for applying on the [MSW program web page](#) before starting an application.

Faculty Advisor

All students will be assigned a faculty member to advise and supervise their studies as specified in Graduate School regulations. Students should develop, in consultation with the advisor, a written plan of study, including selection of the specialized concentration. Students may elect to change advisor contingent upon the new advisor's appropriateness to the area of specialized concentration, the advisor's acceptance of additional advisees, and formal notification to the MSW specialist in the MSW program.

Credits and Courses

The MSW program requires a minimum of 34 graduate credits for students admitted to the Advanced Curriculum. Students may be

required to complete up to 22 credits to fulfill the Professional Foundation prior to beginning the Advanced Curriculum. The minimum 34 Advanced Curriculum credit requirements are distributed as follows:

11 credits of Field Instruction (722/821/822)

8 credits of Social Work Practice Methods (711, 811*, and additional practice course) or (713, 813, and additional practice course)

4 credits of Social Work Research (793/794)

5 credits within selected area of concentration (851* and one of 685, 753, or 771, depending on area of concentration)

6 credits of electives

* Requires sections to be selected from within the specialized concentration area

The capstone requirement is satisfied by Soc Wrk 822 (Field Instruction IV).

Professional Foundation

Students admitted into the graduate social work program without having earned a bachelor's degree from an accredited social work program within the past 5 years are required to fulfill the Professional Foundation prior to Advanced Curriculum coursework (see below for exemptions). The purpose of the Professional Foundation is to orient students to the profession and to provide a knowledge, values and skills base in preparation for the Advanced Curriculum. Coursework in the Professional Foundation is not included in the 34 Advanced Curriculum credits required for completion of the MSW degree. The Professional Foundation courses are:

604 Social Systems and Social Work Practice
662 Methods of Social Welfare Research
665 Cultural Diversity and Social Work
705 Individual Behavior and Social Welfare
Soc Wrk 708 Social Work Methods I: Individuals and Families (3 cr.)
Soc Wrk 709 Social Work Methods II: Groups, Organizations and Communities (2 cr.)
721 Field Instruction I
750 Social Welfare Policy Development and Implementation

Exemptions

Students who have, within the 5 years preceding admission, completed coursework which substantially duplicates Professional Foundation courses may apply to the Chair of the Social Work Department for an exemption from the relevant courses. Exemption examinations are also offered on a scheduled basis for these courses. Exemption of the field experience (721) may be permitted under

Social Work

special employment experience circumstances and only by permission of the Director of Field Programs. Students interested in securing an exemption should request course exemption forms upon notification of admission to the program.

All requests for exemptions must be made at the time of initial enrollment. Exemption requests will not be accepted following the end of the first semester of coursework.

Time Limit

Students admitted directly into the Advanced Curriculum must complete all degree requirements within seven years of initial enrollment; students required to complete any portion of the Professional Foundation must complete all degree requirements within seven years of initial enrollment.

Doctor of Philosophy in Social Welfare

Admission

Relevant application materials must be submitted to both the [Graduate School](#) and HBSSW and will be accepted for admission in the Fall semester only. All applications must be completed and submitted on or before January 2. Applications received after January 2 will be considered only if space is available after other applications are reviewed. Applicants must meet Graduate School requirements plus the following departmental requirements in order to be considered:

1. Hold or be in the process of completing a master's degree in social welfare or master's degree in criminal justice, criminology, or comparable degree. Applicants with master's degrees in related disciplines will be considered on a case-by-case basis.
2. Identify the following in the Personal Statement section of the Graduate School application:
 - Which of the program's four areas of specialization (Applied Behavioral Health, Applied Gerontology, Criminal Justice, or Family and Child Welfare) they wish to pursue.
 - Their reasons for seeking a doctoral degree in social welfare.
 - Their goals as future scholars.
 - A topic or issue in the field that they consider to be particularly challenging and worthy of study.
3. Submit a current copy of a professional résumé or curriculum vitae to the Social Welfare Ph.D. Program. This should contain information on:
 - All post-secondary education, including institutions, degrees and dates of completed programs of study, plus institutions, dates, and types of study that did not lead to a degree.

- All employment by the applicant in social work, criminal justice, and related areas, including dates and employing organizations.
 - Employment unrelated to social work or criminal justice within the past five years.
 - Information on any past or current professional licenses held.
4. Submit scores from within the past five years on the [Graduate Record Examination \(GRE\)](#) General Test to the Social Welfare Ph.D. Program.
 5. Submit three letters of recommendation from persons familiar with the applicant's achievements and academic potential, including at least one current or former graduate program instructor to the Social Welfare Ph.D. Program.
 6. Submit a sample of written work to the Social Welfare Ph.D. Program that demonstrates: the applicant's knowledge of social work and/or criminal justice theory, practice, and research; ability to think analytically; and writing skills. The sample should be at least 1000 words in length and represent work for which the applicant was the sole author.

The program will assign each Ph.D. student a major professor. This assignment is based on congruence between the applicant's interests and the expertise of the major professor. In consultation with the director of the Ph.D. program, the student may change major professors after beginning the program, but no applicant will be admitted unless a doctoral faculty member in criminal justice or social work agrees to serve as major professor.

Financial Assistance

Through a combination of tuition remission, teaching assistantships, research assistantships, fellowships, and other options, the program will attempt to provide financial assistance to all admitted students during their first three years in the program. Applicants needing additional information on other sources of financial assistance, such as student loans, should contact the campus Office of Financial Aid.

Residence

Students must meet minimum Graduate School residency requirements.

Course of Study

A minimum degree of 43 graduate credits beyond the master's degree are required, at least 36 of which must be earned in residence at UWM.

In consultation with the major professor and as soon as possible after admission, each student designs a program of study to gain the knowledge and skills appropriate to his/ her

educational goals. All programs of study must include the following:

Knowledge Building (3 credits)

Required Course

Soc Wrk 901 - Philosophy of Science Specialization Seminars (11-12 credits)

The curriculum includes four areas of specialization: Applied Behavioral Health, Applied Gerontology, Criminal Justice, and Family and Child Welfare. Each student must select at least one of these areas in which to concentrate. In consultation with the major professor, a student may also choose to develop expertise that spans more than one area.

Content in these four specialization areas is presented in the form of specialization seminars. All students must take at least three specialization seminars within the program and at least one relevant course external to the HBSSW; the external course must be from a list of courses approved for this purpose or a student's unique request approved by the doctoral program committee. At least two courses, including one internal and one external course, must be in the student's area of specialization, and at least one course internal to the HBSSW must be in an area other than the student's primary specialization. All specialization courses outside the HBSSW must be approved by the student's major professor prior to enrollment.

Examples of specialization seminars

Soc Wrk 931 - Theories of Poverty and Social Welfare Policy (Family and Child Welfare specialization)

Soc Wrk 932 - Theories and Research on Behavior Change (Addiction and Behavioral Health specialization)

Soc Wrk 945 - Family and Long-Term Care Across the Life Course (Applied Gerontology specialization)

Soc Wrk 791 - Current Topics in Social Work: Family and Child Well-Being (Family and Child Welfare Specialization)

Crm Jst 791 - [to be determined; will be offered no later than Spring 2016]

Methods of Inquiry and Analysis (19 credits total)

Content in this area comprises a set of required courses in methods of social/behavioral research and statistics. Students are expected to enter the program with at least a basic background in both methods and statistics and may need to satisfy prerequisites before proceeding to required courses.

Research Methods

Required Courses

Soc Wrk 951 - Quantitative Research Methods

Social Work

Soc Wrk 952 - Qualitative Research Methods in Social Work

Statistics

Required Courses

Soc Wrk 961 – Introduction to Statistical Methods

Soc Wrk 962 – Applied Multiple Regression Analysis

Research Methods and Statistics Electives (Two from inside or outside the HBSSW are required)

Soc Wrk 963 – Measurement Methods and Related Multivariate Statistics

Soc Wrk 964 – Advanced Statistical Methods

Students may choose one or both of the above elective courses or one or two courses from an approved set of alternatives offered in other Schools or campuses. Approval must be secured from the major advisor prior to enrolling.

Requirements in this area are designed to provide students with specialized knowledge and skills needed for success in scholarly endeavors and teaching at the post-secondary level. With respect to classroom work, all students must complete the following three one-credit proseminars:

Soc Wrk 991 - Doctoral Proseminar: Research Ethics

Soc Wrk 991 - Doctoral Proseminar: Grantwriting

Soc Wrk/Crm Jst 991 – Doctoral Proseminar: Teaching

Additionally, all students must complete one semester of work as a teaching assistant and one semester as a project or research assistant, usually in their second year. During the semester in which they serve as a teaching assistant, students must enroll for one credit in:

Soc Wrk/Crm Jst 999 – Independent Reading in Social Work/Criminal Justice. This independent study credit will be completed under the supervision of the faculty member to whom the student is assigned as an assistant. The product should be a project that will advance the student's skills in teaching, such as preparation of a guest lecture or other such task determined by the supervising faculty member.

Electives (4-6 credits)

These credits provide an opportunity for students to take content of interest within the HBSSW or in other schools on campus that offer graduate-level courses relevant to the student's educational goals. Elective options within the HBSSW include the completion of additional specialization seminars beyond the required total. Students may also complete this requirement by taking additional research methods or statistics courses within or outside the HBSSW, or they may take theory or basic-

knowledge courses in other Schools that are at the graduate level and are approved by their advisor and the Ph.D. program director.

Preliminary Examination

All students must pass a preliminary examination subsequent to successfully completing all required coursework and prior to being admitted to doctoral candidacy. The examination assesses students' ability to articulate their research interests, analyze and synthesize empirical knowledge and relevant theoretical concepts, explain how theory may affect the generation of knowledge, and show familiarity with relevant scientific methodologies. In keeping with Graduate School rules, the preliminary examination should be completed within five years of enrollment.

An Application for the Doctoral Preliminary Examination must be completed by the student and signed and submitted to the Ph.D. Program Committee by the major professor six weeks prior to the first examination. Students who fail the preliminary examination may not proceed to the dissertation. The exam may be retaken only once. Complete policies regarding forming a preliminary examination committee, writing the proposal, and taking the examination are available in the Social Welfare Ph.D. program handbook.

Dissertation Proposal Defense

All students must successfully complete an oral defense of their dissertation proposal to determine their preparation for independent research. The defense must be completed successfully within four years of initial enrollment.

Dissertation

Students who have passed the Preliminary Examination and have submitted a one-page preliminary dissertation proposal are formally admitted to doctoral candidacy. In accordance with Graduate School policies, students must then register for three research or thesis/dissertation credits each semester until the dissertation is submitted to the Graduate School. To meet the requirements for the dissertation, the candidate must complete an original independent research project that adds meaningfully to the existing body of knowledge in social work. It should be of a caliber that warrants publication in respected journals in the field.

Dissertation Defense

As the final step toward the degree, the candidate must pass an oral examination before his/her doctoral committee in defense of the dissertation. The examination may also cover general topics relevant to the student's area of study. This requirement may not be completed until all other degree requirements are satisfied.

Time Limit

It is expected that most students will complete all degree requirements within six years of initial enrollment in the doctoral program. All requirements MUST be completed within ten years from the date of initial enrollment.

Joint Master of Social Work and Doctor of Philosophy in Social Welfare

Admission

Relevant application materials must be submitted to both the Graduate School and HBSSW and will be accepted for admission in the Fall semester only. All applications must be completed and submitted on or before January 2. Applications received after January 2 will be considered only if space is available after other applications are reviewed.

Students who apply and are accepted to the joint MSW/Ph.D. program will be able to earn both the Master of Social Work and Doctor of Philosophy in Social Welfare both degrees in the course of their studies and will not be required to apply to the Ph.D. program after earning the MSW degree, assuming their progress is satisfactory. Applicants who are not offered admission to the joint program will still be considered for admission into the MSW-only program.

All applicants must meet Graduate School requirements plus the following HBSSW requirements:

1. Have an undergraduate grade point average of 2.75 or better.
2. Have completed at least 21 semester credits in the social and behavioral sciences (i.e., psychology, sociology, political science, economics, anthropology, and/or their equivalents).
3. Indicate the following in the Personal Statement section of the Graduate School application form:
 - Which of the program's four areas of specialization (Applied Behavioral Health, Applied Gerontology, Criminal Justice, or Family and Child Welfare) they wish to pursue.
 - Their reasons for seeking a doctoral degree in social welfare.
 - Their goals as future scholars.
 - topic or issue in the field that they consider to be particularly challenging and worthy of study.
4. In materials submitted to the HBSSW, applicants must:
 - Provide a current copy of a professional résumé or curriculum vitae. This should contain information on:
 - All post-secondary education, including institutions, degrees and

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dates of completed programs of study, plus institutions, dates, and types of study that did not lead to a degree.

- All employment by the applicant in social work or criminal justice and related areas, including dates and employing organizations.
 - Employment unrelated to social work or criminal justice within the past five years.
 - Information on any past or current professional licenses held.
5. Submit scores from within the past five years on the [Graduate Record Examination \(GRE\)](#) General Test.
 6. Submit three letters of recommendation from persons familiar with the applicant's achievements and academic potential, including at least one current or former academic instructor.
 7. Submit a sample of written work that demonstrates: the applicant's knowledge of social science theory, practice, and research; ability to think analytically; and writing skills. The sample should be at least 1000 words in length and represent work for which the applicant was the sole author, or if it is jointly authored should indicate which sections were primarily done by the applicant.

Advisement

The HBSSW will assign each MSW/Ph.D. student a major professor. This assignment is based on congruence between the applicant's interests and the expertise of the major professor. In consultation with the director of the Ph.D. program, the student may change major professors after beginning the program, but no applicant will be admitted unless a doctoral faculty member in social welfare agrees to serve as major professor.

Financial Assistance

Through a combination of tuition remission, teaching assistantships, research assistantships, fellowships, and other options, the program will attempt to provide financial assistance to all admitted students during their first four years in the program. Applicants needing additional information on other sources of financial assistance, such as student loans, should contact the campus's Office of Financial Aid.

Residence

Students must meet minimum Graduate School residency requirements.

Course of Study

MSW Requirements

The MSW portion of the joint curriculum requires a minimum of 22 graduate credits for students admitted to the Advanced Curriculum. Another 12 credits normally required in the

Advanced Curriculum will be replaced by the same number of Ph.D.-level credits. Students admitted into the joint curriculum who have not earned a bachelor's degree from an accredited social work program within the past five years are required to complete 22 credits in the Professional Foundation prior to beginning courses in the Advanced Curriculum. The purpose of the Professional Foundation is to orient students to the profession and to provide a knowledge, values and skills base for later course. Credits in the Professional Foundation are not included in the 22 Advanced Curriculum credits required for completion of the MSW degree, nor do they apply to the required 12 Ph.D.-level credits.

Courses in the Professional Foundation are:

Soc Wrk 604 Social Systems and Social Work Practice (3 cr.)
Soc Wrk 662 Methods of Social Welfare Research (3 cr.)
Soc Wrk 665 Cultural Diversity and Social Work (3 cr.)
Soc Wrk 705 Individual Behavior and Social Welfare (3 cr.)
Soc Wrk 708 Social Work Methods I: Individuals and Families (3 cr.)
Soc Wrk 709 Social Work Methods II: Groups, Organizations and Communities (2 cr.)
Soc Wrk 721 Field Instruction I (3 cr.)
Soc Wrk 750 Social Welfare Policy Development and Implementation (2 cr.)

MSW-level courses to be taken in the Advanced Curriculum are:

Soc Wrk 711 Direct Social Work Practice or Soc Wrk 713 Community Organization, Planning and Human Service Administration I (3 cr.)
Soc Wrk 722 Field Instruction II (3 cr.)
Soc Wrk 753 Psychopathology (3 cr.)
Soc Wrk 811 Direct Social Work Practice II (3 cr.)
Soc Wrk 820 Seminar in Social Work Practice (2 cr.)
Soc Wrk 821 Field Instruction III (4 cr.)
Soc Wrk 822 Field Instruction IV (4 cr.)

MSW courses in the Advanced Curriculum to be replaced by Ph.D.-level courses are:

Soc Wrk 793 Evaluation of Practice (2 cr.) replaced by 961 Introduction to Statistical Methods (description below)
Soc Wrk 794 Evaluation of Programs (2 cr.) replaced by 951 or 952 (descriptions below)
Soc Wrk 851 Social Issue and Policy Analysis (subtitled) (2 cr.) replaced by 931 or 945 (descriptions below)
Soc Wrk 791 Current Topics in Social Work (3 cr.) replaced by 901 or 932 (descriptions below)
Soc Wrk 791 Current Topics in Social Work (3 cr.) replaced by 963 or doctoral elective (descriptions below)

Exemptions

Students who have, within the 5 years preceding admission, completed coursework which substantially duplicates MSW Professional Foundation courses may apply to the Chair of the Social Work Department for an exemption from the relevant courses. Exemption examinations are also offered on a scheduled basis for these courses. Exemption of the field experience (721) may be authorized by the Director of Field Programs for students having sufficient supervised employment experience. Students interested in securing an exemption should request course exemption forms upon notification of admission to the program.

All requests for exemptions must be made at the time of initial enrollment. Exemption requests will not be accepted following the end of the first semester of coursework.

Ph.D. Requirements

A minimum of 39 credits of Ph.D.-level coursework is required. At least 33 of these must be earned in residence at UWM. Required courses include:

Foundation (3 credits required)

Soc Wrk 901 Philosophy of Science (3 cr.)

Specialization Seminars (9 credits required, three from student's area of specialization)

Examples of currently available seminars are:
Soc Wrk 931 Theories of Poverty and Soc. Welf. Policy (3 cr.)
Soc Wrk 932 Theories and Research on Behavior Change (3 cr.)
Soc Wrk 945 Family and Long-Term Care Across the Life Course (3 cr.)
Soc Wrk 791 – Current Topics in Social Work (Family and Child Welfare Specialization)
Crm Jst 791 – [to be determined; will be offered no later than Spring 2016]

Research Methods (6 credits required)

Soc Wrk 951 Quantitative Research Methods (3 cr.)
Soc Wrk 952 Qualitative Research Methods in Social Work (3 cr.)

Statistics (13 credits required)

Soc Wrk 961 Introduction to Statistical Methods (4 cr.)
Soc Wrk 962 Applied Multiple Regression Analysis (3 cr.)
Soc Wrk 963 Measurement Methods and Related Multivariate Statistics (3 cr.)
Soc Wrk 964 Advanced Statistical Methods (3 cr.)

Proseminars and Independent Study (4 credits)

Soc Wrk 991 Doctoral Proseminar: Research Ethics (1 cr.)
Soc Wrk 991 Doctoral Proseminar: Grantwriting (1 cr.)

Social Work

Soc Wrk/Crm Jst 991 – Doctoral Proseminar: Teaching
Soc Wrk/Crm Jst 999 Independent Reading in Social Work/Criminal Justice (1 cr.)

Electives (4-6 credits)

Two approved external doctoral-level courses in area of specialization (2-3 cr. each)

Preliminary Examination

All students must pass a preliminary examination subsequent to successfully completing all required coursework and prior to being admitted to doctoral candidacy. The examination assesses students' ability to articulate their research interests, analyze and synthesize empirical knowledge and relevant theoretical concepts, explain how theory may affect the generation of knowledge, and show familiarity with relevant scientific methodologies. In keeping with Graduate School rules, the preliminary examination should be completed within five years of enrollment.

An Application for the [Doctoral Preliminary Examination](#) must be completed by the student and signed and submitted to the Ph.D. Program Committee by the major professor six weeks prior to the first examination. Students who fail the preliminary examination may not proceed to the dissertation. The exam may be retaken only once. Complete policies regarding forming a preliminary examination committee, writing the proposal, and taking the examination are available in the Social Welfare Ph.D. program handbook.

Dissertation Proposal Defense

All students must successfully complete an oral defense of their dissertation proposal to determine their preparation for independent research. The defense must be completed successfully within four years of initial enrollment.

Dissertation

Students who have passed the Preliminary Examination and have submitted a one-page preliminary dissertation proposal are formally admitted to doctoral candidacy. In accordance with Graduate School policies, students must then register for three research or thesis/dissertation credits each semester until the dissertation is submitted to the Graduate School. To meet the requirements for the dissertation, the candidate must complete an original independent research project that adds meaningfully to the existing body of knowledge in social work or criminal justice. It should be of a caliber that warrants publication in respected journals in the field.

Dissertation Defense

As the final step toward the degree, the candidate must pass an oral examination before his/her doctoral committee in defense of the

dissertation. The examination may also cover general topics relevant to the student's area of study. This requirement may not be completed until all other degree requirements are satisfied.

Time Limit

It is expected that most students will complete all degree requirements within seven years of initial enrollment in the joint MSW/Ph.D. program. All requirements MUST be completed within ten years from the date of initial enrollment.

Master of Social Work/Master of Arts in Women's Studies Coordinated Degree Program

The College of Letters and Science and the Helen Bader School of Social Welfare collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving professional practice and the field of feminist research and scholarship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Admission

Students are admitted to both graduate programs separately, and [admission requirements](#) are consistent with those specified by the UWM Graduate School, the [M.A. in Women's Studies](#) program in the College of Letter and Science, and the M.S.W. in Social Work of the Helen Bader School of Social Welfare.

Credit and Courses

Students accepted into this M.A./M.S.W. program complete the following courses:

Women's Studies

WGS 401 Global Feminisms, 3 cr. U/G
WGS 700 Feminist Issues and Scholarship. 3 cr. G.
WGS 710 Advanced Feminist Theory. 3 cr. G.
WGS 711 Advanced Women's Studies Research Methods. 3 cr. G.
WGS G or U/G course (excluding 497, 599, 700, 990, 999), 3 cr

Electives WGS courses or cross-listed courses with Women's Studies (excluding Soc Wrk), 9 cr.

Total WGS credits: 24 (maximum of 6 U/G cr; and maximum 3 cr of WGS 999)

Social Work Foundation Curriculum

Soc Wrk 604 Social Systems and Social Work Practice. 3 cr. U/G.
Soc Wrk 662 Methods of Social Welfare Research. 3 cr. U/G.
Soc Wrk 665 Cultural Diversity and Social Work. 3 cr. U/G.

Soc Wrk 705 Individual Behavior and Social Welfare. 3 cr. G.
Soc Wrk 708 Social Work Methods I: Individuals and Families. 3 cr. G.
Soc Wrk 709 Social Work Methods II: Groups, Organizations and Communities. 2 cr. G.
Soc Wrk 721 Field Instruction I. 3 cr. G.
Soc Wrk 750 Social Welfare Policy Development and Implementation. 2 cr. G.

Social Work Advanced Practice Curriculum

Practice courses (711 or 713; 811 or 915; one additional practice course)

Soc Wrk 711 Direct Social Work Practice I. 3 cr. G.
Soc Wrk 713 Community Organization, Planning and Human Service Administration I. 3 cr. G.
Soc Wrk 811 Direct Social Work Practice II: (Subtitled). 3 cr. G.
Soc Wrk 915 Human Services Administration II. 3 cr. G.
Additional Social Work practice course, 2 cr. G.

Field Courses

Soc Wrk 722 Field Instruction II. 3 cr. G.
Soc Wrk 821 Field Instruction III. 4 cr. G.
Soc Wrk 822 Field Instruction IV. 4 cr. G.

Human Behavior Content (753 or 771 or 685)

Soc Wrk 753 Adult Psychopathology. 3 cr. G.
Soc Wrk 771 Development of the Family Over the Life Span. 3 cr. G.
Soc Wrk 685 Social Gerontology. 3 cr. U/G.

Research

Soc Wrk 793 Evaluation of Practice. 2 cr. G.
Soc Wrk 794 Evaluation of Programs. 2 cr. G.

Social Policy

Soc Wrk 851 Social Issue and Policy Analysis: (Subtitled). 2-3 cr. G.
Electives (6 cr) Selected from Women's Studies courses in consultation with faculty advisor.

Minimum Total Credits for Coordinated Program: 52 (for those admitted to the M.S.W. Social Work Advanced Curriculum).

Time Limit

Students in the coordinated M.A./M.S.W. degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Master of Social Work/Master of Science in Criminal Justice Coordinated Degree Program

Both departments in the Helen Bader School of Social Welfare collaboratively offer a program

Social Work

designed to provide students with theoretical and practical exposure to evolving professional practice in the field of criminal justice, or social work with a focus on criminal justice (e.g., corrections, juvenile justice, probation & parole, etc).

Admission

Students are admitted to both graduate programs separately and admission requirements are consistent with those specified by the UWM Graduate School, the MS in Criminal Justice and the MSW program in the Helen Bader School of Social Welfare.

Credit and Courses

Students accepted into this MS/MSW program complete the following courses:

Criminal Justice

Crj 773 Perspectives on Crime & the Criminal Justice System 3 cr. G.

Crj 743 Proseminar: Administration of Criminal Justice Systems. 3 cr. G.

Crj 756 Proseminar: Analysis of Criminal Justice Research. 3 cr. G.

12 additional credit hours of courses must be taken within the criminal justice program.

12 credit hours of courses from successfully completed Social Work courses with the consent of the student's advisor.

Students must complete the requirements of the Essay Option or Non-Essay Option as the degree capstone.

Social Work Foundation Curriculum

SocWork 604 Social Systems and Social Work Practice. 3 cr. U/G.

SocWork 662 Methods of Social Welfare Research. 3 cr. U/G.

SocWork 665 Cultural Diversity and Social Work. 3 cr. U/G.

SocWork 705 Individual Behavior and Social Welfare. 3 cr. G.

SocWork 708 Social Work Methods I: Individuals and Families. 3 cr. G.

SocWork 709 Social Work Methods II: Groups, Organizations and Communities. 2 cr. G.

SocWork 721 Field Instruction I. 3 cr. G.

SocWork 750 Social Welfare Policy Development and Implementation. 2 cr. G.

Social Work Advanced Practice Curriculum

11 credits of Field Instruction (SocWork 722/821/822)

8 credits of Social Work Practice Methods (SocWork 711, 811*, and additional practice course) or (SocWork 713, 915, and additional practice course)

4 credits of Social Work Research (SocWork 793/794)

5 credits within selected area of concentration (SocWork 851* and one of 685, 753, or 771, depending on area of concentration)

6 credits of electives

* Requires sections to be selected from within the specialized concentration area

Electives (6 cr) Selected from among successfully completed CJ courses in consultation with faculty advisor.

Capstone

The capstone requirement is satisfied by Soc Wrk 822 (Field Instruction IV).

Total Credits for Coordinated Degree:

71 (without a BSW) or **49** (with a BSW).

The total credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. Degrees will be awarded simultaneously.

A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated MS/MSW degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Courses

497 Study Abroad: (Subtitled). 1-6 cr. U/G.

Variable content (subtitle is area of concentration). Designed to enroll students in UWM sponsored program before course work level, content and credits are determined and/or in specially prepared program course work. Retakeable with change in topic to max of 9 cr. Prereq: jr st; acceptance for Study Abroad Prog.

562 Child and Family Services. 2 cr. U/G.

Introduction to child and family welfare services, including methods for assessing needs, existing treatment techniques, and institutional support systems. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

564 Social Services for the Aging. 2 cr. U/G.

Individual and societal implications of the aging process, with an emphasis upon current resources and programs for the elderly. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

580 An Overview of Child/Youth Care. 3 cr. U/G.

Survey of skills, theories and approaches of the youth work field. Emphasis on relationship-building, interactive and developmental approaches in a variety of settings. Ed Pol/ExcEduc/Soc Wrk 580 are jointly offered & count as repeats of each other. Prereq: jr st or cons instr.

581 Youth Work Practice. 3 cr. U/G.

Applies the skills, theories and approaches of the youth work field to settings such as schools,

community centers, and residential programs. Ed Pol/ExcEduc/Soc Wrk 581 are jointly offered & count as repeats of each other. Prereq: jr st; Ed Pol/ExcEduc/Soc Wrk 580(P); or grad st or cons instr.

604 Social Systems and Social Work Practice. 3 cr. U/G.

Analysis of organizations, community and social institutions and the impact they have on human behavior and how they provide the social context of social work practice. Prereq: jr st; satisfy English competency, admis to Soc Wrk major, Soc Wrk 310(P); or grad st.

630 Families and Poverty. 2-3 cr. U/G.

Description of families in poverty and analysis of historical and contemporary national and state policies aimed at reducing poverty. Prereq: jr st; one prior course in Soc Wrk recom.

650 Social Welfare and the Law. 2 cr. U/G.

Collaborative principles of social work and the legal profession. Selected concepts and principles of legal and social provision for protection of family, children and adults. Prereq: jr st, satisfy English competency, one prior course in Soc Wrk recom; or grad st.

662 Methods of Social Welfare Research. 3 cr. U/G.

Analyze methods of social welfare research and problems in project design and programming. Characteristics of investigations directed to planning, administrative, practice, and scientific objectives. Prereq: jr st, Soc Wrk major, completion of GER Math req, Soc Wrk 100(P) & 206(P), 421(C); or grad st.

665 Cultural Diversity and Social Work. 3 cr. U/G.

Emphasis on culture, race and ethnicity, theories of prejudice, and racial minority groups, and the politics of human services in multicultural society. Prereq: jr st, admis to Soc Wrk major, satisfy English competency, Soc Wrk 100(P), 206(P), 250(350)(P); or grad st.

680 Death and Dying. 3 cr. U/G.

Focus on multiple perspectives on death, dying, and bereavement; roles and skills for social workers and other helpers about end-of-life issues. Counts as repeat of Soc Wrk 591 & 791 with same topic. Prereq: jr st; or grad st.

685 Social Gerontology. 3 cr. U/G.

Exploration of individual aging experiences and interaction with social structures and social systems. Counts as repeat of Soc Wrk 591 & 791 with the same topic. Prereq: jr st and one prior course in Soc Wrk recom; or grad st.

691 Practice Methods in Social Work: (Subtitled). 1-3 cr. U/G.

Topics focused on Social Work practice methods. Specific topics and credits to be announced in Schedule of Classes. May be

Social Work

retaken with change in topic to max of 6 cr.
Prereq: jr st.

705 Individual Behavior and Social Welfare. 3 cr. G.

The development and behavior of individuals in interaction with their social contexts; implications for social welfare. Prereq: grad st.

708 Social Work Methods I: Individuals and Families. 3 cr. G.

Introduction to generalist social work practice with individuals and families, with emphasis on integration of theory and knowledge with professional practice. Prereq: grad st; admis to MSW

709 Social Work Methods II: Groups, Organizations and Communities. 2 cr. G.

Introduction to generalist social work practice with groups, organizations and communities, with emphasis on integration of theory and knowledge with professional practice. Prereq: grad st; admis to MSW; Soc Wrk 708(C)

711 Direct Social Work Practice I. 3 cr. G.

Methods of social work intervention employed in helping individuals, families and small groups. Addresses personal, interpersonal, environmental and resource issues with emphasis on interviewing, assessing, contracting and goal setting. Prereq: grad st; Soc Wrk 710(P), or BSW degree, or Soc Wrk 708(P) & 709(P); Soc Wrk 722(C).

713 Community Organization, Planning and Human Service Administration I. 3 cr. G.

Knowledge and skill development in the activities, roles, styles, and ethical issues in community and administrative practice. Emphasis on needs assessment, planning methodologies, and change efforts. Prereq: grad st; Soc Wrk 708 & 709(710) or BSW degree.

718 Introduction to SAS Programming. 3 cr. G.

Fundamental instruction in programming, data management and exploratory data analysis using SAS software. Prereq: grad st

719 Advanced SAS Programming. 3 cr. G.

Advanced instruction in programming, data management, and exploratory data analysis using SAS software. Prereq: grad st; Soc Wrk 718(P) or cons instr

721 Field Instruction I. 3 cr. G.

Supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 710(P) or 708(P); 709(C) or 711(C).

722 Field Instruction II. 3 cr. G.

Supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 721(P) or BSW degree; Soc Wrk 713(C) or 711(C).

750 Social Welfare Policy Development and Implementation. 2 cr. G.

Examination of policy development, implementation, and models of analysis that describe and provide analytical guides for determining the efficacy of public policy in addressing human needs. Prereq: grad st.

753 Adult Psychopathology. 3 cr. G.

Mental disorders and their implications for the social work profession, including assessment, intervention and prevention issues. Prereq: grad st; Soc Wrk 705(P).

754 Child and Adolescent Psychopathology. 2 cr. G.

Mental and behavioral disorders of children and adolescents and their implications for the social work profession, including assessment, intervention and prevention issues. Prereq: grad st; Soc Wrk 705.

765 Social Work Boundaries and Ethics in Professional Practice. 2-3 cr. G.

Ethical issues faced by social work practitioners in professional practice. Topics include NASW Code of Ethics, boundary issues, ethical dilemmas, and risk management. Prereq: grad st.

771 Development of the Family Over the Life Span. 3 cr. G.

The family as a social system as it engages in various developmental tasks throughout the life cycle and in interaction with the social context; social work implications of relevant theories and research. Prereq: grad st.

774 Trauma Counseling I: Theory and Research. 3 cr. G.

Seminar examining impact of trauma experience on individuals, groups and communities following a catastrophic event. Explores traumatic events, mental injuries and impact on memory, learning, physical health and dysfunctional behavior. Couns 774, Nurs 774, OccThpy 774, and Soc Wrk 774 are jointly offered; they count as repeats of one another. Prereq: grad st

775 Trauma Counseling II: Diagnosis and Treatment. 3 cr. G.

Seminar on diagnosis and assessment instruments as well as intervention and therapeutic techniques used to address trauma issues in counseling acute and chronic traumatized clients. Couns 775, Nurs 775, OccThpy 775, and Soc Wrk 775 are jointly offered; they count as repeats of one another. Prereq: grad st; Couns 774, Nurs 774, OccThpy 774, or Soc Wrk 774(P), or cons instr

791 Current Topics in Social Work: (Subtitled). 1-3 cr. G.

Variable content course with specific topics to be announced in schedule of classes. May be repeated with change in topic to max of 6 cr. Prereq: grad st.

793 Evaluation of Practice. 2 cr. G.

Advanced problems and methods of research in social work practice. Prereq: grad st; Soc Wrk 662(P) or equiv; Soc Wrk 721(C) or 722(C).

794 Evaluation of Programs. 2 cr. G.

Provides students with the skills and knowledge base necessary to understand the program evaluation process as it applies to social welfare programs. Prereq: grad st.

811 Direct Social Work Practice II: (Subtitled). 3 cr. G.

A continuation of methods of social work intervention, with sections tailored to specialized concentration areas: gerontology, family and child welfare, and behavioral and physical health. Emphasis is on selection and implementation of appropriate intervention plans. Prereq: grad st; Soc Wrk 711(P); 722(C).

813 Financial Management and Planning in Human Services. 2 cr. G.

This course is designed to facilitate and understanding of selected areas of planning and management in human services with an emphasis on resource development and financial management. Prereq: grad st; Soc Wrk 713(C) & 915(C) or cons reg; cons instr.

818 Treatment of Co-Occurring Disorders. 3 cr. G.

Knowledge on assessment and treatment strategies with substance misuse and mental health issues, along with research on etiology and best practices for addressing co-occurring disorders. Prereq: grad st; Soc Wrk 711(P) or 713(P)

819 Social and Environmental Justice in Public Health. 3 cr. G.

Social and environmental justice perspective on public health problems and concerns. Jointly offered w/ & counts as a repeat of PH 819. Prereq: grad st.

820 Seminar in Social Work Practice: (Subtitled). 2 cr. G.

Critical examination of varied and specialized methodologies with emphasis on new professional directions, interdisciplinary coordination and integration of professional practice with behavioral sciences, research, and policy concerns. May be repeated with change in topic to max of 6 cr. Prereq: grad st; Soc Wrk 711(P) or 713(P)

821 Field Instruction III. 4 cr. G.

Second-year supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 811(C) or 915(C); 722(P); 711(P) or 713(P).

822 Field Instruction IV. 4 cr. G.

Advanced second-year supervised social work practice in a social agency with emphasis on integration of professional practice with methodology, behavioral sciences, research and

Social Work

policy concerns. Prereq: grad st; Soc Wrk 821(P).

830 Intervention Strategies for Correctional Clients. 3 cr. G.

A review and analysis of intervention approaches and programs used with correctional clients, both juvenile and adult, with emphasis on diversion, prevention, and rehabilitation strategies. Prereq: grad st.

831 Models of Family Therapy. 2 cr. G.

Introduction to the major family therapy approaches, including assessment and intervention techniques for each. Models include systemic, structural, strategic, interactional and multigenerational. Prereq: grad st; Soc Wrk 811 or conc reg.

832 Social Work Practice with Couples. 2 cr. G.

Intensive examination of varied methodologies to effect therapeutic change in couples. Includes assessing couples' interactional patterns and formulating therapeutic strategies. Prereq: grad st; Soc Wrk 811 or conc reg; cons instr.

851 Social Issue and Policy Analysis: (Subtitled). 2-3 cr. G.

Advanced level analysis of the relationship between selected problem areas, policy development and service system. May be repeated with change in topic to max of 9 cr. Prereq: grad st; Soc Wrk 750(P) or BSW degree.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

901 Philosophy of Science. 3 cr. G.

Analyzes philosophical foundations of science, knowledge building processes, and the scope and nature of knowledge, emphasizing applications for the social and behavioral sciences. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

915 Human Services Administration II. 3 cr. G.

The role of the professional in the human services administrative organization, focusing on interpersonal relationships in supervision, evaluation and leadership. Prereq: grad st; Soc Wrk 713; 722 or conc reg.

921 Field Instruction V. 3-4 cr. G.

Optional advanced supervised social work practice in a social agency. Prereq: grad st; Soc Wrk 822.

931 Theories of Poverty and Social Welfare Policy. 3 cr. G.

Analyzes anti-poverty policies/programs, populations at risk, poverty dynamics, poverty-rate trends, circumstances of the poor, poverty etiology and government roles in income

redistribution and social change. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr

932 Theories and Research on Behavior Change. 3 cr. G.

Theory and research of individual change from a social work perspective using classic to recent models, with application to diverse populations. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

940 Applied Gerontology Capstone I. 2 cr. G.

Professional socialization seminar emphasizing the interdisciplinary nature of gerontology and exposing students to professional and library resources for continuing professional development. Sociol 940 and Soc Wrk 940 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 760(P) & Soc Wrk 851(P).

941 Applied Gerontology Capstone II. 2-3 cr. G.

Teamwork applied research project conducted in collaboration with a community-based organization that serves the elderly; presentation of findings to a professional audience. Sociol 941 and Soc Wrk 941 are jointly offered; they count as repeats of one another. Students who intend to prepare a manuscript for publication enroll for 3 crs; all others enroll for 2 crs. Prereq: grad st; Sociol or Soc Wrk 940(P).

942 The Family and Long-Term Care. 3 cr. G.

Seminar on the role of family in providing long term care. Social values, public policies, and consequences for individuals and society. Sociol 942 & Soc Wrk 942 are jointly offered; they count as repeats of one another. Prereq: grad st.

945 Family and Long-Term Care Across the Life Course. 3 cr. G.

Seminar on the family role in the provision of long term care within the context of kinship care, and care of persons with chronic illnesses, developmental and adult disabilities. Prereq: grad st; admis to the Soc Wrk Ph.D. prog or writ cons instr.

951 Quantitative Research Methods. 3 cr. G.

An in-depth, hands-on review of experimental, quasi-experimental, and non-experimental approaches to the design and implementation of quantitative research studies. Prereq: grad st; admis to the Social Work Ph.D. Program or written cons instr

952 Qualitative Research Methods in Social Work. 3 cr. G.

Seminar on the philosophical and methodological issues of qualitative research. Students will conduct exploratory original field research and produce a research proposal based

on their findings. Prereq: grad st; admis to the Soc Wrk Ph.D. prog or writ cons instr.

961 Introduction to Statistical Methods. 4 cr. G.

Reviews basic parametric and nonparametric tests, including descriptive statistics, correlation, basic inferential statistics, one- and two-way ANOVA, OLS regression, nonparametric statistics, and handling missing data. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr

962 Applied Multiple Regression Analysis. 3 cr. G.

Multiple regression analysis concentrating on OLS regression techniques but also covering logistic and Poisson regression. Prereq: grad st; admis to the Social Work Ph.D. program or written cons instr.

963 Measurement Methods and Related Multivariate Statistics. 3 cr. G.

Survey of concepts and applications of Classical True Score and Item Response Theory and multivariate statistical methods relevant to test evaluation and construction. Prereq: grad st; SocWrk 961(P) & 962(P); admis to the Soc Wrk Ph.D. program or written cons instr.

964 Advanced Statistical Methods. 3 cr. G.

Covers multivariate statistical procedures, including MANOVA, MANCOVA, canonical correlation and discriminant function analysis, Poisson regression, survival analysis, multilevel modeling, and analysis of longitudinal data. Prereq: grad st; admis to the Soc Wrk Ph.D. program or written cons instr.

970 Independent Research. 1-4 cr. G.

Participation in an independent research project under faculty supervision. Students shall not take more than 6 cr total between courses Soc Wrk 970(P) & 999(P). Prereq: grad st; cons instr; Soc Wrk 662(P)

990 Doctoral Research. 1-12 cr. G.

Research connected with dissertation. Prereq: grad st. & admis to candidacy for Ph.D. degree.

991 Doctoral Proseminar: (Subtitled). 1 cr. G.

Variable content course with specific topics to be announced in schedule of classes. May be repeated with change in topic to 6 cr max. Prereq: grad st; admis to the Social Work Ph.D. Program or written cons instr

999 Independent Reading in Social Work. 1-3 cr. G.

Work suited to individual graduate students arranged. Students shall not take more than 6 cr total between courses Soc Wrk 970(P) & 999(P). Prereq: grad st; completion of foundation courses for non-BSW students; writ cons instr & dir of Soc Wrk prog.

Sociology

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Sociology
- Ph.D. in Sociology

Overview

The Department of Sociology offers M.A. and Ph.D. programs. The Master of Arts (M.A.) Degree Program in Sociology at the University of Wisconsin-Milwaukee offers a flexible and varied program of study to students who wish to specialize in one of the discipline's subfields. The program provides students with balanced and comprehensive training in sociological theory, research methodology and social statistics, which will prepare students for a variety of careers as well as continued study leading to the Ph.D. degree.

The Doctor of Philosophy in Sociology provides study and training for entry into academic and professional careers that would require theory-driven basic or applied research on social issues and phenomena. The program develops student expertise in general sociological theory and advanced methodologies for the analysis of social data, with particular emphasis on expertise in the analysis of social inequalities and social institutions.

Graduate Faculty

Professors

Jordan, Jennifer, Ph.D., University of California-San Diego
 Roberts, John, Ph.D., Cornell University
 Velez, William, Ph.D., Yale University

Associate Professors

Aneesh, A., Ph.D., Rutgers University
 Britton, Marcus, Ph.D., Northwestern University
 Chesley, Noelle, Ph.D., Cornell University
 Costello, Cary, Ph.D., University of California-Berkeley
 Green, Donald, Ph.D., University of Minnesota, Chair
 Redding, Kent, Ph.D., University of North Carolina-Chapel Hill
 Roberts, Aki, Ph.D., University of New Mexico

Assistant Professors

Campos-Castillo, Celeste, Ph.D., University of Iowa
 Gauchat, Gordon, Ph.D. University of Connecticut
 Miroso, Oriol, Ph.D., University of Wisconsin-Madison
 O'Brien, Timothy, Ph.D., Indiana University

Master of Arts in Sociology

Admission

New graduate students are admitted to the M.A. Program in Sociology only for the fall semester. Completed applications should be received by the department no later than January 10th of the year the applicant intends to start.

All applicants must meet the UWM Graduate School's requirements for admission to the M.A. program in Sociology. In addition, applicants to the M.A. program must:

1. Provide three letters of recommendation from persons, preferably faculty, familiar with the applicant's scholastic achievement and potential.
2. Submit a sample of scholarly writing, a minimum of five pages in length.
3. Submit [GRE](#) scores.

Financial Aid

The major source of financial assistance for graduate students in sociology is employment as a teaching assistant. Assistantships are awarded every academic year on a competitive basis and may be renewed for an additional year; they include a stipend, full tuition remission and eligibility for low-cost health insurance. To apply for a teaching assistantship, students should complete a Teaching Assistantship Interest Form and submit it to the Director of Graduate Studies. The deadline for receipt of that form is January 10th.

Graduate students also are eligible for fellowships awarded by the Graduate School on a competitive basis. Additional information on the types and availability of fellowships may be obtained directly from the Graduate School.

Advising Procedures

Upon admission, the Director of Graduate Studies will serve as the student's advisor. An initial advisor will be assigned in the student's first semester in residence. The initial advisor assists students in planning their course programs, and in scheduling other degree requirements. When the M.A. student begins to formulate a topic for a thesis, a master's paper, or M.A. examination, the student selects a member of the Sociology Graduate faculty as her/his committee chair. This person then becomes the student's main curriculum advisor for the remainder of the time in the program.

Credits and Courses

The M.A. in Sociology requires a minimum of 30 graduate credits. Thirteen (13) credits are fulfilled by the following required courses:

701 Professional Seminar (1 cr)

715 Systematic Sociological Theory (3 cr)

750 Research Methods in Sociology (3 cr)

760 Advanced Statistical Methods in Sociology (3 cr)

900-level sociology seminar course (3 cr)

The student, in consultation with his/her advisor, will select the remaining 17 elective credits. Up to five credits of Sociol 790, Master's Level Thesis/Paper, may be taken by students who elect the thesis/paper capstone option.

With permission of the student's advisor, up to six graduate credits may be taken outside the department in courses related to the individual's plan of study. No more than six credits of undergraduate/graduate courses (excluding those previously taken as an undergraduate), taken at the graduate level, may be applied toward meeting degree requirements. No more than six credits in 799, Master's Level Reading and Research, may count toward the degree.

Good Standing

To retain good standing in the Department of Sociology, an enrolled graduate student must maintain a minimum 3.0 cumulative GPA and demonstrate progress toward completion of the course and/or thesis requirements each semester.

Thesis, Master's Paper, or the M.A. Examination Options

The student must write and defend an acceptable thesis, a master's paper, or write an examination in fulfillment of the requirements for the Master of Arts degree in Sociology.

Thesis or Master's Paper

The thesis or master's paper is intended to be a relatively limited research exercise, focused on a manageable topic. It does not necessarily have to involve original research. It is completed through enrollment in Sociol 790. Acceptable thesis or master's paper options include, but are not limited to, collection of data for hypothesis testing or exploratory research, secondary analysis of available data, theoretical critique, conceptual analysis and library research on a clearly defined problem. In general, students are encouraged to utilize existing data rather than collect new data unless they are confident that they have adequate resources (including time) to collect data sufficient for their purposes.

By the end of the third semester, students should complete a proposal for the M.A. thesis or paper. The proposal will reflect the formulation of a research problem and the development of a plan for its empirical investigation. Once a proposal is successfully defended, it constitutes an agreement between the student and the M.A. committee.

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Students must prepare the thesis or master's paper under the direction of their committee, receive approval that it meets professional standards, and defend it at an oral examination. The master's paper is normally the length of a journal article (about 30 pp.). Students who choose to write a thesis should consult the Graduate School [Thesis and Dissertation Formatting](#) page. The thesis must be prepared according to these format requirements.

M.A. Examination

The Master of Arts examination option is based on a bibliography developed by the student in consultation with his/her committee. The bibliography will represent both classical statements and recent debates in at least one area of sociological specialization. Students are encouraged to develop the bibliography by the end of the third semester of residence.

The examination itself will be a set of three questions developed by the M.A. committee, from which the student must choose two. The student will have two weeks to write a take-home examination. The advisor and two other faculty members will grade the examination. Within two weeks of the completion of the written examination, there will be an oral examination on the same material.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Sociology

Admission

New graduate students are admitted to the Ph.D. Program in Sociology only for the fall semester. Completed applications should be received by the department no later than January 10th of the year the applicant intends to start.

An applicant must meet the UWM Graduate School's requirements for admission to the Ph.D. program in Sociology. In addition, applicants to the Ph.D. program must:

1. Possess a master's degree in Sociology or be in the process of completing a master's degree at the time of application, with the expectation of completion of the degree prior to beginning the Ph.D. program. Students without a master's degree in sociology are eligible for admission to the Ph.D. program if (a) they have a bachelor's degree in sociology or a related field and they show exceptional preparation for graduate school or (b) they have a master's degree in a closely related field. In addition to the requirements for the Ph.D., all students must (a) complete the required courses for the master's degree in sociology or comparable courses from

other institutions and (b) earn or transfer 24 credits in graduate-level work in sociology or a closely related field. If fewer than 24 credits are ruled acceptable for the doctoral program, the student will have to make up those credits.

2. Submit a copy of the applicant's M.A. thesis or paper, or, if an applicant did not complete a thesis, a scholarly writing sample of original sociological research.
3. Provide three letters of recommendation from persons, preferably faculty, familiar with the applicant's scholastic achievement and potential.
4. Submit a cogent personal statement detailing the individual's reasons for pursuing doctoral study in Sociology.
5. Submit [GRE](#) scores taken within the last five years.

Financial Support

The major source of financial assistance for graduate students in sociology is employment as a teaching assistant. Assistantships are granted every academic year on a competitive basis and may be renewed for an additional three years and include a stipend, full tuition remission and eligibility for low-cost health insurance. To apply for a teaching assistantship, students should complete a Teaching Assistantship Interest Form and submit it to the Director of Graduate Studies. The deadline for receipt of that form is January 10th.

Graduate students also are eligible for fellowships awarded by the Graduate School on a competitive basis. Additional information on the types and availability of fellowships may be obtained directly from the Graduate School.

Reapplication/Readmission

Students who receive the M.A. in Sociology from UWM must reapply to be considered for admission into the Ph.D. program.

Major Professor or Advisor

Each new student will be assigned an initial advisor from among the department's faculty. By the second year in the program, students will be expected to select their own major advisor and, in consultation with this advisor, a committee for preliminary examinations and the dissertation. The major advisor for each student, assisted by the student's dissertation committee and the director of graduate studies, will take primary responsibility for guiding the student successfully through the program and into the labor market and career opportunities.

Course of Study

The program will require 36 graduate credits of coursework at the post-master's level. We expect entering students to have completed the following courses or their equivalents in the process of earning a master's degree:

- Sociol 715, Systematic Sociological Theory (3 cr)
- Sociol 750, Research Methods in Sociology (3 cr)
- Sociol 760, Advanced Statistical Methods in Sociology (3 cr)

Students who have not taken these courses prior to admission to the Ph.D. program will be required to complete them in the first year of their pursuit of a doctoral degree. Credits earned in these courses will not count as part of the 36 credits required at the post-master's level.

At the Ph.D. level, students must complete the following coursework:

- Sociol 910, The Sociology of Inequality (3 cr)
- Sociol 911, The Sociology of Institutions (3 cr)
- Sociol 982, Advanced Quantitative Analysis (3 cr)
- One additional elective course in social science methodology (3 cr)
- Beyond the above core requirements, students must choose to specialize in either social inequalities or social institutions and complete 9 credits (3 courses) designated in that specialty area (9 cr)
- Electives (nine or more credits) and dissertation (up to six credits) (15 cr)

In addition, those Ph.D. students with Teaching Assistant positions must complete the following one-credit course which is offered each spring:

- Sociol 794, The Teaching of Undergraduate Sociology, is required for those Ph.D. students with Teaching Assistant positions

Doctoral students may not accumulate more than 6 credits in U/G courses nor more than 6 credits of independent study without the approval of the Sociology Director of Graduate Studies. Of the 60 required credits, no more than 12 credits outside of Sociology may be counted toward the doctoral degree without the approval of the Sociology Director of Graduate Studies.

Foreign Language or Specialized Skill

This requirement may be satisfied by demonstrating one of the following:

- Proficiency in a foreign language useful in the student's career, indicated by the completion of two courses at the upper division level (numbered 300 and above or requiring junior standing) with at least a B average. Credits satisfying this

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requirement will not count toward the credits required for the Ph.D. degree.

- Proficiency in mathematical, statistical, or computer skills. Completion of the required methods and statistics sequence (Sociol 750, 760, 982—or their equivalents) and an additional 3 credits of graduate coursework in statistics related to the social sciences with at least a B average will satisfy this requirement.

Preliminary Examination

All doctoral students are required to complete preliminary examinations in two specialty areas after completing 27 credits at the post-master's level. The areas are selected by the doctoral candidate in consultation with the student's advisor and other members of the graduate faculty. Examination areas are limited to those subfields or subdisciplines that are within the student's area of specialization and widely recognized areas within sociology. The disciplinary subfields must be broader than, but related to, the focus of the student's dissertation and must be approved by the Department's Graduate Studies Committee. Examinations will consist of the student answering three or more questions from a list containing at least five, as determined by the student's committee. Candidates write their answers on one full day in September and March.

An empirical or substantive paper may be substituted for one preliminary examination. The empirical paper is read and evaluated by two members of the graduate faculty in sociology, in addition to the student's major professor. The length and quality of the paper should be similar to that of a journal article. Students should use the format for the journal to which they would like to submit the paper. The paper also may be in the style of a full length Annual Review of Sociology piece or similar article.

Students who do not pass an examination on the first attempt will be provided feedback on their performance and be allowed to take the exam a second time but must do so within 9 months of the administration of the first exam. Students who do not complete the examination successfully upon the second attempt will not be allowed to continue in the program.

Dissertation

The dissertation is a major piece of original research representing a substantial contribution to sociological scholarship. In order to become eligible for dissertation status the student must complete a successful oral defense of a dissertation proposal before the student's doctoral committee.

The dissertation itself, under the supervision of the major professor and in collaboration with a dissertation committee, must demonstrate the

ability of the candidate to formulate a research topic and pursue an independent and original research representing a substantial contribution to sociological scholarship. The practices necessary for completion of the dissertation will conform to the guidelines established by the UWM Graduate School. The dissertation committee shall be composed of the major professor and three additional graduate faculty members (at least two of whom must be from the UWM Department of Sociology graduate faculty). The dissertation committee is responsible for assessing the dissertation project, which involves approving the dissertation proposal, reviewing working drafts of research in progress, and, finally, evaluating the candidate's ability to defend decisions made during the course of research and the results of the research. After submission of a reading copy of the dissertation to the faculty dissertation committee, the candidate and the major professor will schedule a committee meeting for the purpose of undertaking an oral defense of the dissertation work by the candidate. At the conclusion of the candidate's oral remarks, the dissertation committee will vote on passing the candidate's dissertation work. A majority of the committee must vote to approve the dissertation and recommend granting of the Doctor of Philosophy degree.

Time Limit

All components of the Ph.D. program must be completed within 10 years of matriculation.

423 Latino Immigration and Incorporation: (Subtitled). 3 cr. U/G.

Latino institutional, geo-political, demographic, comparative, and social network theoretical perspectives on migration to and incorporation into the United States. Retakable w/chg in topic to 6 cr max. Latino 423 & Sociol 423 are jointly offered; w/same topic, they count as repeats of one another. Prereq: jr st; 3 cr in Sociol at 200-level or above or cons instr; add prereqs may be assigned for specific topics.

440 Sociology of the Family. 3 cr. U/G.

Family patterns and ideologies in relation to broader social structure and culture, sources of variety and change in household, family, and kinship organization. Prereq: jr st; 6 cr in Sociol at 200-level or above.

442 The Work-Family Intersection. 3 cr. U/G.

Social forces shaping work and family patterns and ideologies; implications of social change for employers, workers, and families; survey of work-family policies. No cr for students w/cr in Sociol 495 w/similar topic. Prereq: jr st; 6 cr 200-level or above Sociol.

443 Organizations, Occupations, and Professions. 3 cr. U/G.

Development of occupations and professions in industrial societies. Study of professional concepts, ethical codes, work norms,

specialization, recruitment, education, and work roles in an organizational context. Prereq: jr st & Sociol 101(P) or 104(P); or grad st.

444 Sociology of the Body. 3 cr. U/G.

How the body is shaped by social forces. Relationship between the body, identity, and culture, focusing on gender, race/ethnicity, and disability. Prereq: jr st & any Sociol course; or grad st.

448 Sociology of Children and Adolescents. 3 cr. U/G.

Theoretical perspectives and research methods addressing substantive issues in children's and adolescents' lives, including peer cultures, schooling, families, gender, race, class, health, and work. Prereq: jr st & any Sociol course; or grad st.

461 Multivariate Data Analysis for Social Research. 3 cr. U/G.

Advanced practical training in multivariate regression using real, large datasets (surveys, census data, etc.); how multiple independent variables influence a dependent variable. No cr for students w/cr in Sociol 499 with similar topic. Prereq: jr st, Sociol 261(P) or approved stats course; or grad st.

461 (effective 09/05/2017) Social Data Analysis Using Regression. 3 cr. U/G.

Advanced practical training in multivariate regression using real, large datasets (surveys, census data, etc.); how multiple independent variables influence a dependent variable. No cr for students w/cr in Sociol 499 with similar topic. Prereq: jr st, Sociol 261(P) or approved stats course; or grad st.

472 Population and Society. 3 cr. U/G.

Concepts and methodology of demographic analysis. Nature and framework of population theories and research. Consideration of the social and economic determinants and consequences of trends in mortality, fertility, and migration. Prereq: jr st; 9 cr in Sociol at 200-level or above.

476 Sociology of International Public Health. 3 cr. U/G.

Social, economic, and political factors that influence inequality in health at the global level; interacting influence of micro and macro forces on public health. Prereq: jr st; 9 cr in Sociol at 200-level or above; or grad st.

495 Seminar in Sociology: (Subtitled). 3 cr. U/G.

Intensive study in a selected area of Sociology. Designed to encourage discussion, debate, and critical thinking. Retakable w/chg in topic to 6 cr max. Prereq: jr st; 6 cr 200-level or above Sociol or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G. Designed to enroll students in UWM sponsored program before course work level, content, and

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credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

610 Reproduction of Minority Communities. 3 cr. U/G.

Analysis of the social, economic, and cultural forces behind the formation and reproduction of minority and disadvantaged communities in the United States. Jointly-offered w/& counts as repeat of Ed Pol 610. Prereq: jr st; any Sociol 100-level course.

701 Professional Seminar. 1 cr. G.

Fundamentals of academic and sociological reading, writing, and thinking. Orientation to graduate study, the sociological profession, and the tools of sociological research. Prereq: grad st

704 Seminar in Nonprofit Organizations. 3 cr. G.

Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Nonprof 704, Pol Sci 704, Sociol 704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

715 Systematic Sociological Theory. 3 cr. G.

A general examination of sociological theories, their construction, problems of conceptualization, and methodological requirements. Prereq: grad st.

750 Research Methods in Sociology. 3 cr. G.

Application of scientific methods to the analysis of social phenomena, methodological orientations in sociology, types of research procedure, and nature of sociological variables. Prereq: grad st.

752 Fundamentals of Survey Methodology. 3 cr. G.

Seminar in the principles of survey design that are the basis of standard practices in the field of sociology. Prereq: grad st.

754 Questionnaire Design. 3 cr. G.

Seminar in the design, evaluation, pretesting, ordering, and formatting of questions and questionnaires. Prereq: grad st.

760 Advanced Statistical Methods in Sociology. 3 cr. G.

Review of elementary statistics. Probability theory and its applications. Multivariate analysis. Nonparametric statistical inference. Measurement theory. Selected statistical models for hypothesis testing and theory construction. Prereq: grad st; score of 85 on dept diagnostic examination.

790 Master's Level Thesis/Paper. 1-6 cr. G.

Research or thesis/paper work for students in the master's program in sociology. Prereq: grad st; cons instr

794 Proseminar: The Teaching of Undergraduate Sociology. 1 cr. G.

Designed to prepare and support new teachers of undergraduate Sociology. Prereq: grad st.

799 Master's Level Reading and Research. 1-3 cr. G.

Independent study of a topic selected by a student after consultation with member of graduate faculty. Prereq: grad st; cons instr.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirements. Fee for 1 cr assessed. Prereq: grad st.

901 Seminar: Urban Social Structure. 3 cr. G.

Comprehensive analysis of the emergence and institutionalization of cultural and social patterns in urban settings; and future American urban social structures. Sociol 901 & Urb Std 901 are jointly-offered & count as repeats of one another. Prereq: grad st.

910 The Sociology of Inequality. 3 cr. G.

Social, economic, cultural, and political forces behind the formation and reproduction of social inequalities in the United States. Prereq: grad st.

911 The Sociology of Institutions. 3 cr. G.

Social institutions as a foundational sociological concept. Theory and research on institutional emergence, persistence, and change. Prereq: grad st

920 (780) Seminar in Race and Ethnic Relations. 3 cr. G.

Patterns of racial and ethnic differentiation and how they originate and change over time. Prereq: grad st.

923 Seminar on the Sociology of Culture. 3 cr. G.

Selected themes in the sociology of culture, including symbols, language, forms of knowledge, power and practice, the arts, and media. No cr for students w/cr in Sociol 927 w/same title. Prereq: grad st

927 Seminar in Sociology of Contemporary Institutions: (Subtitled). 3 cr. G.

Analysis of major social institutions in modern societies in terms of status orders, division of labor, normative systems, processes of social change, and conflict. Specific topics and any additional prerequisites announced in Schedule of Classes each time course is offered. Retakable w/chg in topic & cons adviser to 9 cr max. Prereq: grad st.

928 Seminar in Social Organization: (Subtitled). 3 cr. G.

Study of conceptual approaches used in analyzing social organization: social stratification, complex organization, urbanization, small groups in mass society. Specific topics and any additional prerequisites

announced in schedule of classes each time course is offered. Retakable w/chg in topic & cons adviser to 9 cr max. Prereq: grad st.

940 Applied Gerontology Capstone I. 2 cr. G.

Professional socialization seminar emphasizing the interdisciplinary nature of gerontology and exposing students to professional and library resources for continuing professional development. Sociol 940 and Soc Wrk 940 are jointly offered; they count as repeats of one another. Prereq: grad st; Nurs 760(P) & Soc Wrk 851(P).

941 Applied Gerontology Capstone II. 2-3 cr. G.

Teamwork applied research project conducted in collaboration with a community-based organization that serves the elderly; presentation of findings to a professional audience. Sociol 941 and Soc Wrk 941 are jointly offered; they count as repeats of one another. Students who intend to prepare a manuscript for publication enroll for 3 crs; all others enroll for 2 crs. Prereq: grad st; Sociol or Soc Wrk 940(P).

942 The Family and Long-Term Care. 3 cr. G.

Seminar on the role of family in providing long term care. Social values, public policies, and consequences for individuals and society. Sociol 942 & Soc Wrk 942 are jointly offered; they count as repeats of one another. Prereq: grad st.

951 Seminar in Research Methodology. 3 cr. G.

Discussion of selected topics in research design, research methods, statistical analysis, and model construction. Retakable to 9 cr max with cons adviser. Prereq: grad st.

979 Qualitative Research Methods. 3 cr. G.

Seminar on logic, design, and presentation of social science research. Inductive and qualitative methods, theory construction, and ethics and procedures of research in natural settings. Sociol 979 & Urb Std 979 are jointly-offered; they count as repeats of one another. Prereq: grad st.

982 Advanced Quantitative Analysis. 3 cr. G.

Evaluation of different methods of generating data and their applications to the analysis of public policies and programs. Sociol 982 & Urb Std 982 are jointly offered; they count as repeats of one another. Prereq: grad st; min. score of 85 on dept diagnostic exam.

990 Doctoral Dissertation. 1-6 cr. G.

Prereq: grad st; admission to candidacy for PhD degree; cons major prof.

999 Doctoral Reading and Research. 1-6 cr. G.

Independent study of a topic selected by a student after consultation with member of

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graduate faculty. Retakable w/chg in topic to 6 cr max. Prereq: grad st; cons instr.

Spanish

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Spanish

Overview

The Department of Spanish and Portuguese offers a program of graduate study leading to a Master of Arts degree that focuses on the study of the Spanish cultures, language, linguistics, and literatures of the Hispanic world. Spanish M.A. graduates who subsequently wish to pursue the Ph.D. are very advanced in the process of mastering the area in which they wish to specialize in their doctoral studies. Those who choose not to continue studying toward a Ph.D. or a career in teaching will be able to pursue employment in other fields that require full proficiency in the Spanish language as well as mastery of Hispanic literature and culture.

The Department of Spanish and Portuguese has identified five learning outcomes for our M.A. majors in Spanish. These educational goals relate closely to the National Standards for Foreign Language Learning, as recommended by the American Council of Teachers of Foreign Languages.

Students will be able:

1. To communicate with an advanced or high-level of Spanish proficiency in all four skill areas including listening, reading, writing, and speaking.
2. To develop an advanced understanding and appreciation of Hispanic cultures and communities throughout the world, and analyze and draw cross-cultural differences which will be essential to future careers in a growing global environment.
3. To build a foundation of knowledge in the areas of Spanish or Spanish-American literature, culture, and linguistics, which will give students the breadth necessary for subsequent specialization in doctoral studies.
4. To develop and expand research and analytical skills within the area of Hispanic Studies, including literary analysis, cultural studies, and linguistic analysis.
5. To develop basic reading competencies in an additional romance language to prepare students for further research and provide broader career options.

The Department also participates, and works closely, with the Center for Latin American and Caribbean Studies.

Graduate Faculty

Professors

Ferreira, Cesar, Ph.D., University of Texas-Austin

Associate Professors

Bird-Soto, Nancy, Ph.D., University of Wisconsin-Madison
 McCaw, John, Ph.D., Princeton University
 Rei-Doval, Gabriel, Ph.D., University of Santiago de Compostela, Galicia
 Wheatley, Kathleen, Ph.D., University of Michigan

Assistant Professors

Vater, Katie, Ph.D. Pennsylvania State University

Master of Arts in Spanish

Admission

An applicant must meet general admission requirements for the Graduate School, as established by the graduate faculty of the university, plus the following requirements to be considered for admission:

1. A bachelor's degree with a major in Spanish, foreign languages with an emphasis in Spanish, comparative literature, Hispanic linguistics, or translation; or with a combination of courses that will, in the opinion of the Department, allow the student to participate fully in the program.
2. A 3.0 grade point average in the last 60 credits of undergraduate coursework.
3. A narrative statement of intent, written in Spanish that describes the applicant's accomplishments and plans for the future.
4. Three letters of recommendation from former professors or advisors.

Applicants who do not have the requisite 3.0 grade point average in the last 60 credits of the undergraduate degree may be considered for admission on probation. Students will be removed from probation at the end of their first semester of enrollment if they achieve at least a 3.0 grade point average.

Major Professor as Advisor

All students must have a major professor who serves as an advisor and supervises their course of study. The Director of the M.A. program acts as the initial advisor for all entering students. By the end of the first semester, students will be matched with an advisor based on their academic interest.

Credits and Courses

A content-based examination is mandatory for all incoming students. The results of this examination are used to develop the program of study. Students with insufficient preparation for graduate study in one or more areas may be

admitted with specific, program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

A minimum of 30 graduate credits beyond the baccalaureate degree is required for the M.A. in Spanish. All students must demonstrate reading competency in a second Romance language. In order to do so, they may take the departmental graduate reading exam or complete two semesters or eight credits in another language. Courses taken to complete this requirement do not count toward the minimum credits required for the M.A.

Specific course requirements and credit distribution are as follows:

- Spanish 701 Historical Linguistics (or equivalent);
- Spanish 720 Approaches to Hispanic Literary Theory & Criticism (or equivalent).
- 12 credits in Spanish or Spanish-American literature and culture courses at the 700 level or above.
- 6 credits in language and/or linguistics courses in Spanish.
- 6 credits of electives in Spanish culture, language, linguistics, literature, thesis, or related courses

All teaching assistants are required to enroll in MALLT 700 Language Teaching Methods or an equivalent course during their first year. This course counts toward the 6 credits of electives.

No 300-level courses will apply toward the degree, and a maximum of six (6) graduate credits in 400-level U/G courses may be used to fulfill degree requirements.

The M.A. degree in Spanish offers both non-thesis and thesis options.

Non-Thesis Option

Students pursuing the non-thesis option must complete a minimum of thirty (30) credits of acceptable graduate-level coursework (including the courses specifically required) and receive a passing grade on the final comprehensive examination.

Thesis Option

Students pursuing the thesis option must complete a minimum of twenty four (24) credits of acceptable graduate-level coursework, successfully defend a thesis for which a

Spanish

maximum of six (6) credits is granted, and receive a passing grade on the final comprehensive examination.

Students in the thesis option should choose an area of specialization for the thesis as early as possible. After a thesis topic is chosen, students, with the approval of the major professor, select two additional members of the graduate faculty in the area of concentration to serve as the thesis committee. A member of the graduate faculty specializing in the student's area of concentration acts as the thesis director and chair of the committee. Students writing a linguistics-based thesis may use either the APA, LSA, or MLA style. All other theses must be written following the MLA style.

Upon the approval of the Departmental Graduate Studies Committee, a student may be allowed to write the Spanish M.A. thesis in Spanish; each request will be examined on an individual basis to ensure the highest quality of theses and the linguistic ability of each petitioner. Those approved to write the thesis in Spanish must also provide an abstract written in English.

Comprehensive Final Examination

Students enrolled in the thesis and non-thesis options take the same M.A. comprehensive examination. Students are urged to take the examination no later than the fourth semester of graduate study. The examination may be repeated once.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

348 Introduction to Translation: English to Spanish. 3 cr. U/G.

Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C); grade of C or better in English 102(R) or score at level 4 on EPT recom.

348 (effective 09/05/2017) Introduction to Translation: English to Spanish. 3 cr. U/G.

Basic skills necessary for professional translation. Translation of texts from English into Spanish. Summarizing texts; sight translation. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C).

377 Introduction to Galician Culture. 3 cr. U/G.

Main concepts and issues in understanding the unique culture of Galicia, in northwestern Spain, from a variety of perspectives. Prereq: jr st; Spanish 308(P); Spanish 318(C) or 319(C); cons instr.

443 Spanish Phonetics and Phonology. 3 cr. U/G.

Theory of Spanish sounds; phonetic transcription; practice in pronunciation. Language lab may be required. Prereq: jr st; Spanish 341(P).

444 Spanish Syntax and Morphology. 3 cr. U/G.

Comprehensive review of Spanish syntax and morphology; the meaning of words, sentences, and discourse. Prereq: jr st; Spanish 341(P).

446 Hispanic Sociolinguistics. 3 cr. U/G.

Critical analysis of the relationship between language and society in the Hispanic world. Prereq: jr st; Spanish 341(P).

491 (461) Topics in Hispanic Culture: (Subtitled). 3 cr. U/G.

The culture of a group of Hispanic people from a particular social and/or historical perspective, with a focus on one or more manifestations of that culture. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 350(P); 3 cr from Spanish 470(P) or 472(P) or 474(P).

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, contact, and credits are determined and/or in specially prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

506 Seminar in Spanish Literature: (Subtitled). 3 cr. U/G.

One or more areas of Spanish peninsular literature across periods, genres, or regions. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

507 Seminar in Spanish-American Literature: (Subtitled). 3 cr. U/G.

One or more areas of Spanish-American literature across periods, genres, or regions. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

508 Seminar in Hispanic Literature: (Subtitled). 3 cr. U/G.

A literary subject with manifestations in more than one Hispanic literature, including Latino literature, with focus on the differences between/among them. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P); Spanish 472(P) or 474(P).

541 (441) History of the Spanish Language. 3 cr. U/G.

External and internal history of the evolution of the Spanish language. Prereq: jr st; Spanish 341(P); 3 cr from Spanish 443(P) or 444(P) or 446(P), or cons instr.

545 Seminar in Hispanic Linguistics: (Subtitled). 3 cr. U/G.

One or more branches of linguistics, such as dialectology, pragmatics, sociolinguistics, historical linguistics, etc., in relation to the Hispanic languages. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 341(P); 3 credits from Spanish 443(P) or 444(P) or 446(P), or cons instr.

570 Seminar in Spanish Golden Age Literature: (Subtitled). 3 cr. U/G.

Topics on the poetry and/or the narrative and didactic prose of the late sixteenth and the seventeenth centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

571 Seminar in Spanish-American Colonial Literature and Civilization: (Subtitled). 3 cr. U/G.

Poetry, narrative, didactic prose, and dramatic literature of Spanish America up to the eighteenth century. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

572 Seminar on Cervantes: (Subtitled). 3 cr. U/G.

'Don Quixote' and/or other works by Cervantes. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

575 Seminar in 18th & 19th Century Spanish-American Literature & Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, drama and/or essay of the Spanish-American countries during the 18th and 19th centuries. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

577 Seminar in Modern Spanish-American Literature and Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, essay, and/or drama of the Spanish American countries after 1888. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 472(P).

578 Seminar in Modern Spanish Literature and Civilization: (Subtitled). 3 cr. U/G.

Topics on the poetry, fiction, and/or drama of twentieth- and twenty-first-century Spain. Retakable w/chg in topic to 9 cr max. Prereq: jr st; Spanish 470(P) & 474(P).

597 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

697 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enable students studying language abroad to receive course credit at appropriate level. Retakable w/ change in topic. Prereq: jr st; acceptance in Study Abroad Prog.

Spanish

700 (706) Practicum in Spanish Language Teaching Methods. 1 cr. G.

Practical application within Spanish of methods and concepts taught in MALLT (MAFL) 700. Retakable to 2 cr max. Prereq: grad st; MALLT (MAFL) 700(C) or cons instr.

701 Historical Linguistics. 3 cr. G.

Evolution of the language from Latin to medieval Spanish and from medieval to modern Spanish, including contemporary varieties. Prereq: grad st; Spanish 341(R) or equiv.

702 Seminar in Hispanic Linguistics: (Subtitled). 3 cr. G.

Seminar in selected subfields of Hispanic linguistics. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

703 Seminar on Language and Society: (Subtitled). 3 cr. G.

Analysis and discussion of advanced issues on the interaction between language and society in the Hispanic world and/or different areas of interest. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

705 Seminar in the Structure of the Spanish Language: 3 cr. G.

Selected problems in Spanish linguistics. Prereq: grad st.

707 Introduction to Translation: Spanish to English. 3 cr. G.

Basic skills necessary for professional translation. Translation of texts from Spanish into English. Summarizing texts; sight translation. Counts as a repeat of Trnsltn 707. Not open for cr to students w/grad cr in Spanish 347. Prereq: grad st; Spanish 308(P) or equiv.

717 Seminar in Advanced Translation: Spanish to English. 3 cr. G.

Comparative study of Spanish and English syntax; advanced translation (Spanish to English) of texts from the humanities, social and political sciences, technical writing, advertising. Counts as repeat of Trnsltn 717. Not open to students w/grad cr in Spanish 447. Prereq: grad st; Spanish 707(P) or grad cr in Spanish 347 (P), or writ cons Transltn coord.

720 Approaches to Hispanic Literary Theory and Criticism. 3 cr. G.

Literary theory and criticism from and pertinent to Hispanic literatures and cultures. Prereq: grad st

751 Seminar in Medieval Literature and Related Topics: 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

755 Seminar in Renaissance Literature and Related Topics: 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

757 (753) Seminar in One or More Areas of Siglo de Oro Literature and Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

763 Seminar-Romantic Literature in Spain &/or Spanish America & Related Topics: 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

767 Sem on Realistic Literature in Spain &/or Spanish America & Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

768 Naturalism and Its Influences. 3 cr. G.

A study of Naturalism and its influences in Spain during the 19th, 20th, and 21st centuries. Prereq: grad st.

769 (765) Seminar in 20th Century Literature of Spain and/or Spanish America & Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 9 cr max. Prereq: grad st.

770 The Modern Spanish Novel. 3 cr. G.

A study of the novel in Spain since the death of Franco in 1975. Prereq: grad st.

771 Seminar in Early Spanish American Literature and Related Topics: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

781 Seminar in Hispanic Literature: (Subtitled). 3 cr. G.

Retakable w/chg in topic to 6 cr max. Prereq: grad st.

782 Modern Spanish Women Writers. 3 cr. G.

A study of women writers of Spain during the 20th and 21st centuries. Prereq: grad st.

785 Detective Fiction of Spain. 3 cr. G.

A study of the detective genre in the literature of Spain. Prereq: grad st.

790 Thesis. 1-6 cr. G.

Independent study and research on a master's thesis under supervision of the student's advisory committee. Retakable to 6 cr max. Prereq: grad st; cons advisory committee.

791 Spanish Culture and Related Topics: (Subtitled). 3 cr. G.

An in-depth examination of the culture of Spain with special attention paid to the history of the country and to the formation of a Spanish identity. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

793 Spanish American Culture and Related Topics: 3 cr. G.

In-depth examination of the development of a Latin American culture with a focus on key aspects of that culture after independence. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

799 Independent Study. 1-3 cr. G.

Individual program of supervised study in the student's area of emphasis or interest, different from content of course offerings, supervised by a graduate faculty. Topics selected in agreement with and the approval of supervising professor. Retakable w/chg in topic to 3 cr max. Prereq: grad st; 3.0 gpa in Spanish grad courses, writ cons instr & dept chair.

888 Candidate for Degree. 0 cr. G.

Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st.

Sustainable Peacebuilding

School/College: College of Nursing
Degrees Conferred:

- Master of Sustainable Peacebuilding (MSP)

Overview

The College of Nursing offers an interdisciplinary professional graduate degree program leading to a Master of Sustainable Peacebuilding (MSP). The MSP is designed to prepare students for careers in peacebuilding—e.g. international development, conflict resolution, resource stewardship. The MSP curriculum is designed to develop student expertise in systems thinking, social-ecological interactions, and the application of such concepts to peacebuilding and development fields. In addition to fulfilling all Graduate School [master's degree requirements](#), MSP students are required to take 44 credits over the course of six semesters—two full calendar years. Only full-time students will be accepted to the program.

Students completing the MSP will:

- Classify the various components of complex social-ecological systems and identify appropriate intervention strategies.
- Recognize patterns of human-environment interaction, including drivers of change resulting in conflict, development, and peacebuilding.
- Acquire critical knowledge across at least four distinct disciplines relevant to development and peacebuilding and relate and translate knowledge among the disciplines.
- Facilitate effective group problem-solving processes, which includes communicating confidently and effectively to diverse audiences.
- Assess systemic outcomes of peacebuilding programs and policies and recommend adaptive modifications for improvement.

Graduate Faculty

Professors

Berges, John Ph.D., University of British Columbia (Biological Sciences)
 Schutz, Aaron Ph.D., University of Michigan (Education Policy and Community Organizing)

Associate Professors

Ehlinger, Timothy Ph.D., Michigan State University (Biological Sciences)
 Du Plessis, Jacques Ph.D., Utah State University (Information Studies)

Hewitt, Jeanne Ph.D., RN, University of Illinois Chicago (Nursing)
 Mkandawire-Valhmu, Ph.D., RN, University of Wisconsin-Madison (Nursing)
 Wood, William Ph.D., University of Illinois Urbana-Champaign (L&S Anthropology)

Assistant Professors

Dressel, Anne Ph.D., University of Wisconsin-Milwaukee (Nursing)
 Ellis, Julie Lynn Ph.D., University of Wisconsin-Milwaukee (Nursing)
 Laestadius, Linnea, Ph.D., John Hopkins Bloomberg School of Public Health (Public Health)

Non-Faculty

Lecturers

Heeg, Jen College of Nursing
 Jablonski, Marissa College of Nursing
 Lipo-Zovic, Joanne College of Nursing

Senior Scientist

Galvao, Loren College of Nursing

Master of Sustainable Peacebuilding

Admission

The Master of Sustainable Peacebuilding admits students to begin in fall semester only. Applicants must satisfy [Graduate School requirements](#) for admission as well as provide the following materials:

1. Two letters of recommendation from persons familiar with the applicant's academic or professional work, preferably one academic and one professional recommendation.
2. A writing sample that demonstrates the applicant's critical thinking, research, and writing skills as well as the applicant's ability to think across disciplines.
3. A current resume that clearly articulates the applicant's professional, international, and intercultural experiences as well as language exposure and proficiencies.

Please check the [MSP Website](#) for up-to-date information on eligibility, application requirements, and deadlines.

Please send all application materials by post to: MSP Program Coordinator, Lapham Hall 364, UW-Milwaukee, PO Box 413, Milwaukee, WI 53201; or send by email to applymsp@uwm.edu. Letters of recommendation should be mailed (or emailed) directly from the applicant's references to the MSP program coordinator; letters submitted by the applicant will not be accepted. GRE scores are recommended, but not required. All emailed materials must be in PDF form; letters must be signed.

Advising

As specified in the regulations of the Graduate School, a major professor will be assigned to

every person enrolled in the program to advise and supervise his or her work. Those admitted to the program will consult with the MSP coordinator for assistance in identifying an appropriate major advisor. The responsibility of this advisor will be to assist in selecting a cohesive sequence of courses and developing a rationale for that sequence. The major professor and MSP Coordinator must approve the Plan of Study. Students may request a specific faculty advisor who aligns with their research and professional interests, if desired; however, fulfillment of such requests are not guaranteed.

Credits and Courses

44 credits are required for the MSP degree, distributed as follows:

Core courses (12 credits—3 credits each)
 MSP 760 The Politics and Policy of Sustainability
 MSP 761 Complex Human-Environmental Interactions
 MSP 770 Preparing for Sustainable Peacebuilding and Social Change
 MSP 771 Holistic Peacebuilding Practice
 Core seminars and workshops (8 credits—2 credits each)
 MSP 780 Transdisciplinary Research Methods and Information Literacy
 MSP 781 Innovation, Evaluation, and Adaptive Management
 MSP 790 Workshop on Negotiation and Group Problem Solving Skills
 MSP 791 Professional Development
 Elective Courses (12 credits)

To be selected in consultation with the student's advisor(s); each course should fit into one of the following content areas:

- Public and Environmental Health
- Ecosystem Services and Resource Stewardship
- Political Economy
- Human Security and Development
- Language and Culture
- Religion and Belief Systems
- Governance and Policy

In addition, students may register for MSP 799 Independent Study, with approval from the supervising faculty member and the student's faculty advisor.

Fieldwork (12 credits)

Students will complete two (six-week) fieldwork experiences (6 credits each), locally in Milwaukee, elsewhere in the U.S., or abroad. The program is designed so that students will complete fieldwork during the summer semester between Year 1 and Year 2, and again during the summer semester after Year 2. Students will engage in work that focuses on a pertinent issue in the broader context of peacebuilding, e.g. food security, water conflict,

Sustainable Peacebuilding

public health, etc. Students will select from current MSP projects, or develop their own projects. They will register in one of the following courses:

- MSP 797 Study Abroad
- MSP 798 Internship in Sustainable Peacebuilding

Master's Paper

All students must prepare and orally defend a final master's paper following the second summer internship. The master's paper—an "Integrative Synthesis"—will reflect upon a student's breadth of experiences during the MSP program, and clearly demonstrate a student's ability to formulate an argument, analyze data, systematically present results, and show familiarity with relevant scholarship. The paper will be a critical discussion of core MSP concepts as they relate to peacebuilding, based upon a student's coursework and, primarily, internship experiences. Each student, throughout the course of study, will keep a portfolio containing items such as coursework, internship evaluations, and additional elements to help guide the Integrative Synthesis. To ensure students are progressing such that they will be successful in their final papers and presentations, the faculty advisor and MSP program coordinator will assess with each student his/her portfolio periodically during the course of study to address deficiencies and advise the student regarding appropriate adjustments.

Transfer credits

Individuals with prior graduate coursework may receive permission to count up to 9 credits of that work toward the Master of Sustainable Peacebuilding if the Advisory Committee accepts the courses as relevant to the program of study and if the courses meet Graduate School requirements for transfer. Sustainable Peacebuilding core breadth courses, seminars, and the summer field internships must be taken at UWM.

Time Limit

All degree requirements must be completed within five years of initial enrollment.

760 The Politics and Policy of Sustainability. 3 cr. G.

Principles of environmental policy, governance, and management for global sustainability. Counts as repeat of grad cr in Global 461 and CES 461. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr.

761 (Global 761) Complex Human-Environmental Interactions. 3 cr. G.

Advanced concepts on how humans and the environment affect one another. Prereq: grad st; Global 461(P) or CES 461(P) or FrshWtr 461(P) or MSP 760(P); admis to Master of Sustainable Peacebuilding program

770 Preparing for Sustainable Peacebuilding and Social Change. 3 cr. G.

Analytical framework for understanding the key social dynamics that affect sustainable social change. Counts as repeat of grad cr in Global 561. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr

771 Holistic Peacebuilding Practice. 3 cr. G.

Analytical tools and intervention skills for promoting sustainable and systemic social change in a variety of social contexts. Prereq: grad st; MSP 770(P); admis to MSP prog or cons instr.

780 Transdisciplinary Research Methods and Information Literacy. 2-3 cr. G.

Transdisciplinary research methods and the processes employed to apply qualitative and quantitative information to the practice of sustainable peacebuilding. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr.

781 Innovation, Evaluation, and Adaptive Management. 2 cr. G.

Learning-enabled approaches for monitoring, assessment, and evaluation for adaptive management in complex systems. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr.

790 Workshop on Negotiation and Group Problem Solving Skills. 2 cr. G.

Intensive experience in both the theory and practice of effective negotiation, how to have difficult conversations, influence others, and manage group problem solving processes. Prereq: grad st; admis to MSP or cons instr.

791 Leadership and Program Management for Sustainable Peacebuilding. 2-3 cr. G.

Theory, tools and skills needed to function effectively and build a career in sustainable peacebuilding and related fields. Course offered for 2 or 3 credits as determined by instructor. Prereq: grad st; admis to master of Sustainable Peacebuilding program or cons instr.

797 Study Abroad. (Subtitled). 1-6 cr. G.

Designed to enable students studying or interning abroad to receive course credit at appropriate level. Retakable to 12 cr max. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr.

798 Internship in Sustainable Peacebuilding. 1-6 cr. G.

Field experience in sustainability and peacebuilding. Retakable to 12 cr. max. Prereq: grad st; admis to Master of Sustainable Peacebuilding prog or cons instr.

799 Independent Study. 1-6 cr. G.

Supervised research, readings, or project related to sustainable peacebuilding. Prereq: grad st; admis to MSP or cons instr.

Urban Education

School/College: School of Education

Degrees Conferred:

- Ph.D. in Urban Education

Overview

The School of Education offers an interdepartmental program of study leading to the Ph.D. Students must choose a specialization in either Adult, Continuing, and Higher Education Leadership, Curriculum and Instruction, Educational Administration, Exceptional Education, Mathematics Education, Multicultural Studies, or Social Foundations of Education.

The program is designed to permit students to integrate their particular curricular areas of interest and specialization with a broader field of education, including urban education. Each specialization, with the exception of Multicultural Studies, is departmentally focused, and students must satisfy the admissions and curriculum requirements indicated for their particular specialization. Recognition of the specialization is acknowledged by official designation on the student's transcript.

Each of the specializations offers the doctoral student an opportunity to pursue study in a specific program area. For example, Adult, Continuing, and Higher Education Leadership emphasizes governance and leadership issues within urban adult education organizations. Educational Administration explores governance and Leadership issues of urban schools. Curriculum and Instruction provides program emphasis in a content area (e.g., reading), education level (e.g., early childhood), a general area (e.g., curriculum theory) or special area (e.g., guiding instructional improvement). Exceptional Education provides program emphasis in departmental interest areas (e.g., handicapping condition), or a cross-disciplinary interest.

A separate Ph.D. with specialization in Counseling Psychology, Learning and Development, Research Methodology, and School Psychology is offered through the Department of [Educational Psychology](#). Multicultural Studies is a cross-department program allowing students to develop their own area of focus in collaboration with faculty in multicultural urban education. The Social Foundations of Education specialization provides students with the conceptual tools with which to examine the complex interrelationships between school and society, education and culture.

All graduates should have a broad understanding of the issues, problems and

trends related to education, including urban education, and the application of these to their major.

The program requires each participant to develop research skills ranging from logic in inquiry to development of specific methodological skills in qualitative and quantitative methods. The Ph.D. is a research degree and not only a professional preparation degree. Therefore research is an integral part of the program. Mastery of these skills is demonstrated through coursework, research projects and the dissertation. Graduates apply their skills, in institutions of higher education, public or private school settings, federal, state or local governmental agencies, community organizations, and the private sector.

Cooperating Departments
 Administrative Leadership
 Curriculum and Instruction
 Educational Policy and Community Studies
 Educational Psychology
 Exceptional Education
 Information Studies (School of)

Graduate Faculty

(Professors' home departments appear in parentheses)

Professors

Berg, Craig, Ph.D., University of Iowa (Curriculum and Instruction)
 Conceicao, Simone, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
 Daley, Barbara, Ph.D., Cornell University (Administrative Leadership)
 Edyburn, Dave, Ph.D., University of Illinois at Urbana Champaign (Exceptional Education)
 File, Nancy, Ph.D., Purdue University (Curriculum and Instruction)
 Huinker, DeAnn, Ed.D., University of Michigan (Curriculum and Instruction)
 Martin, Larry, Ph.D., University of Wisconsin-Madison (Administrative Leadership)
 Otis-Wilborn, Amy, Ph.D., University of Kansas (Exceptional Education)
 Schutz, Aaron, Ph.D., University of Michigan (Educational Policy and Community Studies)
 Thurman, Alfonso, Ph.D., University of Wisconsin-Madison (Administrative Leadership)

Associate Professors

Akdere, Mesut, Ph.D., University of Minnesota-Twin Cities (Administrative Leadership)
 Bales, Barbara, Ph.D., University of Wisconsin-Madison (Curriculum and Instruction)
 Bonds, Michael, Ph.D., University of Wisconsin-Milwaukee (Educational Policy and Community Studies)
 Drame, Elizabeth, Ph.D., Northwestern University (Exceptional Education)

Farmer-Hinton, Raquel, Ph.D., University of Illinois at Urbana Champaign (Educational Policy and Community Studies)
 Ford, Alison, Ph.D., University of Wisconsin-Madison (Exceptional Education)
 Frattura, Elise, Ph.D., University of Wisconsin-Madison (Exceptional Education)
 Habeck (Mertzman), Tania, Ph.D., University of South Florida (Curriculum and Instruction)
 Hawkins, Jeffrey, Ed.D., University of San Francisco (Curriculum & Instruction)
 Kailin, Julie, Ph.D., University of Wisconsin-Madison (Educational Policy and Community Studies)
 Longwell-Grice, Hope, Ph.D., University of Delaware (Curriculum and Instruction)
 Mueller, Jennifer, Ph.D., University of Michigan (Curriculum and Instruction)
 Owens, Laura, Ph.D., University of Wisconsin-Madison (Exceptional Education)
 Pasternak, Donna, Ph.D., New York University (Curriculum and Instruction)
 Posnanski, Tracy, Ph.D., University of Wisconsin-Milwaukee (Curriculum and Instruction)
 Post, Linda, Ph.D., Syracuse University (Curriculum and Instruction)
 Rai, Kalyani, Ph.D., (Educational Policy and Community Studies)
 Rice, Nancy, Ph.D., Syracuse University (Exceptional Education)
 Rigoni (Kelley), Karen, Ph.D., University of South Florida (Curriculum and Instruction)
 Saffold, Felicia, Ed.D., Cardinal Stritch University (Curriculum and Instruction)
 Sandy, Marie, Ph.D., Claremont Graduate University (Educational Policy and Community Studies)
 Short, Ruth, Ph.D., University of Minnesota (Curriculum and Instruction)
 Smith, Regina, Ph.D., Michigan State University (Administrative Leadership)
 Steele, Michael, Ph.D., University of Pittsburgh
 Swaminathan, Raji, Ph.D., Syracuse University (Educational Policy and Community Studies)
 Tapia, Javier, Ph.D., Arizona State University (Educational Policy and Community Studies)
 Williams, Gary, Ph.D. (Educational Policy and Community Studies)
 Winn, Judith, Ph.D., Michigan State University (Exceptional Education)

Assistant Professors

Avila, Maria-Antonieta, Ph.D., University of Texas-Austin (Curriculum and Instruction)
 Bartlett, Maggie, Ph.D., Arizona State University (Exceptional Education)
 Doer-Stevens, Candance, Ph.D., University of Minnesota (Curriculum and Instruction)
 Evans, Leanne, Ph.D., University of Wisconsin-Milwaukee (Curriculum and Instruction)
 Hamlin, Maria, Ph.D., University of Michigan (Curriculum & Instruction)
 Irby, Decoteau, Ph.D., Temple University (Administrative Leadership)

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Joseph, Tatiana, Ph.D., University of Wisconsin-Milwaukee (Curriculum and Instruction)

Muñoz, Susana, Ph.D. Iowa State University (Administrative Leadership)

Reed, Latish, Ph.D., University of Wisconsin-Madison (Administrative Leadership)

Sandy, Marie, Ph.D., Claremont Graduate University (Educational Policy and Community Studies)

Wallace, Leigh, Ph.D., University of Wisconsin-Milwaukee (Administrative Leadership)

Doctor of Philosophy in Urban Education

Admission

An applicant must meet [Graduate School requirements](#) plus the following program requirements to be considered for admission.

Graduate Record Examination

Submission of scores on the General Test portion of the Graduate Record Examination is required. Scores that are more than five years old will not be considered valid.

Grade Point Average

Undergraduate GPA of 2.85 (applicants having less than 15 graduate hours must have an undergraduate GPA of 3.50.); graduate GPA of 3.5; or a combined (undergraduate and graduate) GPA of 6.5.

Writing Sample

Applicants must submit a writing sample completed within the last five years. The writing sample must be single authored, at least 1500 words, and must be selected from ONE of the following options:

1. Master's Thesis
2. Undergraduate Senior Thesis
3. Technical report
4. Term Paper
5. Publication
6. Written Description of a Project
7. Action Research Project
8. A 5-10 page response to the following question: **How would you go about determining and evaluating critical issues in urban education?** The response to this question must show evidence of appropriate references to a knowledge base.

The writing sample must be submitted with the application. Deadline, January 1st of submission year.

Interview

An interview may be arranged with all applicants. In the case of applicants living too far away to attend a personal interview, a phone interview will be arranged.

Recommendations

An applicant must have a minimum of three appropriate persons write a recommendation and comment meaningfully and knowledgeably on the likelihood that the applicant can successfully complete an advanced scholarly program of studies for the Ph.D. degree. It is helpful if the majority of references are written by college/university faculty. If an applicant is unable to secure academic references because of elapsed time, other references should be as current as possible. In any case, individuals preparing references should be selected who can comment with confidence on the applicant's academic qualifications. Reference forms must be forwarded directly by the writers to the Office of Doctoral Studies. Complete information is provided in application materials available from the Office of Doctoral Studies.

Application

Applicants are required to articulate their urban and research interests and goals in application materials. An intended concentration within the Ph.D. must be specified at time of application.

1. Applicants who fail to satisfy these admission requirements will not be recommended for admission. However, satisfying these minima does not guarantee admission.
2. Applicants who are not recommended for admission will be provided an opportunity to request a reconsideration.

Individual specializations may expect prior coursework in that area. Applicants may contact the Director for specific information. Openings in the program are limited. Applicants should submit all application materials no later than January 1 for admission the following September. Applicants must contact the Office of Doctoral Studies for application information and forms.

Major Professor

Upon admission to the doctoral program, the student is assigned an initial advisor from his or her intended specialization. This person is available to discuss initial course selection and provide general advice about the program and specialization. After beginning the program and before filing a Program of Studies, the student will seek a permanent major professor from his/her specialization who is eligible to serve in such a capacity. This permanent advisor may be the initial advisor if the student desires. The major professor is also chair of the student's dissertation committee.

Selection of the major professor is by mutual consent between the student and the faculty member. The student must notify the UEDP in writing when the major professor has been selected.

Course of Study

Minimum degree requirement is 54 credits beyond the bachelor's degree (although students ordinarily take more than 54), at least 27 of which must be earned in residence at UWM (i.e., on the UWM campus).

In consultation with the major professor, the student designs a program of studies that enables the student to gain the knowledge and skills appropriate to the student's goals.

The program of studies includes the following:

The Doctoral Seminars

All doctoral students must take three 3-credit seminar courses devoted to content involving education in an urban environment. One of these seminars is taken as part of the department specialization.

Research Requirement

1. All doctoral students must take EdPsy 724, Educational Statistical Methods II (prerequisite is EdPsy 624) and CurrIns/Ad Ldsp 729, Qualitative Research and Field Studies in Educational Settings.
2. All doctoral students select additional advanced level (800 or above) coursework (minimum 6 credits) from either a qualitative track or quantitative track.
3. All doctoral students must take a research design course approved by their advisor and the Director of Doctoral Studies.
4. Department specialization requirements may exceed those specified here.
5. All students demonstrate knowledge in this area by writing a preliminary examination research question and successfully defending a dissertation.

Designated Specialization

Students indicate a specific area of specialization, by applying for one of the transcript-designated specializations in either Adult, Continuing, and Higher Education Leadership, Curriculum and Instruction, Educational Administration, Exceptional Education, Multicultural Studies, or Social Foundations of Education. Students may be required to meet the specific admissions and program requirements for their intended specialization in addition to meeting the Ph.D. admissions and program requirements. (Please see the accompanying explanation and requirements for each specialization.)

Minor

Some program specializations may require completion of a minor consisting of courses in a related discipline that supports the student's program of studies. Students should consult requirements within their specialization. If

Urban Education

pursuing a minor, the student may choose either Option A or Option B.

1. **Option A:** A minimum of 8 credits in a single department outside the School of Education. A minor professor approves these courses, sits as a member of the student's doctoral committee, and contributes to the student's doctoral preliminary examination.
2. **Option B:** A minimum of 12 credits in two or more departments, with a minimum of 6 credits outside of the School of Education. The remaining credits may be taken within the School of Education, but must be taken outside of the department of specialization.

Foreign Language Requirement

There is no foreign language requirement. However, individual students may be required to demonstrate proficiency in a foreign language if such proficiency is determined to be necessary by a student's committee.

Residence

The residency requirement is satisfied through the successful completion of 9 or more credits in each of two consecutive semesters, excluding summer, or by completing at least 6 graduate credits in each of three consecutive semesters, excluding summer.

It is the student's responsibility to notify the Office of Doctoral Studies when residency requirements have been met. Such notification must be in writing and must include the semesters, year(s) and number of credits taken during each of the applicable semesters.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree. The examination covers the area of specialization, urban education, the minor, and research methods.

Dissertation

The candidate must present a dissertation reporting the results of an original research study appropriate to the student's program. Prior to beginning the research, the candidate must present an acceptable dissertation proposal and defend it at an oral hearing.

Dissertation Defense

The candidate must, as the final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

Students who do not complete all degree requirements within seven years from the date of admission to the doctoral program will be recommended for dismissal to the Graduate School.

Other Requirements

This is only a summary of the doctoral program requirements. A complete list of requirements is available from the Office of Doctoral Studies. Doctoral Committees may specify course requirements which exceed the minima described here.

For additional information on the Ph.D., see the Graduate School [Doctoral Requirements](#).

Adult, Continuing, and Higher Education Leadership (ACHEL) Specialization

The primary mission of the specialization in Adult, Continuing, and Higher Education Leadership (ACHEL) is to prepare individuals for leadership positions in urban adult, continuing, and higher educational organizations. The specialization will assist students to examine changing perspectives on urban postsecondary, adult and continuing educational organizations; changing notions of urban adult, continuing, and higher education teaching and learning; and the changing roles of the students, teachers, researchers, and administrators who work and study within urban adult, continuing, and higher education organizations.

For course descriptions in this area, visit the [Administrative Leadership page](#).

Admission

Students wishing to specialize in Adult, Continuing, and Higher Education Leadership must first be admitted to the Urban Education Doctoral Program (UEDP).

Subsequent to UEDP admission, the student must submit a program of studies for the concentration in Adult, Continuing, and Higher Education Leadership, developed in conjunction with the student's advisor and committee, to the Director of the Urban Education Doctoral Program.

Program Requirements

The student must meet all of the program requirements of the Urban Education Doctoral Program. The specialization in Adult, Continuing, and Higher Education Leadership consists of a minimum of (30) graduate credits excluding dissertation credits.

The coursework will be structured as follows:

Required Courses (15 credits)
Ad Ldsp 740 Seminar in Innovative Technologies for Learning in Education
Ad Ldsp 798 Seminar in Human Resources Development
Ad Ldsp 827 Adult and Organizational Learning
Ad Ldsp 867 Seminar in Continuing Education in the Professions

Ad Ldsp 877 Seminar in Two-Year Post Secondary Institutions
Ad Ldsp 897* Seminar in the Philosophy and History of Adult and Higher Education
Ad Ldsp 900 Doctoral Seminar in Education: The Role of the Professoriate
Ad Ldsp 967* Seminar in Urban Adult and Higher Education
Ad Ldsp 978 Advanced Seminar in Student Personnel Administration
*Required of all students

Electives

Students entering the Ph.D. program without a Master's degree in Adult Education are required to take the following electives. Your advisor may recommend other courses in addition to these.

Elective Courses (15-30 credits)
Ad Ldsp 607 Coordination of Staff Development and Training Programs
Ad Ldsp 631 Emerging Research in Human Resource Development
Ad Ldsp 632 International Cross-Cultural Experiences in Developing Human Resources
Ad Ldsp 647 Evaluation of Adult, Continuing, and Higher Education Programs
Ad Ldsp 667 Program Planning in Adult Education
Ad Ldsp 687 Instructional Design and Teaching Strategies
Ad Ldsp 691 Leadership Ethics in Multicultural Organizations
Ad Ldsp 692 Quality Management in Education
Ad Ldsp 693 Decision Making in Multicultural Organizations
Ad Ldsp 702 Leadership in Educational Organizations
Ad Ldsp 707 Using Technology with Adult Learners
Ad Ldsp 709 Introduction to Higher Education Administration
Ad Ldsp 710 Organizational Change and Team Leadership
Ad Ldsp 711 Organization and Governance in Higher Education Administration
Ad Ldsp 737 Distance Education for Adults
Ad Ldsp 747 Strategic Planning & Budgeting in Adult, Continuing and Higher Education
Ad Ldsp 757 Principals and Foundations of Adult Education
Ad Ldsp 777 Leadership in Multicultural Organizations
Ad Ldsp 778 Introduction to Student Personnel Services
Ad Ldsp 787 Administration of Adult Education Programs
Ad Ldsp 795 Women and Leadership in Education
Ad Ldsp 797 Students in the Collegiate Context
Ed Pol 705 Sociology of Education

Doctoral Committee Membership

The dissertation advisor is an Urban Education doctoral advisor and member of the Department of Administrative Leadership. At least two

Urban Education

other committee members must be from the Department of Administrative Leadership.

Exit Requirements

Contingent upon successful completion of program requirements, the doctoral preliminary examination, and the dissertation defense, the Chair of the Department of Administrative Leadership must give final approval for the inclusion of "Urban Education: Adult, Continuing, and Higher Education Leadership" on the student's transcript.

Educational Administration Specialization

For course descriptions in this area, visit the [Administrative Leadership page](#).

Admission

1. Students wishing to specialize in Educational Administration must first be admitted to the Urban Education Doctoral Program (UEDP).
2. Subsequent to UEDP admission, the student must submit a program for concentration in Educational Administration, developed in conjunction with the student's advisor and committee, to the chair of the department of Administrative Leadership.

Program Requirements

The student must meet all of the program requirements of the Urban Education Doctoral Program. The specialization in Educational Administration consists of a minimum of 30 graduate credits excluding dissertation credits.

The credits are to be distributed as follows:

Ph.D. Non-Certification Orientation

Required Courses

Ad Ldsp 801 Urban Education: Doctoral Seminar in Administrative Leadership, 3 cr
Ad Ldsp 832 Educational Politics & Policy-Making, 3 cr
Ad Ldsp 842 Program Planning & Evaluation in Education, 3 cr
Ad Ldsp 862 Economics of Education, 3 cr

Electives in Administrative Leadership (700+): 18 credits

Total: 30 credits

Ph.D. District Administrator/Superintendent Certification Orientation

Required Courses

Ad Ldsp 801 Urban Education: Doctoral Seminar in Administrative Leadership, 3 cr
Ad Ldsp 802 The School Superintendency, 3 cr
Ad Ldsp 812 Educational Personnel Administration & Supervision, 3 cr
Ad Ldsp 832 Educational Politics & Policy-Making, 3 cr
Ad Ldsp 842 Program Planning & Evaluation in Education, 3 cr

Ad Ldsp 862 Economics of Education, 3 cr
Ad Ldsp 882 Practicum in the School Superintendency, 3 cr

Electives in Administrative Leadership (700+): 9 credits

Total: 30 credits

Although a Master's Degree and certification as a principal are prerequisites to certification as a School Superintendent in Wisconsin, doctoral students may satisfy the requirements for both licenses within their Ph.D. Program of Study. Advisors will design such programs based on individual student need.

Any post-master's courses taken prior to admission while enrolled as a non-degree student in the Specialist Program for School Superintendent Certification do not have to be repeated, subject to advisor and UEDC Director approval. All such credits may be applied toward the 30 credits required in the area of concentration except that in no case may a Ph.D. area of concentration contain fewer than 9 upper level graduate credits (excluding dissertation credits) taken after admission to doctoral study. Individuals who have not completed at least 6 credits of accepted graduate coursework within the 5 year immediately prior to admission must take a minimum of 15 credits.

Doctoral Committee Membership

The dissertation advisor is an Urban Education doctoral advisor and member of the Department of Administrative Leadership. At least two other committee members must be from the Department of Administrative Leadership.

Exit Requirements

Contingent upon successful completion of program requirements, the doctoral preliminary examination, and the dissertation defense, the Chair of the Department of Administrative Leadership must give final approval for the inclusion of "Urban Education: Educational Administration" on the student's transcript.

Art Education Specialization

The program requires each participant to develop research skills using qualitative and quantitative methods. The Ph.D. is a research degree, not just a professional preparation degree. Mastery of these skills is demonstrated through coursework, research projects, and the dissertation. Many graduates apply their skills in institutions of higher education; public or private school settings; federal, state, or local governmental agencies; community organizations; and the private sector.

Admission Requirements

Students wishing to specialize in Art Education must first be admitted to the Urban Education Doctoral Program (UEDP). Applications will be reviewed by the UEDP Admissions Committee as well as the Art Education graduate faculty in

the Department of Art and Design within the Peck School of the Arts.

Major Professor

Upon admission to the doctoral program, the student is assigned a temporary advisor from the specialization of Art Education. This person is available to discuss initial course selection and provide general advice about the program and specialization. After beginning the program and before filing a Program of Studies, the student will seek a major professor from within Art Education. Selection for the major professor is by mutual consent between the student and the faculty member. The student must notify the UEDP in writing when the major professor has been selected.

Program Requirements

1. The student must meet all Urban Education Doctoral Program requirements.
2. The student must submit a program for concentration in Art Education, developed in conjunction with the student's advisor. The program of study must be reviewed and approved by the Art Education graduate faculty and the UEDP director.
3. Students not having the equivalent of a master of arts, master of science, or master of fine arts degree in art education, or related field recognized by the Department of Art and Design may be required to take appropriate coursework as a prerequisite to the doctoral specialization in Art Education.
4. Students will be required to pass a preliminary examination by demonstrating competence in urban education, research methods, the specialization in Art Education, and their additional area of study.
5. A dissertation will be required in the specialization area of Art Education. The dissertation advisor must be an approved doctoral advisor or major professor who is a member of the specialization faculty.

Coursework

For a specialization in Art Education, coursework must be completed in four areas:

1. Urban education
2. Research
3. Art education
4. An additional area of study

At least 27 credits must be completed in doctoral status at UWM, not including dissertation credits.

Urban Seminar Requirements (9 credits)
Educ 701 Urban Educational Issues 3cr
Art Ed 801 Seminar in Urban Education and the Visual Arts 3cr

Urban Education

Educ 901 Advanced Seminar in Urban Education 3cr

Research Methods Requirements (16 credits)

Ed Psy 624 Educational Statistical Methods I 3cr

Ed Psy 724 Educational Statistical Methods II 4cr

Ad Ldsp/CurrIns 729 Qualitative Research and Field Studies in Educational Settings 3cr
At least 6 additional credits (700-level or above) from either a quantitative track or a qualitative track. Students should work with the major professor to determine the appropriate advanced level courses.

Major Concentration (24 credits)

Art Ed 700 Historical and Current Trends in Art Education 3 cr

Art Ed 810 Curricular Designs for Art Instruction 3 cr

Art Ed 830 Teaching Art With Works of Art/Aesthetics and Pedagogy 3 cr

6 additional credits in Art Education courses (700-level or above)

9 credits in a specific area such as:

- Content Area (studio practices, art history, aesthetics, art criticism, cultural foundations, research methods).
- Education level (early childhood, elementary, secondary, higher education, adult).
- Social Contexts (museums, community studies, preK-12, gifted and talented, global studies, interdisciplinary practices).
- Curricular Issues (assessment and evaluation, digital and electronic media and instruction, curriculum studies).

Additional Area of Study (6 credits)

At least six credits in one department outside the Department of Art and Design and the School of Education that enables the research endeavor.

Doctoral Committee Composition

Three graduate faculty from the Department of Art and Design, at least two of which must be from the Art Education area (including the major professor).

Two additional members, one of whom must be from the School of Education.

Exit Requirements

Contingent upon the satisfactory completion of program requirements, the preliminary qualifying examination, and the successful oral defense of the dissertation, the Urban Education Doctoral Committee chair will give final approval for the specialization inclusion on transcripts.

Curriculum and Instruction Specialization

For course descriptions in this area, visit the [Curriculum and Instruction page](#).

Admission

1. Students wishing to specialize in Curriculum and Instruction must first be admitted to the Urban Education Doctoral Program (UEDP).
2. Subsequent to UEDP admission, the student must submit to the Curriculum and Instruction Graduate Committee a program for concentration in Curriculum and Instruction developed in conjunction with the student's advisor.

Program Requirements

1. The student must meet all of the program requirements of the Urban Education Doctoral Program.
2. Specialization in Curriculum and Instruction consists of a minimum of 24 credits, 18 of which must be taken in Curriculum and Instruction. No more than 6 credits taken prior to admission to the Ph.D. program may be counted toward the specialty. The credits are to be distributed as follows:
 - A minimum of 9 credits in advanced, general Curriculum and Instruction courses:
 - 813 Instructional Research and Theory, 3 cr.
 - 816 Curriculum Designs for Urban Schools, 3 cr.
 - 819 Theory and Design of Curriculum, 3 cr.
 - A minimum of 15 credits in a specific Curriculum and Instruction area of interest. Areas of interest are the following:
 - Content area: (e.g., reading)
 - Education level area (e.g., early childhood)
 - General area: (e.g., curriculum theory)
 - Special area: (e.g., guiding instructional improvement)
3. The UEDP doctoral preliminary examination includes a section covering the student's Curriculum and Instruction specialization.
4. A dissertation with a Curriculum and Instruction emphasis is required. The dissertation advisor must be an UEDP doctoral advisor and a member of the Department of Curriculum and Instruction. At least two other committee members must be from Curriculum and Instruction.

Exit Requirements

Contingent upon completion of program requirements, the doctoral preliminary examination, and the successful defense of the dissertation, the Chair of the Department of Curriculum and Instruction will give final approval for the inclusion of "Urban Education: Curriculum and Instruction" on the student's transcript.

Exceptional Education Specialization

See the [Exceptional Education section](#) of the Bulletin for course descriptions in this area.

Admission

1. Students wishing to specialize in Exceptional Education must first be admitted to the Urban Education Doctoral Program. (UEDP)
2. Subsequent to UEDP admission, the student must submit credentials and a program for concentration in Exceptional Education developed in conjunction with the student's advisor in the Department of Exceptional Education. Students also must prepare a statement expressing their interests within Exceptional Education for the departmental admissions procedure.

Program Requirements

The doctoral specialization in Exceptional Education provides a program of advanced study of special education. The program emphasizes the study the socio-cultural context, educational policy, research-based practices and systems change and reform. Students in Exceptional Education take advanced coursework in special education and choose to focus on related areas such as administration, research, teacher education, curriculum design and development, and community-based supports and partnerships. In addition, students declare a minor area of interest.

Students work with their major professor to develop an individualized program which incorporates breadth as well as depth of study. Building on faculty expertise and research interests, focus areas for study may include:

- Teacher education
- Cultural diversity in education
- Early childhood intervention
- Assistive technology
- Curriculum accommodation & collaboration
- Literacy
- Transition to young adulthood
- Deaf education
- School reform and special education administration

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In addition to advanced coursework, students participate in research and development projects, curriculum development, co-teaching, and other activities designed to prepare leaders for roles such as a college or university professor, curriculum leader, special education administrator, consultant, or project director.

Specific requirements for the specialization in Exceptional Education

The specialization requires a recent master's degree in exceptional education or a related field (9 of these credits may be counted toward the specialization). If an applicant does not have this background, appropriate graduate coursework and field experiences will be outlined as a prerequisite to the doctoral specialization.

- A minimum of 12 credits in Exceptional Education (800-level or above) focusing on research and practice related to teacher education, field-based practice and supervision, community programs and support for individuals with disabilities and special education research. Core courses are selected in consultation with doctoral advisor.
- A minimum of 12 credits additional electives in an Exceptional Education focus area. Up to 9 credits of recent and relevant master's degree coursework may be applied.
- The student must meet all of the program requirements of the Urban Education Doctoral Program, including:
 - Urban education Doctoral Seminars (9 credits)
 - Research Design and Methodology (13-16 credits)
 - Minor area of study (9 credits)

Additionally, students must complete preliminary examinations and a dissertation, original research with an emphasis in Exceptional Education.

Mathematics Education Specialization

The specialization in Mathematics Education integrates mathematical knowledge for teaching within the broader field of urban education and prepares individuals to address critical issues across varied educational settings and contexts through research and scholarship in mathematics education.

See the [Curriculum and Instruction page](#) of the Graduate Catalog for course descriptions in this area.

Admission

Students wishing to specialize in Mathematics Education must first be admitted to the Urban Education Doctoral Program (UEDP).

Subsequent to admission, the student must submit a Program of Study in Mathematics Education developed in conjunction with the student's advisor for approval by the Mathematics Education Graduate Committee and the Director of the UEDP.

Program Requirements

1. The student must meet all of the program requirements of the Urban Education Doctoral Program.
2. The specialization in Mathematics Education consists of a minimum of 9 required credits in advanced mathematics education and 23 elective credits in mathematics education, related coursework, or an optional minor. Transfer credits from prior graduate work must fulfill program requirements and be approved by the Major Professor. At least 12 credits in mathematics education must be taken after admission to the program.
3. Required Courses (9 credits)

CurrIns 720 Curriculum and Standards for School Mathematics
CurrIns 864 Integrating Mathematics Education Research into Curriculum and Instruction
CurrIns 865 Mathematics Program Design and Development
Recommended Elective Courses (23)
CurrIns 625 Principles and Practices of Teaching Geometry and Geometric Reasoning
CurrIns 626 Principles and Practices of Teaching Algebraic Reasoning
CurrIns 725 Improving Teaching and Learning with Classroom-Based Assessments
CurrIns 730 Mathematics in Elementary Education
CurrIns 731 Mathematics in the Secondary School
CurrIns 761 Mathematics Instructional Leadership
CurrIns 830 Seminar in Elementary Mathematics Education
CurrIns 861 Seminar in Mathematics Urban Education

4. The UEDP doctoral preliminary examination addresses the mathematics education specialization, urban education, and research methods.
5. A dissertation reporting the results of an original research study in Mathematics Education is required. Prior to beginning the research, the student must prepare an acceptable dissertation proposal, defend it at an oral hearing, and receive committee approval. The dissertation advisor (Major Professor) must be an approved UEDP doctoral advisor and a mathematics

education faculty member of the Department of Curriculum and Instruction. At least two other committee members must be from Curriculum and Instruction.

Exit Requirements

Contingent upon satisfactory completion of program requirements, the preliminary qualifying examination, dissertation proposal hearing, and the successful oral defense of the dissertation, the Urban Education Doctoral Program Director will give final approval for the designated transcript inclusion of "Urban Education: Mathematics Education."

Multicultural Studies Specialization

Note that while Multicultural Studies is cross-disciplinary, for the purposes of initial advising and ongoing support the departmental home for a student in this specialization is Educational Policy and Community Studies. Students in this program will be supervised jointly by the Department of Educational Policy and Community Studies and by the Urban Education Doctoral Committee, who will assign an advisor for the particular focus area the student has chosen. See the [Cultural Foundations of Education section](#) of the Bulletin for course descriptions in this area.

Admissions Requirements

1. Students seeking admission to the doctoral program must indicate their intended area of specialization. The application will be reviewed by the Admissions Committee of the Urban Education Doctoral Program as well as the interdisciplinary graduate faculty of the Multicultural Studies Area.
2. Students must write a brief statement explaining why they feel an interdisciplinary program is more relevant to their studies than one of the other discipline-specific specializations.
3. Subsequent to admission, the student must submit a program of concentration in Multicultural Studies developed in conjunction with the student's advisor.
4. When the student's course of studies in Multicultural Studies is approved by the Multicultural Studies interdisciplinary faculty, the student must submit a program of study to the Office of the Doctoral Studies for review and approval by the Director.
5. Prior to admission, or within the first 30 graduate credits after admittance to the Multicultural Studies specialization, the student must complete a research project, e.g., thesis or publishable paper.

Program Requirements

Students must be admitted first to the Ph.D. Program in Urban Education, then specialize in

Urban Education

Multicultural Studies. The course requirements for Multicultural Studies are outlined below.

1. Students must meet all the requirements of the Urban Education Doctoral Program.
2. Students not having a graduate degree in a field recognized by the specialization faculty may be required to take master's level coursework as a prerequisite to admission.

Urban Seminar Requirements (9 graduate credits)

Educ 701 Urban Educational Issues
Educ 801 Urban Education: Seminar in Multicultural Studies
Educ 901 Advanced Seminar in Urban Education

Major Concentration (6 graduate credits)

The following courses are required. All are three (3) credits unless otherwise designated.
Ed Pol 805 Sociology of Education: Seminar
Ed Pol 840 Seminar in Educational Theory
Electives in Multicultural Specialization (15 graduate credits)

Chosen under the guidance of advisor or committee chair. 6 credits must be 800 level or above. Up to 6 relevant credits may be counted from student's master's program transcript, as determined by of a student's advisor.

The SOE specialization includes a tailored professional area with multicultural studies.

Research Requirements (minimum of 16 graduate credits required)

Research Design and Methodology. The following are required:

Ed Psy 624 Educational Statistical Methods I or equivalent statistical methods*
Ed Psy 724 Educational Statistical Methods II (4 cr.)
CurrIns 729 Qualitative Research & Field Studies
Ed Pol 837 Emergent Methods in Qualitative Research for Social Foundations

3 credits of electives.

*Students who meet this requirement upon admission will be asked to take another research methods class in consultation with student's academic advisor.

Optional Minor (9 cr)

Chosen under the guidance of advisor or committee chair.

Recommended Conference Submissions/Participation

The specialization strongly recommends all students submit and present their original work at two academic conferences during the course of their studies. Conferences may be local, regional, national, or international in scope.

Additionally, students are highly encouraged to contribute to papers submitted to peer-reviewed academic journals prior to graduation.

Other Requirements

All students must adhere to all other general requirements of the Urban Educational Doctoral Program pertaining to such issues as residency, preliminary examinations, dissertation proposals and defense, and time limits.

Doctoral Preliminary Examination

The preliminary qualifying exam will include a section covering the student's focus area as developed with an advisor or committee chair.

Dissertation

A dissertation with the appropriate area of emphasis is required. The dissertation committee must be composed of a minimum of four members of the graduate faculty. The dissertation advisor will be an approved doctoral advisor and a member of the School of Education. One other member must be from the School of Education, and one or two members must be from the student developed focus area.

Exit Requirements

Contingent upon the satisfactory completion of program requirements, including the passing of the prelim/proposal defense, and the successful oral defense of the dissertation, the Urban Education Doctoral Committee Chair will give final approval for the inclusion of "Urban Education: Multicultural Foundations" on your transcript.

Social Foundations of Education Specialization

See the [Cultural Foundations of Education section](#) of the Bulletin for course descriptions in this area.

Admission Requirements

1. Students wishing to be admitted to the Urban Education Doctoral Program must indicate their intended area of specialization. Their applications will be reviewed by the Admissions committee of the Urban Education Doctoral Program as well as by the Department of Educational Policy and Community Studies. The general requirements maintained by the Graduate School at UWM will apply to these candidates;
2. Subsequent to admission, the student must submit a program for study for a specialization in Social Foundations of Education, developed in conjunction with the student's advisor and committee;
3. If the student's specialization in Social Foundations of Education is approved, the student must submit his or her program of study to the Office of Doctoral Studies for review and approval by the director;

4. Students who have already had their programs approved prior to their decision to seek specialization in Social Foundations of Education must submit a program for concentration in Social Foundations of Education to the Departmental Graduate Committee for approval, and if changes are made, must seek approval of the new program of studies by the Office of Doctoral Studies.

Program Requirements

Urban Educational Doctoral Program General Requirements (9 credits)

Educ 701 Urban Educational Issues
Ed Pol 801 Seminar in Social Foundations of Education
Educ 901 Advanced Seminar in Urban Education

Research Methods Credits (16 credits)

Ed Psy 624 or equivalent methods course*
Ed Psy 724 Educational Statistical Methods II
CurrIns 729 Qualitative Research & Field Studies
Ed Pol 837 Emergent Methods in Qualitative Research for Social Foundations
* Students who meet this requirement will be asked to take another research methods class in consultation with student's academic advisor.

3 credits advanced research coursework in to be chosen from the following:

Historical/Cultural Research
Anthropology
705 Advanced Topics in Ethnography
761 Cross-Cultural Research: Problems in Comparative Method and Theory
768 Topics in Advanced Research Design in Anthropology

History

712 Historiography and Theory of History
713 Historical Research Methods

Philosophy

903 Seminar in Epistemology
911 Seminar in Logic
960 Seminar in Metaphysics

Political Science

700 Scope and Methods of Political Science I
701 Techniques of Political Science Research
702 Advanced Techniques of Political Science Research

Social Work

793 Advanced Methods of Social Welfare Research
794 Advanced Research Methods: Evaluating Social Welfare Programs

Urban Studies

731 Quantitative Analysis for Public Administration and Urban Research
921 Seminar: Research Methods in Urban Affairs

Urban Education

979 Methods of Research & Analysis for Urban Social Institutions I
982 Methods of Research & Analysis for Urban Social Institutions II
Qualitative Research
CurrIns 829 Advanced Qualitative Research Techniques for Education Settings
CurrIns 839 Practicum in Writing from Qualitative Research in Educational Settings
Quantitative Research
Ed Psy 821 Psychometric Theory and Practice
Ed Psy 822 Modern Test Theory
Ed Psy 823 Structural Equation Modeling
Ed Psy 824 Advanced Experimental Design and Analysis
Ed Psy 825 Multiple Regression and Multivariate Analysis
Ed Psy 826 Analysis of Cross-Classified Categorical Data
Ed Psy 827 Survey Research Methods In Education
Ed Psy 829 Methods of Scale Construction & Multidimensional Scaling
Ed Psy 922 Seminar in Measurement and Evaluation
Ed Psy 929 Seminar in Statistics and Research Design

Specialization Requirements (12 credits)

Ed Pol 805 Sociology of Education: Seminar*
Ed Pol 822 Global Education Studies
Ed Pol 840 Seminar in Educational Theory
Ed Pol 850 Seminar in History of Education*
*If a student has taken these courses in a master's program, comparable 800-level coursework will be selected in conjunction with the student's academic advisor.

Electives in Specialization (9 credits)*

*Students with a Cultural Foundations of Education Master of Science degree may transfer 9 credits numbered 609 or above in which they earned an A- or better. Students with other master's degrees will be evaluated individually by the department to determine up to 9 credits that may be suitable to transfer as major elective courses. All courses selected must include research papers and be approved by the student's academic advisor.

Elective options include, but are not limited to: Educational Policy & Community Studies

609 Community Partnerships
610 Reproduction of Minority Communities
611 Community Policies and Urban Minority Youths
613 Context and Foundations of Educational Policy
620 History of Education of African Americans
624 Gender and Education
625 Race Relations in Education
630 Race and Public Policy in Urban America
633 Community Development for Low-Income and Minority Communities
636 Issues in African American Education
639 Milwaukee Black Community

640 The Rise and Fall of America's Southern Civil Rights Movement
650 The Civil Rights Movement in Northern Cities
705 Sociology of Education and Community Engagement
711 Community Organizing: Collective Action for Social Change
712 Community Participation and Power
713 Structural/Political Analysis in Community Organizing and Popular Education
715 Popular Education: Theory and Practice
721 Data Analysis for Educational Policy Community Engagement
725 Community Organizing in Low-Income and Minority Communities
770 History of Urban Education Reform Policies
823 Multicultural Education
830 A Study of Educational Classics
850 Seminar in History of American Education
897 Seminar in the Philosophy and History of Adult Education

Contribution to Scholarship

The department strongly recommends all students submit and present their original work at two academic conferences during the course of their studies. Conferences may be local, regional, national, or international in scope. Additionally, students are highly encouraged to contribute to papers submitted to peer-reviewed academic journals prior to graduation.

Optional Minor (9-12 credits)

Students may also choose to complete a minor outside the School of Education in an academic department, as negotiated with the student's academic advisor. While not required, the optional minor, comprised of 9-12 credits in addition to the major requirements of the program, may provide students with another academic area of expertise (e.g., sociology, philosophy, history, etc.)

Other Requirements

All students must adhere to all other general requirements of the Urban Educational Doctoral Program pertaining to such issues as residency, preliminary examinations, dissertation proposals and defense, and time limits.

The preliminary qualifying exam will include a section covering the student's Social Foundations of Education specialization.

A dissertation with the appropriate area of emphasis is required. The dissertation committee must be composed of a minimum of five members of the graduate faculty. The dissertation advisor will be an approved doctoral advisor and a member of the Department of Educational Policy and Community Studies. Two other members must be from the Department of Educational Policy and Community Studies, and one member must be from the minor area.

Exit Requirements

Contingent upon completion of program requirements, the preliminary qualifying examination, and the successful defense of the dissertation, the chair of the Department of Educational Policy and Community Studies must give final approval for the inclusion of Social Foundations of Education upon the student's transcript.

Education-Interdepartmental

701 Urban Educational Issues. 3 cr. G.

Advanced study of urban educational issues in contemporary American cultural context. Prereq: grad st; admis to School of Educ doctoral prog.

801 Urban Education: Seminar in Multicultural Studies. 3 cr. G.

An overview of theory and research on multiculturalism with emphasis on applications of theory and research to practice in a variety of educational settings. Prereq: admis to phd prog urban educ; Educ 701(P).

881 Action Research. 3 cr. G.

Perspectives on action research, its forms in various contexts, and how it contributes to knowledge and improved practice. Prereq: admis to Urban Ed PhD prog; Educ 701(C) or cons instr.

882 Multicultural Studies Practicum. 3 cr. G.

Intensive fieldwork/seminar with emphases on intercultural experience, integration of knowledge bases, and collaboration in community and university settings. Prereq: admis to Urban Ed PhD prog; Educ 881(P).

900 Doctoral Seminar in Urban Education: (Subtitled). 2-3 cr. G.

Topics will vary. Overview of areas of study focuses upon problems in urban education. Emphasis placed upon research and potential research and potential search projects. May be repeated to max of 9 cr. Prereq: admis to phd in urban educ prog.

901 Advanced Seminar in Urban Education. 3 cr. G.

A synthesis of research-based urban education issues. Focuses on development of a literature review leading to a possible dissertation topic. Prereq: grad st; admis to School of Educ doctoral prog, Educ 701(P) and one of the following: Ad Ldsp 801, CurrIns 801, Ed Pol 801, Ed Psy 801, ExcEduc 801, L&I Sci 845.

Urban Planning

School/College: School of Architecture and Urban Planning

Degrees Conferred:

- Master of Urban Planning

Related Certificates

- [Certificate in Geographic Information Systems](#)

Overview

The Urban Planning program at UWM is a professional, skills-oriented, master's program designed to train students to perform a variety of planning-related jobs in either the public or private sector.

The program focuses on planning as a process for improving collective decisions in the public and private sectors. The planning process includes analyzing problems, designing alternative solutions and evaluating their consequences, developing strategies for action and participating in their implementation. This process is used in both government and business in developing policy for future action, so that today's solutions do not become tomorrow's problems.

The program's elective courses combined with other courses on campus enable the development of more specialized depth in several planning related areas under the following concentrations: Urban Revitalization; Economic Development; Urban Geographic Information Systems; Transportation; Physical Planning and Urban Design; and Environmental Resources.

The Department is staffed by faculty members who combine academic and professional qualifications and who are committed to active involvement in current issues. They teach by example, using case studies and projects involving actual situations in most courses. This approach injects reality into the educational environment, allows students to see the relevance of the material in the curriculum, and shows students how their courses relate to their professional practice.

The Milwaukee Metropolitan area of one-and-one-half million persons is a learning laboratory that classroom projects and faculty researchers use extensively. Moreover, students gain additional practical experience through internships in the wide array of planning positions available in the Milwaukee area.

M.Arch/MUP Coordinated Degree Program

In cooperation with the Department of Architecture, the Department of Urban Planning offers a Master of Architecture/Master of Urban Planning program to prepare students for positions as architect/planners. Students in the program concurrently pursue a Master of Architecture degree program and a Master of Urban Planning degree program. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree. For more detailed information on this program see Credits and Courses section below.

M.S./MUP Coordinated Degree Program

In cooperation with the College of Engineering and Applied Science, the Department of Urban Planning offers a Master of Science in Engineering/Master of Urban Planning program to prepare students for positions in transportation, public works or similar areas. Students in the program will concurrently pursue a Master of Urban Planning degree program in the Department of Urban Planning and a Master of Science in Engineering degree program from the College of Engineering and Applied Science. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

MPA/MUP Coordinated Degree Program

A joint degree program has been designed to allow students to obtain both the Master of Public Administration and the Master of Urban Planning degrees concurrently. This program is intended to combine professional training in planning with applied administrative and managerial skills. More detailed information on this program can be found later in this section and in the Public Administration section of this Bulletin.

Graduate Faculty

Professors

Enrique Figueroa, Ph.D., University of California at Davis
Mordecai Lee, Ph.D., Syracuse University

Associate Professors

Frank, Nancy, Ph.D., State University of New York-Albany, Chair
Harris, Kirk, Ph.D., Cornell University
Hu, Lingqian (Ivy), Ph.D., University of Southern California

Assistant Professor

Schneider, Robert, Ph.D. University of California, Berkeley

Master of Urban Planning

Admission

An applicant must meet Graduate School requirements plus these Department of Urban Planning requirements to be considered for admission to the program:

- Undergraduate cumulative grade point average of at least 3.0 (4.0 scale).
- Three letters of recommendation from three previous faculty and/or professionals.
- Submission of test results from the General Test portion of [Graduate Record Examination](#).
- For international applicants whose first language is not English, a minimum TOEFL score of 100 iBT or 600 PBT, or a score of 7.0 on the International English Language Testing System (IELTS) exam is required. Applicants with TOEFL scores from 79-99 iBT or 550-599 PBT, or an IELTS score of 6.5 will be considered for admission only with the stipulation that further coursework in English be taken.

Candidates seeking admission to the M.Arch/MUP, the MPA/MUP, or the M.S./MUP program must apply to and be admitted to both programs. The requirements for admission to the Master of Architecture degree program are detailed in the Architecture section of this Bulletin. The requirements for admission to the Master of Science in Engineering program are detailed in the Engineering section of this Bulletin. The requirements for admission to the MPA program are detailed in the Public Administration section of this Bulletin.

Major Professor as Advisor

The student must have a major professor to advise and supervise the student's studies as specified in Graduate School regulations. A student who is not assigned to an advisor at time of admission should immediately contact the Department Chair.

Credits and Courses

The minimum degree requirement is 48 credits. Of these 48 credits, 27 are taken in the core curriculum, consisting of the following courses: UrbPlan 701 Introduction to Land Use Planning, 1 cr
UrbPlan 702 Introduction to Planning Law, 2 cr
UrbPlan 711 Planning Theories and Practice, 3 cr
UrbPlan 720 Urban Development Theory and Planning, 3 cr
UrbPlan 721 Applied Planning Methods, 3 cr
UrbPlan 740 Data Analysis Methods I, 3 cr
UrbPlan 810 Planning Policy Analysis, 6 cr
UrbPlan 811 Applied Planning Workshop, 3 cr

Urban Planning

and any one of the following courses (3 credits):

UrbPlan 751 Introduction to Urban Design and Physical Planning, 3 cr
UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning, 3 cr
UrbPlan 857 Urban Design as Public Policy, 3 cr

The remaining 21 credits may be taken in the general option or any of the concentrations listed previously: Urban Revitalization; Economic Development; Urban Geographic Information Systems; Transportation; Physical Planning and Urban Design; and Environmental Resources. Each concentration consists of a recommended cluster of courses which may include one or more planning electives as concentration core courses, and a selection of electives from among planning and other courses. Details of the concentrations can be obtained from the Department of Urban Planning and are finalized in consultation with the student's academic advisor.

Transcript-Designated Concentration in Real Estate Development

A concentration in real estate development provides a focused course of study for Master of Architecture and/or Master of Urban Planning students who wish to pursue careers in real estate development in combination with professional architectural practice or work with a private or public developer. Students must complete a minimum of 21 credits from the following groups of courses.

Real Estate Required Core Courses (6 credits)

Arch 780 The Built Environment and Real Estate Development, 3 cr
Bus Adm 481 Real Estate Finance, 3 cr or Bus Adm 483 Property Development and Management, 3 cr

Real Estate Electives (9-12 credits)

For list of qualifying courses, contact Student Advising Office, AUP 225 (414-229-4015, sarup-grad@uwm.edu)

Capstone Project (3-6 credits)

- A project in Architecture (ARCH 891) or a thesis in Urban Planning (UrbPlan 990) that focuses on real estate; or
- A real estate development proposal developed for a private organization (business or non-profit) that is innovative and adds significant value to the built environment (ARCH 792 or UrbPlan 999); or
- A paper suitable for publication concerning real estate development, for which the student is either sole author or

co-author with a faculty member (ARCH 792 or UrbPlan 999).

Transcript-Designated Concentration in Geographic Information Systems

This concentration provides the skills and experience needed by professional planners to develop and use spatial analysis technology in both public and private organizations to improve their service delivery, management, and policy planning activities. Planning students learn state-of-the-art skills for using and analyzing data spatially in planning for improvements in transportation, housing, economic development, environment, natural resources, and related fields.

Required Courses (9 credits):

UrbPlan 791 Introduction to Urban GIS for Planning
UrbPlan 792 Using Urban GIS for Planning
UrbPlan 793 Applied Projects in Urban GIS

Elective Courses (minimum of 6 credits)

For list of qualifying courses, contact Student Advising Office, AUP 225 (414-229-4015, sarup-grad@uwm.edu)

Coordinated Degrees

M.Arch/MUP

Students in the M.Arch/MUP program are required to complete a total of 84 credits: 27 credits of core courses and 9 elective credits in urban planning and 48 credits in architecture, including distribution requirements, pre-thesis/project and master's thesis/project.

M.S./MUP

Students in the M.S./MUP program are required to meet the College of Engineering and Applied Science requirements for the Master of Science in Engineering degree as well as the requirements for the MUP degree. Students in this program are required to take 15 credits in an approved program of technical studies in the College of Engineering and Applied Science, and 6 credits in nontransportation related engineering approved electives. The total credit requirement for the M.S./MUP program is 54 credits.

MPA/MUP

This program allows students to complete master's degrees in Public Administration and in Urban Planning concurrently. The coordinated degree requires 42-45 credits of required courses and completion of a concentration in Public Administration (18 credits). However, because some courses completed for the core requirements of the MUP also may count toward the MPA concentration, students may complete the dual

degree with a minimum of 54-57 credits. The total number of credits will depend on the student's track and choice of concentration in public administration.

Comprehensive Exam

Completion of the comprehensive exam in Urban Planning is required.

Transfer Credits

Graduate coursework in urban planning or a related discipline taken prior to a student's admission to the program may be considered for transfer to the master's degree.

Writing Assessment

Being able to write clearly and effectively is a critical skill for planners. The Urban Planning program encourages improvement in student's writing skills by emphasizing writing improvement across the curriculum, and especially in the core courses.

In some cases, students require more intense instruction to improve their skills to the level needed for planning practice. Faculty members assess student writing proficiency in the first semester core courses. Students who lack the required level of proficiency may be required to take a writing course as part of their second semester program of study. Writing proficiency is also a required element of the comprehensive exam.

Thesis

No formal master's project or master's thesis is required for the MUP degree. However, a thesis may be substituted for as many as 6 elective credits. The student must obtain approval for the thesis proposal from any urban planning faculty member. The students may relate their thesis work to the program core, the general option or an emphasis option.

Comprehensive Examination

All students in the program must take a written comprehensive examination as a requirement for graduation. The examination is given between the second and third semesters so that any deficiencies can be eliminated in the second year of the program through structured courses or directed study. Successful completion of the exam, or successful completion of courses specified for removal of deficiencies, represents fulfillment of the comprehensive examination requirement. Students in the M.S./MUP program also must take and pass the comprehensive examination in engineering.

Time Limit

The degree program itself is designed largely for full-time students. But the program does allow students up to seven years from the time of initial enrollment to complete all degree requirements.

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Students in the M.Arch/MUP and MPA/MUP programs are allowed up to seven years from time of initial enrollment to complete all requirements for both degrees. Students in the M.S./MUP program are allowed up to five years from time of initial enrollment to complete all requirements for both degrees.

Note Individuals seeking to use the School's Shop must first provide evidence of personal accident and health insurance to the Dean's office. Since no accident or health insurance is provided to any user by the University, access to this resource will be prohibited to uninsured individuals.

630 Budgeting and Finance in the Public Sector. 3 cr. U/G.

Examination of the budgeting process in the public sector; development of skills in budgeting and financial management. Topics include capital budgeting, debt management, revenue forecasting, and auditing. Jointly-offered w/& counts as repeat of Pub Adm 630(Pol Sci 630). Prereq: sr st or cons instr.

651 Land Use Planning Practice. 3 cr. U/G.

Specific land planning methods and applications (subdivision regulation, zoning, site plan review, building permit process) used to implement community plans. Prereq: sr st.

655 Negotiation Theory and Practice for Urban Planners. 3 cr. U/G.

Negotiation theory and practice, focusing on skills used by planners in balancing the needs of general public with those of private interests. Counts as repeat of UrbPlan 692 with same title. Prereq: sr st or cons instr.

662 Land Use Planning for Urban Redevelopment. 3 cr. U/G.

Introduction to contemporary trends in urban redevelopment; focus on planning and development techniques used to revitalize declining urban areas. Prereq: jr st.

682 Planning for Sustainable Energy. 3 cr. U/G.

An exploration of the need for sustainable energy, the potential savings in various alternatives, and the roles and specific actions local governments can take. Prereq: sr st.

684 Planning Local Economic Development. 3 cr. U/G.

Exploration of the role of planning in the generation, evaluation, and implementation of policies for the development and revitalization of communities. Prereq: jr st & cons instr.

692 Special Topics in Urban Planning: (Subtitled). 1-3 cr. U/G.

Provides a format for the development and presentation of new material in Urban Planning on an experimental, one-term basis. Specific cr & any additional prereqs announced in Schedule of Classes whenever course is offered.

Retakeable with change in topic to max of 9 cr. Prereq: jr st or cons instr.

701 Introduction to Land Use Planning. 1 cr. G.

Introduction to contemporary land use planning emphasizing the four primary tools of development regulation: comprehensive planning, zoning, subdivision regulation, and capital improvement programming. Prereq: grad st.

702 Introduction to Planning Law. 2 cr. G.

Constitutional and statutory authority for and limits on local government regulation of land use. Application of key concepts, including police power, due process, and property. Prereq: grad st.

705 (effective 09/05/2017) Government Public Relations and Advocacy. 3 cr. G.

External communications by public sector managers and planners for purposes of democratic accountability, fulfilling the mission of the agency, and communicating with elected officials. UrbPlan 705 & Pub Adm 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

705 Government Public Relations. 3 cr. G.

External communication in public administration for democratic accountability and fulfilling the mission of the agency, such as responsiveness, outreach, and public sector advertising. UrbPlan 705 & Pub Adm 705 are jointly offered; they count as repeats of one another. Prereq: grad st.

711 Planning Theories and Practice. 3 cr. G.

Theories about how planners should act in the planning process. History, values, and ethics of the profession; methods of participation; discussion of power in planning. Prereq: grad st.

720 Urban Development Theory and Planning. 3 cr. G.

Spatial, social, economic, and political processes that shape urban development. Application of these processes to formulate and critique urban plans and policies. Prereq: grad st; admis to UrbPlan or cons instr.

721 Applied Planning Methods. 3 cr. G.

Data sources and analysis techniques for urban planning. Survey design, economic analyses, benefit/cost analysis, market areas; the complexities of public and private data sources. Prereq: grad st

740 Data Analysis Methods I. 3 cr. G.

Application of quantitative methods most commonly used in urban planning and analysis of the built environment. Prereq: grad st; admis to UrbPlan prog, Arch prog, or cons istr.

751 Introduction to Urban Design and Physical Planning. 3 cr. G.

Planning for human needs as related to the physical layout and spatial design of urban environments. Prereq: grad st.

762 Housing Markets and Public Policy. 3 cr. G.

An examination of national and local housing markets, their components and operations, and the impacts on them of a variety of public and private actions. Prereq: grad st.

771 Transportation Policy and Planning. 3 cr. G.

Seminar on the evolution of urban transportation systems and policies, transportation finance, land use and transportation interactions, and transportation planning and policy evaluation techniques. Prereq: grad st or cons instr.

772 Pedestrian and Bicycle Transportation. 3 cr. G.

Current practices in pedestrian and bicycle transportation, including institutional frameworks, benefits, safety, facility design, network development, demand estimation, suitability assessment, and performance measurement. Prereq: grad st

782 Water Resources Planning. 3 cr. G.

Emphasis on planning for water across the water cycle (surface, groundwater, wetlands, etc.) integrating non-water resources (habitat, energy, GHG emissions, etc.) in an urban context. Jointly offered with & counts as repeat of Frshwtr 782. Prereq: grad st.

791 Introduction to Urban Geographic Information Systems for Planning. 3 cr. G.

Use of spatially related information including gis and land records systems for improved productivity and decision making in service delivery, management, policy-planning, and land development. Prereq: grad st.

792 Using Urban Geographic Information Systems (GIS) for Planning. 3 cr. G.

A 'hands on' course in gis using commercial gis software in a computer laboratory setting to provide experience solving problems related to planning and government. Prereq: grad st; UrbPlan 791(P) or Geog 525(P) or cons instr.

793 Applied Projects in Urban Geographic Information Systems. 3 cr. G.

Use of a geographic information system (GIS) and actual data from local government to analyze a real world problem or issue requiring spatial data analysis. Prereq: grad st; Urbplan 791 or cons instr.

794 Internet Geographic Information Systems (GIS). 3 cr. G.

Seminar on theoretical background and hands-on experience with technologies for developing GIS applications on the Internet, the web, and

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wireless networks. Prereq: grad st; UrbPlan 792(P) or Geog 625(P); or cons instr.

797 Study Abroad. (Subtitled). 3-12 cr. G.
Field study designed to provide relevant course work for a study abroad program in urban planning. Prereq: grad st; acceptance to Study Abroad Program

810 Planning Policy Analysis. 6 cr. G.
Application of planning analysis tools in the context of policy issues involving planners; a case studies approach stressing both policy analysis and the role of the planner. Prereq: grad st; UrbPlan 701(P), 702(P), 711(P), 720(P), 721(P), 740(P); or cons instr.

811 Applied Planning Workshop. 3 cr. G.
Application of planning concepts, principles, processes and techniques to a selected realistic problem, issue, or project context at an appropriate scale ranging from the neighborhood to the state. Prereq: grad st; UrbPlan 810(P).

841 Seminar in Planning Analysis: (Subtitled). 3 cr. G.
Application of one planning methodology: theory, case studies, preparation and presentation of major student project. Retakeable with change in topic to max of 6 cr. Prereq: grad st.

857 Urban Design as Public Policy. 3 cr. G.
Orients students in urban planning to urban design problems as matters of public policy with focus on the analysis and implementation of urban design proposals rather than on the techniques used to generate such proposals. Not open to students who have cr in Arch 749 which is identical to UrbPlan 857. Prereq: grad st.

858 Studio in Urban Design and Physical Planning. 6 cr. G.
Projects and seminars apply urban planning principles to problems of urban design and physical planning to develop students' abilities to evaluate and effectively criticize proposals. Prereq: grad st; Urbplan 751(P) or 857(P).

880 Urban Sustainability. 3 cr. G.
Urban sustainable challenges and opportunities that impact the built environment. Includes review of traditional and innovative sustainable practices and regulations Jointly-offered w/& counts as repeat of UrbPlan 880. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirement. Fee assessed for 1 cr. Prereq: grad st

990 Graduate Thesis. 3-6 cr. G.
Thesis under the direction of graduate planning faculty. May be retaken to max of 6 cr, which can be substituted for elective credits. Prereq:

grad st, cons instr; successful completion of comprehensive exam.

991 Legislative/Administrative Agency Internship. 3-6 cr. G.
Research project assignments with elected legislative officials and administrative agencies. Assignments will be cooperatively developed and supported by an integrating seminar discussing both experience and theory in a planning implementation context. May be retaken with change in topic to max of 6 cr. Prereq: grad st; cons instr.

992 Seminar in Urban Planning: (Subtitled). 1-3 cr. G.
Advanced study of special topics in urban planning. Specific cr & any additional prereqs announced in schedule of classes whenever course is offered. Retakeable with topic change to max of 6 cr. Prereq: grad st or cons instr.

999 Independent Study. 1-3 cr. G.
Individual work in urban planning. Variable content course. Retakeable to max of 9 cr. Prereq: grad st; cons instr.

Urban Studies

School/College: College of Letters and Science
Degrees Conferred:

- M.S. in Urban Studies
- Ph.D. in Urban Studies

Overview

Urban Studies Programs offers two interdisciplinary graduate programs of study that are housed in the College of Letters and Science and led by social science faculty members from the Departments of Africology, Architecture, Criminal Justice, Educational Policy and Community Studies, Geography, History, Political Science, Nonprofit and Public Administration, Public Health, Sociology, and Urban Planning.

The Master of Science degree program in Urban Studies provides students with a broad understanding of urban society and trains them in research techniques appropriate to the study of metropolitan communities. The course of study stresses the understanding of social processes and the analysis of social and economic policies affecting cities.

The program requires 30 graduate credits, 15 in core courses and 15 in a student's emphasis area. The five-course (15 credit) core curriculum establishes a common base of knowledge and research skills. After completing the core, students have two options. They may either secure a generalist degree, requiring 15 additional credits in elective courses, or they may specialize in an area of concentration in consultation with the M.S. Program Advisor. The specialist option requires 15 credits in specified courses beyond the core. Both options require either a master's thesis or a master's paper. Graduates are prepared to enter professional careers in government or social agencies, or to enter doctoral programs for further study.

The Ph.D. degree program in Urban Studies is designed to prepare individuals to obtain employment in academic departments, as well as government institutions and social agencies, and to conduct sophisticated research in the field of urban studies. The course of study emphasizes history, research methodology, and social science theory.

Graduate Faculty

(Professors' home departments appear in parentheses)

Distinguished Professors

Anderson, Margo, Ph.D., Rutgers University (History)

Professors

Ghose, Rina, Ph.D., University of Wisconsin-Milwaukee (Geography)
 Ihrke, Douglas, Ph.D., Northern Illinois University (Political Science)
 Jordan, Jennifer, Ph.D., University of California-San Diego (Sociology)
 Levine, Marc, Ph.D., University of Pennsylvania (History)
 McBride, Genevieve G., Ph.D., University of Wisconsin-Madison (History)
 Oliker, Stacey, Ph.D., University of California-Berkeley (Sociology)
 Rodriguez, Joseph A., Ph.D., University of California-Berkeley (History)
 Seligman, Amanda, Ph.D., Northwestern University (History)
 Schutz, Aaron, Ph.D., University of Michigan (Educational Policy & Community Studies)
 Velez, William, Ph.D., Yale University (Sociology)

Associate Professors

Alinder, Jasmine, Ph.D., University of Michigan (History)
 Britton, Marcus, Ph.D., Northwestern University (Sociology)
 Freiburger, Tina, Ph.D., Indian University of Pennsylvania (Criminal Justice)
 Holifield, Ryan, Ph.D., University of Minnesota (Geography)
 Green, Donald, Ph.D., University of Minnesota (Sociology)
 Hu, Lingqian (Ivy), Ph.D., University of Southern California (Architecture & Urban Planning)
 McCarthy, Linda, Ph.D., University of Minnesota (Geography)
 Rast, Joel, Ph.D., University of Oregon (Political Science)
 Renda, Lex, Ph.D., University of Virginia (History)
 Roberts, Aki, Ph.D., University of New Mexico (Sociology)
 Sen, Arijit, Ph.D., University of California-Berkeley (Architecture & Urban Planning)
 Shah, Paru, Ph.D., Rice University (Political Science)
 Smith, Robert S., Ph.D., Bowling Green State University (History)
 Sziarto, Kristin, Ph.D., University of Minnesota (Geography)
 Winkler, Erin, Ph.D., University of California, Berkeley (Africology)

Assistant Professors

Andersson, Fredrik O., Ph.D. University of Missouri-Kansas City (Public Administration & NonProfit)
 Bonds, Anne, Ph.D., University of Washington (Geography)
 Loyd, Jenna, Ph.D., University of California, Berkeley (Joseph J. Zibler School of Public Health)
 McClure, Daniel, Ph.D., University of Massachusetts-Amherst (Africology)

Robert Schneider, Ph.D. University of California-Berkeley (Architecture and Urban Planning)

Master of Science in Urban Studies

Admission

An applicant must meet [Graduate School requirements](#) plus the following requirement to be considered for admission:

- Undergraduate major in one of the social sciences or experience in relevant occupational roles such as planning, community organization or social work.
- Two letters of recommendation from persons familiar with the applicant's academic ability. Recommendation forms may be obtained online from the [Urban Studies Programs website](#).
- Submission of [Graduate Record Examination](#) scores is recommended but not required.

Applicants may be admitted with specific program-defined course deficiencies provided that the deficiencies amount to no more than two courses.

The student is expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the individual graduate program unit. No course credits earned in making up deficiencies may be counted as program credits required for the degree.

Major Professor as Advisor

The Director and Associate Director of the Urban Studies Programs acts as the initial advisor to all entering students. Therefore, upon admission to the program, students should meet with one of them to discuss their course of study. As specified by The Graduate School, the student must have a major professor to advise and supervise the student's studies. Once the student has defined an area of interest within Urban Studies, an advisor with similar interests may be chosen from among the other members of the USP faculty.

Credits and Courses

The minimum degree requirement is 30 graduate credits. All Urban Studies students are required to take a core curriculum of 15 credits:

1. An approved quantitative analysis course
2. Urb Std 921 Seminar: Research Methods in Urban Studies
3. Three of the following four substantive courses
 - Urb Std 901 Seminar: Urban Social Structure
 - Urb Std 913 Seminar in Urban Political Process

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- Urb Std 945 The Internal Structure of the City
- Urb Std 971 Seminar in the History of American Urban Problems

M.S./MLIS

Students in the M.S./MLIS program follow all of the requirements and standards as described in this section of the Bulletin with the following joint exceptions: 21 of the 24 credits, including the optional 3 credits for a master's thesis, required for the Urban Studies portion of the joint degree are taken within USP. All courses in related areas and any exceptions to the 21 credit rule must be reviewed by the Coordinator of Urban Studies. All courses selected are expected to be consistent with the objectives of the Urban Studies program.

Paper or Thesis

A master's paper or thesis is required to receive the M.S. degree in Urban Studies. A master's paper may be developed from a seminar paper and should demonstrate conceptual ability and research competence in a sub-area of Urban Studies. It is expected that the master's paper will be prepared in a scholarly fashion conforming to the format characteristics of journal articles published in the chosen area of study.

A master's thesis is a more formal document of greater breadth and depth than a master's paper. Students should refer to [Master's Thesis and Doctoral Dissertation Format Requirements](#) for information regarding preparation and review of the thesis.

Regardless of the option chosen, the student, in consultation with the faculty advisor, must assemble a committee of three faculty (two of whom cannot be from the same department and must be USP faculty) who will serve as the paper or thesis examination committee. The student must pass an oral examination based on the paper or thesis. Students may opt to enroll in USP 990 and earn up to 3 credits toward the M.S. degree for their paper/thesis research and writing.

Time Limit

The student must complete all degree requirements within five years of initial enrollment.

Doctor of Philosophy in Urban Studies

Admission

An applicant must meet [Graduate School requirements](#), hold a master's degree or the equivalent in a social science or a related field, and meet the criteria established by the Urban Studies Programs Faculty to be considered for admission:

1. Three letters of recommendation from persons familiar with the applicant's academic work. Recommendation forms may be obtained online from the link above.
2. A sample of the applicant's written work that demonstrates the applicant's ability to conduct independent social science research and/or the ability to critically analyze the work of others.
3. A letter of intent outlining the applicant's reasons for graduate study.
4. GRE scores.
5. A response to a question that elucidates the applicant's reasons for taking up the academic study of urban affairs and describes her/his intellectual ambitions in the field.

Course of Study

Minimum degree requirement is 33 credits beyond the master's degree; these credits include core courses, a methodological specialization, a topical specialization, and a dissertation. At least 27 credits must be earned in UWM courses while in the doctoral program. Credits for the methodological specialization and the topical specialization combined must total at least 15 credits, with 6 credits from one area and 9 from the other. Students will decide, in consultation with their advisor, whether to focus more on methods or on topics. In consultation with their major professor and the program director, students must develop a plan of study, which should be filed in the USP office by the end of the second semester of enrollment.

Core Courses (12 credits)

All doctoral students must take a required set of four core courses as follows. Qualified students may be exempted from the quantitative competency/statistics course, but they must take an additional three credits of electives in methodological or topical tracks. Unless otherwise indicated, courses are 3 credits.

1. Urb Std 921 Seminar: Research Methods in Urban Studies
2. Urb Std 984 Research Design for Urban Studies
3. Urb Std 981 Perspectives Toward Change in Urban Social Institutions (name change to "Argument in Urban Studies Scholarship" pending)
4. **or** Urb Std 983 Contemporary Urban Social Structure and Change
5. Geog 547 Spatial Analysis, 4 cr

6. **or** Hist 595 The Quantitative Analysis of Historical Data
7. **or** Sociol 760 Advanced Statistical Methods in Sociology

Methodological Specialization (6-9 credits)

Students must declare one specialization from the following list and take two to three courses, for a total of 6 to 9 credits. Credits taken in the methodological specialization and the topical specialization combined must total at least 15 credits.

1. **Statistical Analysis/Quantitative Research Design (2 course minimum)**
2. A methodological specialization in statistical analysis requires Sociol/Urb Std 982 Advanced Quantitative Analysis and at least one additional statistical/quantitative course beyond the core competency. This course, selected in consultation with the student's advisor, should support research objectives and dissertation goals. See the Graduate Program Director for a list of qualifying courses or online at: <http://www4.uwm.edu/lets/urbanstudies/graduate/phd/upload/CompletePHDStudentGuide.pdf>.
3. **Geographical Information Systems (2 course minimum)**
4. A methodological specialization in GIS requires the following two courses. Students who elect this specialization must take Geog 547 to complete the statistical/quantitative core competency.
5. Geog 525 Geographic Information Science (4 cr)
6. Geog 625 Intermediate Geographic Information Science (4 cr)
7. Students who elect the GIS option earn 8 credits in the two required courses and must complete a minimum of 7 credits in topical courses or take one additional methods course with 6 credits in topical courses.
8. Optional additional coursework in GIS may be selected in consultation with the student's advisor, with consideration of research objectives and dissertation goals. See the Graduate Program Director for a list of suggested courses.
9. **Historical Methods (2 course minimum)**
10. In consultation with their advisor, students who elect this specialization must select two historical methods courses in that support research objectives and

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dissertation goals. See the Graduate Program Director for a list of qualifying courses.

11. **Qualitative Methods (2 course minimum)**
12. Students who elect the methodological specialization in qualitative methods select two courses in consultation with their advisor in support of research objectives and dissertation goals. See the Graduate Program Director for a list of qualifying courses.
13. **Program/Policy Evaluation (2 course minimum)**
14. A methodological specialization in program/policy evaluation requires Pol Sci/Pub Adm 769 Analyzing and Evaluating Public Policies and Programs and at least one additional program/policy evaluation course. This course, selected in consultation with the student's advisor, should support research objectives and dissertation goals. See the Graduate Program Director for a list of qualifying courses.
15. **Mixed Methods (2 course minimum)**
16. Graduate students intending to pursue mixed research methods in their dissertation must file with the USP a plan of study created in consultation with their major professor and the program Director.

Topical Specialization (6-9 credits)

Students must declare a topical specialization, in consultation with their advisor, to gain competence in one of the faculty areas of specialization and must take two to three courses in that specialization, for a total of 6 to 9 credits. Students who opt for 6 credits (two courses) of methodological specialization must take at least 9 credits of topical specialization courses. Those who select 9 credits (three courses) of methodological specialization must complete 6 credits of topical specialization courses.

A variety of specializations and qualifying courses are published annually on the [Urban Studies website](#). Students are required to take 6-9 credits at the 700 level or above in the specialization field, no more than 3 credits of which may be in independent study courses. With the approval of the major professor or program director, students may take up to 3 credits in U/G courses.

Thesis (6 credits)

A maximum of 6 credits in doctoral thesis or dissertation courses may be counted toward the 33 credits required for the degree.

Residence

The Ph.D. student may meet the residence requirement by completing 8 or more graduate credits in each of two consecutive semesters, exclusive of summer sessions, or by completing at least 6 graduate credits in each of three consecutive semesters, exclusive of summer sessions.

Doctoral Preliminary Examination

The student must pass a doctoral preliminary examination to qualify for formal admission to candidacy for the degree.

Dissertation

The candidate, working under the supervision of the major professor and the candidate's dissertation committee, must write a dissertation which demonstrates ability to formulate a research topic and pursue original investigation.

Dissertation Defense

The candidate must, as a final step toward the degree, pass an oral examination in defense of the dissertation.

Time Limit

All degree requirements must be completed within ten years from the date of initial enrollment in the doctoral program.

For additional information on the Ph.D., see the [Graduate School Doctoral Requirements page](#).

450 Urban Growth and Development: A Global View. 3 cr. U/G.

Urban growth and development from an international perspective. Prereq: jr st or cons instr.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.

Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially-prepared program course work. Prereq: jr st; acceptance for Study Abroad Prog, contact CIE Overseas Programs, PER 166, 229-5182.

625 Law and Urban Poverty. 3 cr. U/G.

Examination of the relationship between law and poverty, with emphasis upon federal legislative attempts in specific problem areas to alleviate the condition of poverty. Prereq: jr st; cons instr.

639 Health Care and Public Policy in the United States. 3 cr. U/G.

Health care policies in the United States. Prereq: jr st or cons instr.

704 Seminar in Nonprofit Organizations. 3 cr. G.

Overview of structure, functions, and governance of nonprofit organizations. Comparison with government and for-profit organizations. Nonprof 704, Pol Sci 704, Sociol

704, & Urb Std 704 are jointly offered; they count as repeats of one another. Prereq: grad st.

726 Advanced Methods of Urban Community Development. 3 cr. G.

Evaluation of model cities, community health, community corporations, decentralized government. Practice issues: program design, federal policy, consulting, training, participation, decision making process, economic feasibility. Future models. Prereq: grad st & cons instr.

741 Introduction to Metropolitan Development. 3 cr. G.

Preview to metropolitan development from an analytical viewpoint. Emphasis on the quantitative tools and conceptual framework necessary to interpret phenomena in a metropolitan area. Prereq: grad st.

770 The Law and the American City. 3 cr. G.

Legal environment of american cities; powers of municipal corporations; relations of municipalities to state and federal governments as controlled by constitutions, statutes, and judicial decisions; special government units; local authorities and bill of rights limitations. Prereq: grad st.

840 Community Health Planning. 3 cr. G.

Examination of processes of planning for delivery of integrated systems of health services to the urban community. Social, economic, political and organization factors are discussed and interrelated. Prereq: grad st.

841 Health Policy in Urban Society. 3 cr. G.

Emerging health policy in modern society. Emphasis on the uncertainty of goals, contending interest, and the urban context. Prereq: grad st.

888 Candidate for Degree. 0 cr. G.

Available for master's students who must meet minimum credit load requirement. Fee for 1 cr assessed. Prereq: grad st.

890 Urban Social Institutions Institute: 3 cr. G.

Interdisciplinary study of selected urban and metropolitan problems. Focuses on the analysis of forces shaping the metropolitan milieu. Retakable w/chg in topic to 9 cr max. Prereq: grad st or cons UrbInst coord.

901 Seminar: Urban Social Structure. 3 cr. G.

Comprehensive analysis of the emergence and institutionalization of cultural and social patterns in urban settings; and future American urban social structures. Sociol 901 & Urb Std 901 are jointly-offered & count as repeats of one another. Prereq: grad st.

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913 Seminar in Urban Political Process. 3 cr. G.

Analysis of the forces and processes that shape urban political life, with particular emphasis on patterns of government, political culture, power structures, and civic participation in urban and metropolitan communities. Pol Sci 913 & Urb Std 913 are jointly offered; they count as repeats of one another. Prereq: grad st.

921 Seminar: Research Methods in Urban Studies. 3 cr. G.

Methodological orientations and techniques in urban studies: philosophy of science, conceptualization measurements, research designs, data collection, data analysis. Prereq: grad st.

927 Urban Internship. 2-3 cr. G.

Advanced application and analysis of theory and acquired skills in supervised agency assignment. Retakable to 6 cr max. Prereq: grad st.

939 Urban Lifestyle and Holistic Health Care. 3 cr. G.

Examines the implications of urban life style for health promotion and protection with special emphasis on developing appropriate health maintenance modalities. Prereq: Urb Std 639(P) or 841(P).

945 The Internal Structure of the City. 3 cr. G.

The interaction of forces responsible for the evolution of the city as a spatial form and the allocation of economic and social activity within the spatial configuration. Geog 945 & Urb Std 945 are jointly-offered; they count as repeats of one another. Prereq: grad st.

965 Municipal Management. 3 cr. G.

The political, social, and economic contexts in which the urban manager functions, with an emphasis on managing municipal service delivery and resources. Pub Adm 965(Pol Sci 965) & Urb Std 965 are jointly offered; they count as repeats of one another. Prereq: grad st.

971 Seminar on the History of American Urban Problems. 3 cr. G.

Historical analysis of the current problems of housing, race relations, the powers and functions of municipal government, law enforcement, and city planning in the United States. Hist 971 & Urb Std 971 are jointly offered; they count as repeats of one another. Prereq: grad st.

979 Qualitative Research Methods. 3 cr. G.

Seminar on logic, design, and presentation of social science research. Inductive and qualitative methods, theory construction, and ethics and procedures of research in natural settings. Sociol 979 & Urb Std 979 are jointly-offered; they count as repeats of one another. Prereq: grad st.

980 Growth of Urban Society. 3 cr. G.

Seminar in historical, social, and ecological growth and development of urban agglomerations. Comparative framework will be used to examine the urban process. Hist 980 & Urb Std 980 are jointly offered; they count as repeats of one another. Prereq: grad st.

981 Argument in Urban Studies Scholarship. 3 cr. G.

Reading, recapitulating, critiquing, and writing urban-focused social science argument. Prereq: grad st.

982 Advanced Quantitative Analysis. 3 cr. G.

Evaluation of different methods of generating data and their applications to the analysis of public policies and programs. Sociol 982 & Urb Std 982 are jointly offered; they count as repeats of one another. Prereq: grad st; min. score of 85 on dept diagnostic exam.

983 Contemporary Urban Social Structure and Change. 3 cr. G.

Range of research issues conceptualized in terms of major categorical and more intentional social structures that bear on urban social actions. Prereq: grad st.

984 Research Design for Urban Studies. 3 cr. G.

Structural research problem in which doctoral students can master research techniques needed in pursuing dissertation and later in career research. Prereq: grad st.

987 Urban Social Control. 3 cr. G.

Graduate seminar introducing concepts of social control, pervasiveness of social control, and how social control is maintained in urban environments. Prereq: grad st.

988 Seminar in Urban Social Institutions: (Subtitled). 3 cr. G.

Historical and sociological forces shaping selected urban issues and social institutions. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

990 Master's Research or Thesis. 1-3 cr. G.

Research or thesis work for students in the master's program in Urban Studies. Prereq: grad st.

991 Doctoral Research or Dissertation. 1-6 cr. G.

Research or dissertation work for students in the doctoral program in Urban Studies. Retakable. Prereq: grad st.

998 Independent Study for Master's Students. 1-3 cr. G.

Independent study in a subject area of special need or interest after consultation with a faculty member. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

999 Independent Study for Doctoral Students. 1-3 cr. G.

Independent study in a subject area of special need or interest after consultation with a faculty member. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

Women's & Gender Studies

School/College: College of Letters and Science
Degrees Conferred:

- M.A. in Women's & Gender Studies

Related Certificates

- [Graduate Certificate in Women's & Gender Studies](#)

Overview

The M.A. in Women's & Gender Studies is designed for students who intend to pursue additional academic degrees and students who seek graduate credentials to further their career goals. The degree combines advanced Women's & Gender Studies courses in feminist theory, research methods, global feminisms, and selected topics with graduate-level courses in many disciplines. Over forty faculty members at UWM are Women's & Gender Studies affiliates and offer graduate courses that are cross-listed with Women's & Gender Studies.

Students completing an M.A. in Women's & Gender Studies will:

- Gain an understanding of Women's & Gender Studies as an interdisciplinary field of study and research.
- Demonstrate an advanced understanding of feminist theory and research methods.
- Develop critical thinking skills that will enable them to analyze competing perspectives and integrate various bodies of knowledge across academic boundaries, paying particular attention to gender-based assumptions and their consequences on individuals, social and cultural groups, and institutions.
- Demonstrate an awareness of women's diverse experiences based on factors such as age, race, sexuality, gender identity, class, religion, and ability status.
- Acquire the background necessary for entry into Ph.D. programs in Women's & Gender Studies. The M.A. also prepares students for further graduate studies in many fields of the humanities, social sciences or professions, as well as career fields that require an advanced degree.

Graduate Faculty

Professor

Merry Wiesner-Hanks, Ph.D., University of Wisconsin, Madison (Women's & Gender Studies/History)

Associate Professors

Eichner, Carolyn J., Ph.D., University of California Los Angeles (Women's & Gender Studies/History) (Chair)

McGinty, Anna Mansson, Ph.D., Lund University, Sweden (Women's & Gender Studies/Geography)
Westlund, Andrea, Ph.D., University of Michigan (Women's & Gender Studies/Philosophy)
Gwynne Kennedy, Ph.D., University of Pennsylvania (Women's & Gender Studies/English)

Assistant Professors

Huang, Xin, Ph.D., University of British Columbia

M.A. in Women's & Gender Studies

Admission

In addition to satisfying [Graduate School requirements](#) for admission, applicants must provide these materials to be considered for admission:

- Three letters of recommendation from persons familiar with the applicant's academic or professional work.
- A sample of the applicant's written work that demonstrates the applicant's critical thinking, research, and writing skills.
- A letter of intent explaining the applicant's reasons for graduate study (the Graduate School Reasons Statement may be used).

These materials should be sent to: Director, Women's & Gender Studies Program, University of Wisconsin-Milwaukee, PO Box 413, Milwaukee, WI 53201. [GRE](#) scores are recommended, but not required. [GRE](#) scores are required to apply for UWM fellowships or awards.

Applicants may be admitted with course deficiencies provided that the deficiencies amount to no more than two courses. Students are expected to satisfy deficiency requirements within three enrolled semesters. The deficiencies are monitored by the Graduate School and the program. No course credits earned in making up deficiencies may be counted toward the degree.

Financial Aid

Women's & Gender Studies offers a graduate teaching assistantship. To apply, prospective students should include a statement describing previous teaching experience and/or reasons for teaching with application materials sent to the Women's & Gender Studies Program. Women's & Gender Studies also has two need-based scholarships for which graduate students are eligible. Scholarship decisions are made each spring. Contact the program for applications.

The UWM Graduate School offers AOP (Advanced Opportunity Program) and Distinguished Graduate Student [Fellowships](#).

Advising

Graduate advising is the responsibility of the Chair of Women's & Gender Studies, who provides initial advising for students until they choose an advisor.

Credits and Courses

To earn an M.A. in Women's & Gender Studies, students must complete 30 credits. Fifteen credits are in required Women's & Gender Studies courses (15 with thesis option): WGS 401: Global Feminisms (U/G), WGS 700: Feminist Issues and Scholarship; WGS 710: Advanced Feminist Theory; and WGS 711: Advanced Women's & Gender Studies Research Methods, and another G or U/G WGS course (excluding 497, 599, 700, 990, and 999). The remaining fifteen credits are in graduate-level courses chosen in consultation with the Graduate Chair. No more than six credits may be in undergraduate/graduate (U/G) courses, and no more than six transfer credits may apply. Students may not count more than three credits of WGS 999 Independent Study toward the degree.

Thesis, Paper or Project, or Examination

Students complete the degree with a written thesis, paper or project, or comprehensive examination. All options include an oral defense.

The thesis is an academic research paper that demonstrates the student's ability to carry out an independent investigation, to analyze data (qualitative and/or quantitative), and to present the results in a clear, systematic form. The thesis includes a review of relevant scholarship and makes a contribution to the field.

The master's paper is a more limited, shorter scholarly product that often takes the form of a scholarly essay of publishable quality. The master's paper demonstrates the student's ability to formulate an argument, analyze data, present results in a clear, systematic form, and show familiarity with relevant scholarship.

The master's project may be a creative or artistic project that is research-based or a research-based practical project.

The examination is a comprehensive written examination that addresses central texts and issues in the field of Women's & Gender Studies.

Time Limit

Students must complete the M.A. within five years of enrollment, in compliance with Graduate School time-to-degree requirements.

Master of Arts in Women's & Gender Studies/Master of Social Work

The College of Letters and Science and the Helen Bader School of Social Welfare

Women's & Gender Studies

collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving professional practice and the field of feminist research and scholarship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Admission

Students are admitted to both graduate programs separately, and [admission requirements](#) are consistent with those specified by the UWM Graduate School, the M.A. in Women's & Gender Studies program in the College of Letter and Science, and the [M.S.W. in Social Work](#) of the Helen Bader School of Social Welfare.

Credit and Courses

Students accepted into this M.A./M.S.W. program complete the following courses:

Women's & Gender Studies

WGS 401 Global Feminisms, 3 cr. U/G
WGS 700 Feminist Issues and Scholarship. 3 cr. G.
WGS 710 Advanced Feminist Theory. 3 cr. G.
WGS 711 Advanced Women's & Gender Studies Research Methods. 3 cr. G.
WGS G or U/G course (excluding 497, 599, 700, 990, 999), 3 cr

Electives WGS courses or cross-listed courses with Women's & Gender Studies (excluding Soc Wrk), 9 cr.

Total WGS credits: 24 (maximum of 6 U/G cr; and maximum 3 cr of WGS 999)

Social Work Foundation Curriculum

Soc Wrk 604 Social Systems and Social Work Practice. 3 cr. U/G.
Soc Wrk 662 Methods of Social Welfare Research. 3 cr. U/G.
Soc Wrk 665 Cultural Diversity and Social Work. 3 cr. U/G.
Soc Wrk 705 Individual Behavior and Social Welfare. 3 cr. G.
Soc Wrk 708 Social Work Methods I: Individuals and Families. 3 cr. G.
Soc Wrk 709 Social Work Methods II: Groups, Organizations and Communities. 2 cr. G.
Soc Wrk 721 Field Instruction I. 3 cr. G.
Soc Wrk 750 Social Welfare Policy Development and Implementation. 2 cr. G.

Social Work Advanced Practice Curriculum

Practice courses (711 or 713; 811 or 915; one additional practice course)

Soc Wrk 711 Direct Social Work Practice I. 3 cr. G.

Soc Wrk 713 Community Organization, Planning and Human Service Administration I. 3 cr. G.

Soc Wrk 811 Direct Social Work Practice II: (Subtitled). 3 cr. G.

Soc Wrk 915 Human Services Administration II. 3 cr. G.

Additional Social Work practice course, 2 cr. G.

Field Courses

Soc Wrk 722 Field Instruction II. 3 cr. G.

Soc Wrk 821 Field Instruction III. 4 cr. G.

Soc Wrk 822 Field Instruction IV. 4 cr. G.

Human Behavior Content (753 or 771 or 685)

Soc Wrk 753 Adult Psychopathology. 3 cr. G.

Soc Wrk 771 Development of the Family Over the Life Span. 3 cr. G.

Soc Wrk 685 Social Gerontology. 3 cr. U/G.

Research

Soc Wrk 793 Evaluation of Practice. 2 cr. G.

Soc Wrk 794 Evaluation of Programs. 2 cr. G.

Social Policy

Soc Wrk 851 Social Issue and Policy Analysis: (Subtitled). 2-3 cr. G.

Electives (6 cr) Selected from Women's & Gender Studies courses in consultation with faculty advisor.

Minimum Total Credits for Coordinated Program: 52 (for those admitted to the M.S.W. Social Work Advanced Curriculum). Time Limit

Students in the coordinated M.A./M.S.W. degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Master of Arts in Women's & Gender Studies/Master of Library and Information Science

- [MLIS Program Requirements](#)

The College of Letters & Science and School of Information Studies collaboratively offer a program designed to provide students with theoretical and practical exposure to evolving information retrieval and organization, and the field of feminist research and scholarship. Prerequisite to the award of either degree in this program is the simultaneous award of its counterpart degree.

Admission

Students are admitted to both graduate programs separately and [admission requirements](#) are consistent with those specified by the UWM Graduate School, the M.A. in

Women's & Gender Studies program in the College of Letter & Science, and the [MLIS program](#) of the School of Information Studies.

Credit and Courses

Students accepted into this M.A./MLIS program complete the following courses:

Women's & Gender Studies

WGS 401 Global Feminisms, 3 cr. U/G
WGS 700 Feminist Issues and Scholarship. 3 cr. G.
WGS 710 Advanced Feminist Theory. 3 cr. G.
WGS 711 Advanced Women's & Gender Studies Research Methods. 3 cr. G.
WGS G or U/G course (excluding 497, 599, 700, 990, 999), 3 cr.

Electives WGS courses or cross-listed courses with Women's & Gender Studies (excluding InfoSt), 9 cr.

Total WGS credits: 24 (maximum of 6 U/G cr; and maximum 3 cr of WGS 999)

Library and Information Science

InfoSt 501 Foundations of Library and Information Science; 3 cr. U/G
InfoSt 511 Organization of Information; 3 cr. U/G
InfoSt 571 Information Access and Retrieval; 3 cr. U/G
InfoSt 799 Research Methods in Information Studies; 3 cr. G

Electives (18 cr.) selected in consultation with faculty advisor. (Six credits taken in WGS also count as electives for a total of 24 crs electives.) It is recommended that students take the following two courses as electives:

InfoSt 861 (820) Seminar in Intellectual Freedom. 3 cr. G.
L&I SCI 891 Advanced Topics in Library and Information Science (with appropriate topic, such as Feminism, Librarianship and Information). 3cr. G.

Total MLIS Credits: 30 (min of 33 with SOIS thesis option)

Total Credits for Coordinated Program: 54 (57 with thesis)

The credits for the coordinated program would typically be completed in both programs at the same time, rather than one program after the other. A student not completing the requirements for the coordinated degree program would need to complete all requirements for an individual program in order to receive a degree.

Time Limit

Students in the coordinated M.A./MLIS degree program must complete all degree requirements within seven years of the first enrollment semester as a degree student.

Women's & Gender Studies

Courses

401 Global Feminisms. 3 cr. U/G.
Interdisciplinary study of women and gender in international perspective, including topics such as work, religion, ideology, and UN conferences. Prereq: jr st & WGS(Wmns) 200(P) or 201(P); or grad st.

410 Feminist Theory. 3 cr. U/G.
Interdisciplinary survey of theories that shape and inform women's studies and feminist scholarship. Prereq: jr st; WGS(Wmns) 200(P) or 201(P); or grad st.

411 Women's and Gender Studies Research Methods: (Subtitled). 3 cr. U/G.
Interdisciplinary course with focus on women's and gender studies research methods, explored through selected topics such as 'Gendered Bodies.' Not retakable. Prereq: jr st, WGS(Wmns) 200(P) or 201(P), & WGS(Wmns) 410(P) or equiv; or grad st.

497 Study Abroad: (Subtitled). 1-12 cr. U/G.
Designed to enroll students in UWM sponsored program before course work levels, content, and credits are determined and/or in specially-prepared program course work. Retakable w/chg in topic. Prereq: jr st; acceptance for Study Abroad Prog.

500 Advanced Social Science Seminar in Women's and Gender Studies: (Subtitled). 3 cr. U/G.
Theoretical foundations of feminist research and exploration of the tools, methodology and analytical skills employed in interdisciplinary women's and gender studies scholarship. Retakable w/chg in topic to 9 cr combined max for WGS(Wmns) 500 & 501. Prereq: jr st; 6 cr in women's and gender studies.

501 Advanced Humanities Seminar in Women's and Gender Studies: (Subtitled). 3 cr. U/G.

Theoretical foundations of feminist research and exploration of the tools, methodology, and analytical skills employed in interdisciplinary women's and gender studies scholarship. Retakable w/chg in topic to combined max of 9 cr for WGS(Wmns) 500 & 501. Prereq: jr st; 6 cr in women's and gender studies.

535 Philosophical Topics in Feminist Theory: (Subtitled). 3 cr. U/G.
Study of selected feminist theorists with an emphasis on past or contemporary thinkers. Attention will be paid to the philosophical importance of the problems raised. Retakable w/chg in topic to a 6 cr max. Philos 535 & WGS(Wmns) 535 are jointly offered; with same topic, they count as repeats of one another. Prereq: jr st; a course in philos or women's and gender stds.

599 Topics in Women's and Gender Studies: (Subtitled). 1-3 cr. U/G.
Specific topics, cr, and add'l prereqs announced in Schedule of Classes each time course is offered. Retakable w/chg in topic to 9 cr max. Prereq: jr st.

700 Feminist Issues and Scholarship. 3 cr. G.
Advanced introduction to feminist scholarship and research in multiple disciplines and introduction to the disciplinary history of Women's Studies. Prereq: grad st.

701 Advanced Global Feminisms. 3 cr. G.
Interdisciplinary graduate-level course focusing on women, men, and gender relationships in international perspective, including the social and cultural conditions within which they live. Prereq: grad st

710 Advanced Feminist Theory. 3 cr. G.
Interdisciplinary graduate-level seminar on introductory themes, issues, and

conflicts in feminist theory. Prereq: grad st

711 Advanced Women's and Gender Studies Research Methods. 3 cr. G.
Interdisciplinary graduate-level course with focus on Women's and Gender Studies research methods. Not retakable. Prereq: grad st.

799 Advanced Topics in Women's and Gender Studies: (Subtitled). 1-3 cr. G.
Advanced examination and analysis of selected Women's and Gender Studies issues and topics for graduate students. Retakable w/chg in topic to 9 cr max. Prereq: grad st.

820 Women's and Gender Studies Graduate Practicum. 3 cr. G.
Internship, field experience, or related practical experience that provides students the opportunity to apply feminist theories and research methods in a practical context. Prereq: grad st; WGS 710(P) & 711(P).

888 Candidate for Degree. 0 cr. G.
Available for graduate students who must meet minimum credit load requirements. Enroll for 1 cr; fee for 1 cr assessed. Student schedule will show 1N cr; this will be changed to 0 cr for grade report & permanent record. Prereq: grad st.

990 Research and Thesis. 1-3 cr. G.
Reserved for research in connection with master's thesis. Prereq: grad st; cons instr.

999 Advanced Independent Work. 1-6 cr. G.
Independent reading or project; topic selected in agreement with supervising professor. Retakable w/chg in topic to 9 cr max. Prereq: grad st; cons Wmns dir.

Administrative Leadership, Specialist Certificate in

Overview

A master's degree is the minimum prerequisite for admission to the Specialist Certificate. The Certificate can be taken with a career emphasis in the superintendency, the principalship, supervision, central office administration, or adult education administration. A cooperative relationship for the Specialist Certificate exists with the Department of Curriculum and Instruction for students with a reading supervision emphasis.

Eligibility and Admission

Applicants must meet these departmental requirements:

- Completion of a master's degree with a graduate grade point average of 3.5 or above (4.0 scale). The master's degree may be in any field.
- Written statement of professional objectives and educational experience.
- Applicants not meeting the grade point minimum may be admitted upon submission of additional data to be specified by the Department chair.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Credit and course requirements depend upon the applicant's degree field. For an applicant with a master's degree in educational administration, the minimum credit requirement is 21 graduate credits, normally distributed as follows: 18 credits in administrative leadership, and 3 credits in a field-based practicum. As a capstone requirement, students must develop and submit a comprehensive portfolio which includes an action research project for review by faculty. The student must pass both the written part of the portfolio and the oral portfolio defense. Additional coursework may be required for administrative certification.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Advanced Computational Imaging, Graduate Certificate in

Overview

Modern medical imaging systems are complex, high-technology devices. Engineers designing and developing medical imaging systems must have knowledge and understanding around concepts not traditionally available in bachelor's degree programs in engineering or computing. Such concepts include:

- Mathematical foundations of tomography (images constructed from a series of "slices").
- Image artifacts that distort the images and how to correct them.
- Hardware and software for the embedded computing systems that are used to implement image construction and correction.

This program fills a need to prepare engineers with the knowledge, understanding, and abilities essential for a successful career in modern medical imaging systems.

Eligibility and Admission

Students must have:

1. A baccalaureate degree.
2. A minimum 2.75 cumulative undergraduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

A minimum of 15 credits of which at least 12 credits must be taken at UWM.

One course that surveys medical imaging. This may be any of these four courses:

ElecEng 437 Introduction to Biomedical Imaging, 3cr
Physics 782: Physics of Medical Imaging, 3cr
CompSci 657 Topics in Computer Science: GE Healthcare Advanced Course on Medical Imaging (Edison A), 3cr
ElecEng 490 Special Topics: GE Healthcare Advanced Course on Medical Imaging (Edison A), 3cr

Two courses on tomography foundations and algorithms:

ElecEng 716 Tomography: Imaging and Image Reconstruction, 3cr
ElecEng 717 Tomography: Image Quality and Artifact Correction, 3cr

Two courses on computer engineering concepts used in building medical imaging systems

ElecEng/CompSci 545 FPGA Embedded CPUs & Firmware Development, 3cr
CompSci 729 Real-Time Operating Systems, 3cr

Students who have taken ElecEng 437 or ElecEng/CompSci 545 or their equivalents as an undergraduate may substitute a relevant graduate course with the approval of the Certificate program. The program maintains a list of suggested substitute courses. The current list is:

ElecEng/CompSci 711 Pattern Recognition – Statistical, Neural, and Fuzzy Approaches, 3cr
ElecEng/CompSci 712: Image Processing, 3cr
ElecEng/CompSci 713: Computer Vision, 3cr
CompSci 718: Advanced Computer Graphics: Modeling and Animation, 3cr
CompSci 758: Advanced Computer Architecture, 3cr
CompSci 762: Fault-Tolerant Computing, 3cr

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be transferred from graduate-level coursework relevant to computational imaging taken at other institutions. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Applied Data Analysis Using SAS®, Graduate Certificate in

Overview

The Graduate Certificate in Applied Data Analysis Using SAS® is a multidisciplinary program that fosters knowledge and programmatic skills in data management and statistical analysis using SAS software. The certificate's curriculum is designed for students with diverse career goals, but at its core, it focuses on the job roles of SAS Programmer, Data Analyst, and Data Scientist. A person in one of these roles typically accesses and manages data, performs complex queries, and conducts and interprets statistical data analyses. Upon completion of the certificate program, students will not only earn the SAS-sponsored joint certificate from UWM, but they will also be prepared to take two globally recognized Programming Certification exams either through the SAS Institute or on-site at UWM:

- Base SAS Programming Certificate
- Advanced SAS Programming Certificate

Students are required to take a total of 18 credits toward the completion of the certificate. The mandatory core courses in programming and regression analysis make up 12 credits (6 credits fixed, 6 credits flexible) and an additional 6 credits are to be taken as electives. The program's curriculum stimulates interdisciplinary skill acquisition and research by requiring students to enroll in courses from at least two academic units. Students can choose courses from Business Administration, Business Management, Economics, Educational Psychology, Political Science, Public Health, Social Work, and Sociology to satisfy the certificate's credit requirements.

Post-baccalaureate students will be interested in this certificate program because it provides a valuable skill set without pursuing a full graduate degree. Graduate and post-graduate students will find this certificate program appealing as it complements many existing degree programs at UWM and should give graduates a competitive edge on the job market.

Eligibility and Admission

Students must have earned a bachelor's degree with a minimum cumulative grade point average (GPA) of 2.75 to be able to apply for the certificate program. Students who already hold a graduate degree must have earned that degree with a minimum cumulative GPA of 3.00 when applying for the certificate program.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

18 credits

Core courses – Required (6 credits)
 SOC WRK 718 Introduction to SAS Programming (3 cr)
 SOC WRK 719 Advanced SAS Programming (3 cr)

Core courses – Flexible (6 credits minimum)
 Bus Adm 714 Multivariate Techniques in Management Research (3 cr)
 BUS MGMT 709 Analytic Models for Managers (3 cr, online)
 ECON 703 Econometrics (4 cr)
 ECON 710 Applied Econometrics (3 cr)
 ED PSY 724 Educational Statistical Methods II (3 cr)
 ED PSY 820 Multiple Regression (3 cr)
 PH 702 Introduction to Biostatistics (3 cr)
 PH 707 Introduction to Statistical Computing (1 cr)
 PH 711 Intermediate Biostatistics (3 cr)
 POL SCI 701 Techniques of Political Science Research (3 cr)
 POL SCI 702 Advanced Techniques of Political Science Research (3 cr)
 SOC WRK 961 Introduction to Statistical Methods (4 cr)
 SOC WRK 962 Applied Multiple Regression Analysis (3 cr)

Electives (6 credits minimum)
 Bus Adm 713 Business Forecasting Methods (3 cr, online)
 Bus Adm 762 Marketing Research (3 cr)
 ECON 709 Industrial Organization II (3 cr)
 ED PSY 825 Multivariate Methods (3 cr)
 ED PSY 826 Analysis of Cross-Classified Categorical Data (3 cr)
 ED PSY 832 Theory of Hierarchical Linear Modeling (3 cr)
 POL SCI 935 Seminar in Advanced Political Science Methodology (3 cr)
 SOCIOL 752 Fundamentals of Survey Methodology (3 cr)
 SOC WRK 791, Section 004: Introduction to Data Mining and Predictive Modeling (3 cr)

Additional elective courses can be chosen with prior consent of the program committee.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Transfer courses must have been completed within the last 3 years with grades of B or higher. Students must provide evidence that the transfer courses are substantially the same as the core or elective courses. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Applied Gerontology, Graduate Certificate in

Overview

The Graduate Certificate in Applied Gerontology is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within aging services organizations or academic research in aging.

Eligibility and Admission

Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students wishing to earn a Graduate Certificate in Applied Gerontology must complete 18 graduate credit hours. No student may complete all 18 credits within a single school or college.

Core Courses (6 credits)

Nurs 760 Processes of Aging (3 credits)
Soc Wrk 851 Social Issue and Policy Analysis: with the subtitle "Age and Community: Policy to Practice" (3 credits)

Choice Core (6 credits min)

Students must choose 6 credits from the following "Choice Core":

ADLSP 547 – The Educational Dimensions of Practice with Older Adults (3 credits)
PSYCH 680 – Psychology of Aging (3 credits)
Soc Wrk 685 – Social Gerontology (3 credits)
Soc Wrk 791 – Current Topics: Death and Dying – Aging section only (3 credits)
THEATRE 699 – Creativity in Health Settings (3 credits)

Electives (6 credits)

Students will work with the Certificate Coordinator to approve the selection 6 credits from the remaining Choice Core classes and additional electives, including a "Practicum" in the student's home department or area of choice.

Students must complete an Integrative Portfolio as a final project under the guidance of the Certificate Coordinator and an assigned advisor. This Portfolio includes papers/materials from core courses and an introduction and reflective conclusion that integrates the key concepts from the interdisciplinary coursework and identifies potential impact on their future practice in research or aging services.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Archives and Records Administration, Certificate of Advanced Study in

Overview

The Certificate of Advanced Study (CAS) in Archives and Records Administration is designed to help working professionals to update their knowledge in core areas of their responsibilities or to develop another specialty in a library-information area. It will enable students to either alter the direction of a career path or to enrich, update, and strengthen their skills and their knowledge of their field.

Eligibility and Admission

A Master of Library and Information Science degree or a master's degree in a closely related field such as computer science, educational technology, or history with a minimum of a 3.0 grade point average is required for admission.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The CAS candidate will complete 15 credits of coursework, planned in conjunction with his or her advisor, and approved by the Dean of the School of Information Studies as an individually designed program suited for the needs and professional objectives of the student.

A minimum of 12 credits must be taken in the School of Information Studies. Up to 3 credits may be taken in another school or department of UWM. Students may obtain up to three credits in independent study which is included as a part of the total approved program.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No credits may be taken at an institution other than UWM.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.

2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Art Museum Studies, Certificate in

Overview

Enrollment in [Art History M.A. program](#) is required for this certificate.

The Certificate in Art Museum Studies is designed as an addition to the M.A. in Art History for students interested in pursuing careers in the museum world.

Eligibility and Admission

A student must be enrolled in the Art History M.A. program to pursue this certificate.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students seeking the certificate must complete the requirements for the [M.A. in Art History](#) and a minimum of 12 additional credits in Art History as follows:

- 703 Introduction to Art Museum Studies I, 3 cr
- 704 Introduction to Art Museum Studies II, 3 cr
- 991 Thesis Exhibition (an exhibition accompanied by a scholarly catalogue), 3 cr
- 891 Art Museum Internship, 3-6 cr

No more than 3 credits of 891 may be taken in a single semester.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Assistive Technology and Accessible Design, Certificate in

Overview

The Certificate in Assistive Technology and Accessible Design is an interdisciplinary program designed to meet the demand for assistive technology and accessible design specialists. The Departments of Occupational Science and Technology and Communication Sciences Disorders in the College of Health Sciences, along with the Department of Exceptional Education in the School of Education, collaborate on the course offerings and management. The certificate follows a model of prerequisite disability and technology basic knowledge, survey of the fields, assessment, intervention and leadership. Completion of the certificate will help prepare the students to sit for State and National certification examinations as Assistive Technology Specialists, Rehabilitation Engineering Technologist and Low Vision Specialist.

Eligibility and Admission

Students interested in this certificate should contact one of the three sponsoring programs before enrolling in any certificate courses. Admission to the certificate requires evidence of a basic knowledge of disability and computer applications, and an undergraduate GPA of at least 2.75 or a graduate GPA of at least 3.0. Generally, students in the health sciences and exceptional education will have sufficient coursework in disability related studies. Prerequisite evidence in disability related studies may be obtained at the undergraduate level. One of the following is recommended to meet the computer applications requirement.

ExEd 730 Assistive and Instructional Technology for Students with Disabilities, 3 cr

OccThpy 750 Computer applications in Occupational Therapy practice, 3 cr

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The Certificate in Assistive Technology and Accessible Design requires completion of a minimum 15 credits as listed below. In special circumstances, the ATAD coordinator and advisory board may approve substitution of an equivalent Assessment or Intervention course relevant to assistive technology and adaptive design as appropriate.

Introduction (3 cr, must be taken at graduate level)

OccThpy 620 Introduction to Assistive and Rehabilitation Technology, 3 cr

(Alternate related graduate-level course can substitute if this course has been completed on an undergraduate level.)

Assessment (3 cr)

ExcEduc 765 Assistive Technology Service Delivery in Schools, 3 cr
ComSDis 715 Assessment and Intervention in Augmentative and Alternative Communication, 3 cr
OccThpy 770 Assessment in Assistive Technology and Accessible Design, 3 cr

Intervention (3 cr – any U/G course must be taken at graduate level)

OccThpy 625 Design and Disability, 3 cr
OccThpy 595 Vision I: Introduction to Low Vision and Vision Impairment, 3 cr
OccThpy 596 Vision II: Practical Aspects of Visual Impairment & Low Vision Intervention, 3 cr
OccThpy 593 Introduction to Biomedical and Rehabilitation Instrumentation, 3 cr
OccThpy 999 Advanced Independent Study, 1-3 cr
ExEd 735 Technology and Instruction for Students with Disabilities, 3 cr
ExEd/OccThpy 777 Fieldwork in Assistive Technology, 3 cr
ExEd 799 Independent Reading, 1-3 cr
ComSDis 717 Special Populations in Communication Disorders, 2 cr
ComSDis 791 Research Experience, 1 cr
ComSDis 799 Independent Studies, 1-3 cr

Elective (3 cr)

Additional 3 credits may be selected from either Assessment or Intervention list

Capstone (3 cr, must be taken at graduate level)

OccThpy 660 Assistive and Rehabilitation Technology (online), 3 cr

Minimum Grade Requirement

To be awarded the certificate, students must earn a minimum grade of B in the certificate courses (B- not allowed).

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

Assistive Technology and Accessible Design, Certificate in

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Autism Spectrum Disorders Certificate, Graduate

Overview

The Graduate Autism Spectrum Disorder Certificate program is an interdisciplinary certificate where the broad goal is to provide a foundation in the causes and characteristics of ASD, and interventions in various areas (e.g., communication, sensory needs, etc.). In addition, this certificate addresses challenges with assessment and early identification of children with ASD in diverse communities. The elective courses address areas related to addressing the unique needs of individuals on the spectrum, such as their language development needs and behavioral needs.

Eligibility and Admission

- Applicants must have completed a bachelor's degree prior to admission, with a minimum 2.75 cumulative undergraduate grade point average.
- Applicants with a graduate degree must have a minimum 3.0 graduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

This certificate program requires 15-18 credits. Students take two required courses and then, in consultation with the Program Coordinator, they choose to take their remaining 9 elective credits, either within the **Communication, Psychology, or Exceptional Education** strand. Students who do not choose to focus on a specific strand would take courses across strands equaling 9 elective credits total. Students may choose to add an additional 3 credit field/clinical course to their certificate program, bringing the total number of credits to 18.

Tentative List of Courses

Two Required Core Courses

ExcEduc 760 Foundations of Autism Spectrum Disorders (3 cr, G)

ExcEduc 761 Methods for Working with Individuals with Autism (3 cr, G)

Electives

Option 1

Select 3 elective courses **within one strand** below to complete the certificate

Option 2

Select 3 elective courses **across** strands below to gain a broader experience.

Option 3

Take elective courses either within one strand or across strands and add a field course from the list of optional field courses below.

Strand #1 – Communication (9 credits total)

ComSDis 706 Language assessment and intervention: birth to 5 years (2 units; G) – Spring

ComSDis 715 Assessment and intervention in augmentative and alternative communication (3 units; G) –Spring

ComSDis 717 Special populations in Communication Disorders (2 units; G) –Spring

ComSDis 720 (902) Advanced Clinical Practice in Speech-Language Pathology (1-3 cr. G) - Offered all semesters.

ComSDis 799 Independent Studies (1-3 cr; G) Offered all semesters.

Strand #2 - Psychology (10 credits total)

PSYCH 502 Applied Behavioral Analysis (4 units; U/G) – Fall

PSYCH 714 Conditioning and Learning (3 units; G) –Fall

PSYCH 736 Functional Assessment and Interventions (3 units; G) –Every other Spring

Note: Students choosing the Psychology Strand will complete a total of 16 cr for the certificate.

Strand #3 – Exceptional Education (9 credits total)

ExcEduc 671 – Behavior Supports & Intervention for Middle/High Students with Disabilities (3cr; U/G) – Fall

ExcEduc 762 Academic and Social Challenges of Individuals with ASD: Advanced Interventions (course to be approved)

ExcEduc 775, Fieldwork with Individuals Having ASD (3cr; G; prerequisites ExcEduc 760 & ExcEduc 761; may be taken concurrently with ExcEduc 761) – All semesters

Optional 3 Credit Field Course

ExcEduc 775, Fieldwork with Individuals Having ASD (3cr; G; prerequisites ExcEduc 760 & ExcEduc 761; may be taken concurrently with ExcEduc 761) – All semesters OR

PSYCH 692, Field Placement in Psychology (3 cr; U/G) - Fall

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as the course being substituted. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:

Autism Spectrum Disorders Certificate, Graduate

- Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Business Analytics, Graduate Certificate in

Overview

This certificate is designed for students who desire a sequence of graduate-level courses that focus specifically on Business Analytics and that are delivered through an online instructional environment. The focus of the certificate is to train individuals to meet the growing global need for professionals with skills in Analytics tools and techniques. Students who complete this certificate will gain a substantial competitive edge in pursuing a career as a business analytics manager, business intelligence consultant, business analytics systems analyst, business analytics solution architect, business intelligence specialist, business intelligence analyst, business intelligence developer, BI & reporting manager, data mining/reporting analyst, marketing analytics consultant, or online marketing analytics manager.

Eligibility and Admission

Students currently enrolled in a UWM graduate program are eligible to earn the Graduate Certificate in Business Analytics. Persons not currently enrolled must apply for admission to the Certificate and must possess, at a minimum, a bachelor's degree with an overall GPA of 2.75 or better.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Curriculum — 15 credits

Required

BusMgmt 709 Predictive Analytics for Managers 3 cr

Electives – 12 credits, choose from:

Bus Adm 713 Business Forecasting Methods 3 cr

Bus Adm 741 Web Mining and Analytics 3 cr

Bus Adm 763 Marketing Analytics 3 cr

Bus Adm 769 Database Marketing 3 cr

Bus Adm 816 Business Intelligence Technologies & Solutions 3 cr

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:

- Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Chamber Music Performance, Certificate in

Overview

This certificate is designed for the instrumentalist who is admitted by audition to the Institute of Chamber Music at UW-Milwaukee. The major focus of the Institute of Chamber Music is to provide professional training experiences in the performance of chamber repertoire through well-matched chamber ensembles from duos through large chamber ensembles.

Eligibility and Admission

Students in the Institute of Chamber Music are admitted for a two-year program of study. Students are either part of an existing chamber group before entrance or, when admitted, assigned to a group. If the first-year group does not continue for a second year, the student must re-audition for membership in a new or reconstituted group that is acceptable to the faculty in order to continue for a second year of study.

At the end of the first year, each student's performance is judged by the Director of the Institute in consultation with the members of the ICM advisory committee. If a student does not meet the required performance level, the student is prevented from continuing in the Institute for a second year. The student may, if acceptable to the Department graduate faculty, choose to follow another graduate program in the Department.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Minimum certificate requirement is 24 credits. Each student follows an integrated curriculum in which all subjects are related and no course is optional.

Specific Required Courses – 12 cr

Music 806 Chamber Music Master Class, 4 cr

Music 835 Chamber Music Coaching, 8 cr

Group Recital Requirement (met at end of program)

MusPerf 855 Instrumental Master Class, 4 cr (1 cr each for 4 semesters)

MusPerf 8xx Performance (Instrument Lessons), 8 cr (2 cr each for 4 semesters)

Thesis Recital

The recital should be given no sooner than the final semester of coursework. The student ensemble must present a program which has been approved by the Graduate Committee and by the Director of the Institute of Chamber Music.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Children's Mental Health Certificate for School Professionals — Online

Overview

The Children's Mental Health Certificate for School Professionals is designed to give education professionals an understanding of mental health disorders and treatment among children and adolescents in school-based settings, particularly in urban areas. It emphasizes a preventive approach to meeting the mental health needs of children by using a collaborative, problem-solving process that is inclusive of the diverse skills of school-based professionals (e.g., teachers, school social workers, school nurses, school counselors, and administrators). It is not intended to provide preparation for licensure as a mental health professional.

Courses in the certificate program are focused on the epidemiology of mental health disorders among children, multicultural issues in the development and treatment of children's mental health disorders, influence of stressors in urban environments on mental health, cultivation of collaboration among school professionals to address mental needs of children, and the impact of mental health difficulties on academic achievement.

This is a 15-credit, online certificate program at the post-baccalaureate, graduate, and post-graduate levels. Students will be admitted on an annual basis.

Eligibility and Admission

Post baccalaureate: Minimum 2.75 undergraduate GPA, submit undergraduate transcripts and letter of intent.

Current graduate students: minimum 3.0 cumulative GPA; submit current transcript and letter of intent.

Post graduate: submit graduate transcript and letter of intent.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

15 graduate credits as follows:

Ed Psy 710 Child and Adolescent Mental Health Issues in Schools 3 cr
Ed Psy 711 Cultural Context of Children's Mental Health 3 cr
Ed Psy 712 Mentally Healthy Classroom and School Environments 3 cr
Ed Psy 713 Mental Health Needs in Urban Environments 3 cr
Couns 805 Consultation Strategies for Counselors and School Psychologists, 3 cr
(or approved alternative)

The certificate is conferred on completion of all courses with a grade of B or better.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No credits may be taken at an institution other than UWM.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Clinical Nurse Specialist Postgraduate Certificate

Overview

The Clinical Nurse Specialist Postgraduate Certificate is designed to provide advanced practice preparation as a Clinical Nurse Specialist (CNS) to nurses who hold a Master's degree in Nursing and are prepared for other roles or population groups. The student will choose one of the following populations: adult/gerontology, pediatric, maternal/infant, or psychiatric/mental health. The program will be taught online with clinical preceptor placements as close as possible to a student's geographic location.

Certification and Licensing

On completion of the CNS Certificate program, graduates with a population focus on adult/gerontology or pediatrics will be eligible to take the national CNS certification exams in adult/gerontology or pediatrics offered by American Nurses Credentialing Center (ANCC, 2013) or by the American Association of Critical Care Nurses (AACN) Certification Corporation (AACN, 2014). Upon successful completion of the CNS certification exam, graduates may choose to apply for prescriptive privileges in the state of Wisconsin as an Advanced Practice Nurse Prescriber or APNP (Wisconsin DSPS, 2013). Currently, CNS certification exams are not available for the maternal/infant or psychiatric/mental health populations.

Eligibility and Admission

Applicants must meet the following requirements to be eligible for admission to the program:

1. A minimum 3.0 (4.0 scale) cumulative grade point average (GPA) is required in previous undergraduate and graduate programs.
2. *Prerequisites:* Graduate courses (3 credits each) in physiology, physical assessment, and pharmacology are required with a grade of B or better. Physiology and physical assessment must be within the previous 5 years and pharmacology must be within 3 years. Note: Evidence of prescriptive authority granted through a state board of nursing will be accepted in place of graduate pharmacology.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Send official transcripts from non-UWM undergraduate and graduate coursework to the Graduate School.
- Submit the following to the College of [Nursing Student Affairs](#) office:
 - Letters of reference from at least three persons.
 - Autobiographical sketch including professional activities, rationale for certificate study, strengths, population of interest, and career goals.
 - Current resume.
 - Nursing license.

Certificate Requirements

Credits and Courses

The CNS Certificate consists of 18 credit hours of coursework. All courses are 3 credits each and are offered in a three-semester sequence so the program can be completed in 12 months. The three practicum courses vary by population focus and must be taken sequentially. The three theory courses vary by population focus and the plan for theory coursework must be approved by the CNS option coordinator. The three courses must be graduate level (700 or above) and provide content across the continuum from wellness through acute care for the selected population.

Adult/Gerontology Track

Clinical 9 credits required

NURS 832 Clinical Nurse Specialist Practicum I-Adult/Gerontology
 NURS 833 Clinical Nurse Specialist Practicum II-Adult/Gerontology
 NURS 834 Clinical Nurse Specialist Practicum III-Adult/Gerontology

Theory 9 credits required

Recommended courses may include:

NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Adult/Gerontology Acute Illness"
 NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Adult/Gerontology Chronic Illness"
 NURS 760 Processes of Aging

Pediatric Track

Clinical 9 credits required

NURS 817 Clinical Nurse Specialist Practicum I-Pediatric
 NURS 818 Clinical Nurse Specialist Practicum II-Pediatric
 NURS 819 Clinical Nurse Specialist Practicum III-Pediatric

Theory 9 credits required

Recommended courses may include:

NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Pediatric Acute Illness"
 NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Pediatric Chronic Illness"
 NURS 779 Special Topics Seminar with subtitle "Theoretical Foundations for Child Health"
 NURS 762 Family Theory and Intervention Strategies for Advanced Nursing Practice
 SOC WRK 771 Development of the Family Over the Life Span

Maternal/Infant Track

Clinical 9 credits required

NURS 814 Clinical Nurse Specialist Practicum I-Maternal/Infant
 NURS 815 Clinical Nurse Specialist Practicum II-Maternal/Infant
 NURS 816 Clinical Nurse Specialist Practicum III-Maternal/Infant

Theory: 9 credits required

Recommended courses may include:

NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Health Promotion for Women and Childbearing Families"
 NURS 779 Special Topics Seminar with subtitle "Advanced Practice Nursing-Women and Childbearing Families with Acute and Chronic Health Conditions"
 NURS 779 Special Topics Seminar with subtitle "Special Topics Seminar with subtitle Maternity and Perinatal Care"
 NURS 763 Issues in Women's Health and Development

Clinical Nurse Specialist Postgraduate Certificate

Psychiatric/Mental Health Track

Clinical: 9 credits required

NURS 811 Clinical Nurse Specialist Practicum I-Psychiatric/Mental Health

NURS 812 Clinical Nurse Specialist Practicum II-Psychiatric/Mental Health

NURS 813 Clinical Nurse Specialist Practicum III-Psychiatric/Mental Health

Theory: 9 credits required

Recommended courses may include:

COUNS 715 Multicultural Counseling

NURS 774 Trauma Counseling I: Theory and Research

NURS 775 Trauma Counseling II: Diagnosis and Treatment

ED PSY 752 Pediatric Psychopathology

SOC WRK 753 Adult Psychopathology

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Digital Libraries, Certificate of Advanced Study in

Overview

The Certificate of Advanced Study (CAS) in Digital Libraries is designed to help working professionals update their knowledge and develop specialty relating to the acquisition, organization and maintenance of digital content, virtual collections and services. It will enable students to either alter the direction of a career path or to enrich, update, and strengthen their skills and their knowledge of their field.

Eligibility and Admission

A master of library and information science degree or a master's degree in a closely related field such as computer science or educational technology with a minimum of a 3.0 grade point average is required for admission.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The CAS candidate will complete 15 credits of coursework, planned in conjunction with his or her advisor, and approved by the Dean of the School of Information Studies as an individually designed program suited for the needs and professional objectives of the student.

A minimum of 12 credits must be taken in the School of Information Studies.

No thesis is required, but students may obtain up to 3 credits in independent research which is included as a part of the total approved program.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain

the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Educational Policy, Graduate Certificate in

Overview

The Graduate Certificate in Educational Policy prepares professionals to work in policy analysis as analysts, educational researchers, and policymakers in a range of levels, including local school districts, state agencies, nonprofit agencies, as support for elected officials, and the like.

Eligibility and Admission

Applicants must have completed a bachelor's degree prior to admission, must have a minimum 2.75 cumulative undergraduate grade point average, and must declare their intent to pursue the certificate before completion of six credits in the certificate sequence. Applicants with a graduate degree must have a minimum 3.00 graduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The Graduate Certificate in Educational Policy requires the completion of 15 credits of graduate work: 6 core credits, 3 credits of quantitative methods, and 6 credits of electives, chosen in collaboration with the program coordinator.

Ed Policy Core (6 credits)

Ed Pol 613 (512) Context and Foundations of Educational Policy
Ad Lead 832 Educational Politics and Policymaking

Quantitative Methods (3 credits)

Qualifying courses must include multiple linear regression. Acceptable options at UWM include:

Ed Psy 624 Educational Statistical Methods I
PoliSci 701 Techniques of Political Science Research
UrbPlan 740 Data Analysis Methods I
Sociology 979 Methods of Research and Analysis for Urban Social Institutions I
Other equivalent courses can also fulfill this requirement, as determined by department

Focus Courses (6 credits total; student's choice)

Ad Lead 710 Organizational Change and Team Leadership
Ad Lead 862 School Finance

Advanced Statistical Methods Course (to be chosen with advisor)

Comm 862 Public Deliberation
Ed Pol 561 Education Issues in American Indian Communities
Ed Pol 602 Proposal Writing and Fundraising Skills for Community-Based Organizations
Ed Pol 610 Reproduction of Minority Communities
Ed Pol 612 Community Participation and Power
Ed Pol 621 History of Native Education and Policy Development

Ed Pol 622 Community Policy Analysis (to be developed)
Ed Pol 625 Race Relations in Education
Ed Pol 630 Race and Public Policy in Urban America
Ed Pol 670 History of Urban Education Reform Policies
Ed Pol 680 Urban Education Policies: Problems and Opportunities
Ed Pol 822 Global Educational Studies
Poli Sci 749 Seminar in American Political Institutions

Other courses may be chosen in conjunction with student's advisor.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. To be eligible for transfer, the course must have been completed within the last 2 years. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Energy Engineering, Certificate in

Overview

With the rapid dwindling of energy resources, there is a great demand for workers in various fields to keep themselves abreast of the latest technology in solving and planning for the energy shortage and efficient use of energy. This interdisciplinary Certificate in Energy Engineering Program is open to post-baccalaureate students who are interested in continuing education for career development or gaining experience in the energy area. In particular, the Program will provide basic knowledge on the design of electrical and mechanical devices and systems and yet has adequate flexibility for students to focus on certain areas in energy according to their own discretion in advanced courses.

Eligibility and Admission

Students must have a baccalaureate degree. A minimum 2.75 cumulative undergraduate grade point average is required.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera Admission Application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

To obtain the certificate, students are required to complete a minimum of 15 credits from the lists of Groups A and B courses of which at least 12 credits must be taken at UWM.

Students must complete at least two courses from Group A to obtain an Energy Engineering Certificate. Additional electives can be chosen from Group B. At least 6 credits must be 700-level or above. A maximum of 3 credits of independent study may be applied toward the certificate.

Group A Credits

ElecEng 471 Electric Power Systems 3 cr
 ElecEng 572 Power Electronics 3 cr
 ElecEng 574 Intermediate Control Systems 3 cr
 ElecEng 575 Analysis of Electric Machines and Motor Drives 3 cr
 MechEng 432 Internal Combustion Engines 3 cr
 MechEng 434 Air Conditioning System Design 3 cr
 MechEng 435 Power Plant Theory and Design 3 cr
 MechEng 436 Solar Engineering 3 cr
 ElecEng 781 Advanced Synchronous Machinery 3 cr
 ElecEng 872 Computer Analysis of Electric Power Systems 3 cr
 ElecEng 890 Special Topics: Advanced Power Electronics 3 cr
 ElecEng 890 Special Topics: Automotive Power Systems (New Course) 3 cr
 ElecEng 890 Special Topics: Renewable Energy Systems (New Course) 3 cr
 ElecEng 999 Advanced Independent Study 1-3 cr
 MechEng 702 Advanced Engineering Thermodynamics 3 cr
 MechEng 703 Principles of Combustion 3 cr
 MechEng 710 Advanced Transport Processes 2 cr

MechEng 711 Thermal Radiation and Conduction 3 cr
 MechEng 712 Convection Heat and Mass Transfer 3 cr
 MechEng 714 Energy Transport in Microscale Systems 3 cr
 MechEng 716 Two-Phase Flow 3 cr
 MechEng 721 Fundamentals of Fluid Flow 3 cr
 MechEng 722 Advanced Fluid Mechanics 3 cr
 MechEng 723 Computational Fluid Dynamics and Heat Transfer 3 cr
 MechEng 725 Fluid Power and Turbomachinery 2 cr
 MechEng 999 Advanced Independent Study 1-3 cr

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be transferred from energy-related, graduate-level coursework taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Enterprise Resource Planning, Graduate Certificate in

Overview

The Graduate Certificate in Enterprise Resource Planning is designed for students who desire a sequence of graduate-level courses that focus specifically on the Enterprise Resource Planning (ERP) area. This five-course sequence prepares students for the SAP TERP10 certification exam. The market demand for professionals with skills in this area is quite high.

Eligibility and Admission

Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

To obtain the certificate, a student must complete 15 credits of required coursework.

Required Courses (15 credits):

Bus Mgmt 732 Enterprise Resource Planning, 3cr
Bus Adm 811 Process and Work-Flow Management, 3cr
Bus Adm 816 Business Intelligence Technologies & Solutions, 3cr
Bus Mgmt 733 Enterprise Simulation Game, 3cr
Bus Mgmt 734 Enterprise Resource Planning Certification (capstone), 3cr

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Ergonomics, Certificate in

Overview

The Certificate in Ergonomics is being revised; admission to the program is temporarily suspended.

The Certificate in Ergonomics program is designed to provide a formal program of study for students who wish to pursue careers in ergonomics in industry, government, or academia.

Eligibility and Admission

Students wishing to earn the certificate must be enrolled in a UWM master's or doctoral degree program in any department or be admitted as UWM non-degree graduate students (see below).

Graduate non-degree applicants can be admitted to CEAS provided they meet one of the following requirements:

- A bachelor's or higher degree with a GPA of 2.75 or better in engineering, medicine, industrial hygiene, safety, physical therapy, occupational therapy, nursing, educational psychology, human kinetics.
- A bachelor's or higher degree with a GPA of 2.75 or better with evidence of at least one year of experience in ergonomics and/or occupational health and safety related area.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students must complete the required 15 credit hours with a GPA of 3.0 or better from the following group of courses:

I&ME 580 Ergonomics of Workplace, 3 cr.
I&ME 780 Advanced Ergonomics – Low Back Pain, 3 cr.
I&ME 783 Advanced Ergonomics – Upper Extremity, 3 cr.
I&ME 786 Issues In Ergonomics: Measurement and Statistics, 1 cr.
I&ME 787 Issues In Ergonomics: Epidemiology, 1 cr.
I&ME 788 Issues In Ergonomics: Legal/Regulatory, 1 cr.
I&ME 790 Design Project, 3 cr.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Post Master's Family Nurse Practitioner Certificate

Overview

The post master's family nurse practitioner certificate is designed for registered nurses that have already completed a master's degree in nursing and wish to pursue preparation as a family nurse practitioner.

Eligibility and Admission

The admission requirements of the post master's family nurse practitioner program are consistent with those requirements specified by the Graduate School of the University of Wisconsin-Milwaukee. In addition, students must also meet the following requirements for the College of Nursing:

1. A master's degree in Nursing from an accredited program.
2. Completion-with a grade of B or better-of a graduate-level course in physiology, pharmacology, comprehensive assessment, and epidemiology. Evidence of prescriptive authority in the state of Wisconsin will be accepted in place of graduate pharmacology.
3. Current registration as a professional nurse in the state of Wisconsin.
4. Three (3) letters of recommendation, two (2) of which are from persons most knowledgeable about the applicant's recent academic and work experiences. Personal interviews with a faculty member may be requested.
5. Completion of an autobiographical sketch.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Designated coursework in the certificate program is completed under the direction of faculty experts and clinical preceptors. A three consecutive semester sequence of theory and practicum courses totaling 18 credits is required for completion of the post master's family nurse practitioner certificate program.

Family Nurse Practitioner Theory Courses (9 credits)

- 767 Family Nurse Practitioner Theory I, 3 cr.
- 768 Family Nurse Practitioner Theory II, 3 cr.
- 769 Family Nurse Practitioner Theory III, 3 cr.

Family Nurse Practitioner Practica Courses (9 credits)

- 757 Family Nurse Practitioner Practicum I, 3 cr.
- 758 Family Nurse Practitioner Practicum II, 3 cr.
- 759 Family Nurse Practitioner Practicum III, 3 cr.

Minimum Grade Requirement

For continuation in the program, in addition to general Graduate School requirements students must achieve a minimum grade of B in all required

FNP practicum courses and a minimum grade of B- in all other required courses.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Geographic Information Systems, Certificate in

Overview

The Certificate in Geographic Information Systems is designed for those individuals seeking careers as GIS specialists, providing geographic data management, spatial analysis, and GIS system management support to professionals in a broad range of disciplines, such as criminal justice, health services, city and regional planning, civil and environmental engineering, transportation, and marketing. Certificate holders will seek employment in positions such as "GIS Specialist," "GIS Analyst," or "GIS Coordinator."

The School of Architecture and Urban Planning, and the College of Letters and Science jointly offer the certificate. The core courses (12 credits) focus on the structure of geographic data, components for managing geographic information systems, spatial analysis, and delivery of geographic information through maps and displays. Students select the remaining 6 credits for the certificate from electives, which may include an internship, in areas such as remote sensing, map-making, and data management systems.

Upon completion of the certificate courses, a student is awarded the certificate which qualifies for 5 credential points in the GIS Certification Institute's standards for professional certification in GIS.

Eligibility and Admission

Applicants must have a bachelor's degree with an undergraduate GPA of 2.75 or a graduate degree to be accepted into the certificate program.

For international applicants, whose first language is not English, a score on the Test of English as a Foreign Language (TOEFL) of at least 600 (250 on the computer-based version) or an International English Language Testing System (IELTS) score of 7.0 must also be submitted.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

A minimum of 6 credits each in Urban Planning and Geography courses are required for completion of the certificate. To earn the Certificate, one must complete six semester-long courses (with a minimum of 18 credits), satisfy graduate school criteria for successful completion and maintain at least a B (3.00) average among the following courses:

Required Courses (12 cr)

Tier 1 (select one course)

GEOG 525 Geographic Information Science
UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning

Tier 2 (select one course)

GEOG 625 Intermediate Geographic Information Science
UrbPlan 792 Using Urban Geographic Information Systems (GIS) for Planning

Tier 3 (select two courses)

Geog 403 Remote Sensing: Environmental and Land Use Analysis
Geog 405 Cartography
Geog 647 ArcGIS Programming with Python
Geog 725 Advanced Geographic Information Science: Geographic Modeling
Geog 734 GIS and Society
Geog 960 Seminar: Geographic Techniques
UrbPlan 793 Applied Projects in Urban Geographic Information Systems
UrbPlan 794 Internet Geographic Information Systems
Anthro 562 Techniques and Problems in Archaeology
Bus Adm 749 Data Management Systems

Elective Courses (6 cr.)

Geog 403 Remote Sensing: Environmental and Land Use Analysis (if not selected above)
Geog 405 Cartography (if not selected above)
Geog 515 Watershed Analysis and Modeling
Geog 525 Geographic Information Science (if not selected above)
Geog 547 Spatial Analysis
Geog 625 Intermediate Geographic Information Science (if not selected above)
Geog 647 ArcGIS Programming with Python (if not selected above)
Geog 698 GIS/Cartography Internship
Geog 703 Advanced Remote Sensing
Geog 725 Advanced Geographic Information Science: Geographic Modeling (if not selected above)
Geog 734 GIS and Society (if not selected above)
Geog 750 Remote Sensing and Urban Analysis
Geog 960 Seminar: Geographic Techniques (if not selected above)
Geog 999 Independent Work (with appropriate topic)
UrbPlan 692 Special Topics in Urban Planning: "Transportation Planning and GIS" subtitle
UrbPlan 791 Introduction to Urban Geographic Information Systems for Planning (if not selected above)
UrbPlan 792 Using Urban Geographic Information Systems (GIS) for Planning (if not selected above)
UrbPlan 793 Applied Projects in Urban Geographic Information Systems (if not selected above)
UrbPlan 794 Internet Geographic Information Systems (if not selected above)
UrbPlan 991 Legislative/Administrative Agency Internship
UrbPlan 999 Independent Study
Anthro 380 Anthropological Applications of GIS
Anthro 562 Techniques and Problems in Archaeology (if not selected above)
Anthro 768 Topics in Advanced Research Design in Anthropology
Bus Adm 749 Data Management Systems (if not selected above)
InfoSt 465 Legal Aspects of Information Products and Services
InfoSt 691 Economics of Information
InfoSt 714 Metadata (prerequisites strictly enforced)
Other courses as approved by the GIS Certificate Advisory Committee chairperson
Students will be advised by the Geography and Urban Planning faculty who teach GIS courses.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. To be eligible for transfer, the course must have been completed within the last 2 years. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Gainful Employment Disclosure Information

[UWM Financial Aid Gainful Employment](#)

[Gainful Employment Disclosure Information](#)

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Health Professional Education Certificate

Overview

The health professional education certificate is designed to provide health professionals with additional preparation in educational principles and theory to support them in their roles as educators of students and staff in the health professions as well as in the role of patient educator. This program is open to students simultaneously enrolled in a graduate degree program, as well as to health professionals who have completed a baccalaureate, master's, or doctoral degree. The certificate program is a collaborative program between the College of Health Sciences and Schools of Nursing and Education, and is coordinated through the College of Nursing.

Eligibility and Admission

Applicants are admitted to the certificate program in one of three categories: post-baccalaureate, current student in a UWM graduate health profession program, or post-graduate student.

1. Post-baccalaureate students must have completed a bachelor's degree in a health profession discipline with a grade point average of 2.75 or above (4.0 scale) and not be currently enrolled in a graduate degree program at UWM.
2. The admission requirements of the health professional educational certificate for students enrolled in good standing in a UWM graduate health profession program are consistent with those requirements specified by the program.
3. Post-graduate students must have completed a graduate degree in a health profession or related discipline with a grade point average of 3.0 or above (4.0 scale).

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.

Certificate Requirements

Credits and Courses

The completion of 15 credit hours (5 courses) is required for the certificate program. All students are required to complete 2 core courses, Principles & Foundations of Adult Education (3 credits) and Practicum & Seminar in Health Professional Education (3 credits). In addition students will complete 3 credits in the area of curriculum/program planning and evaluation, 3 credits in teaching/instructional strategies, and 3 credit hours in an elective area. A current listing of courses that meet these requirements can be obtained from the College of Health Sciences or the College of Nursing. Students will need to maintain a 3.0 GPA and meet all other requirements of the Graduate School for continuation in the program. The Practicum and Seminar in Health Professional Education is the last course taken in the certificate program.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Interdisciplinary Language and Literacy Intervention Certificate (ILLI)

Overview

This graduate certificate program offers a unique opportunity for students interested in language and literacy intervention to gain and apply knowledge about research, theory and practice across a variety of relevant disciplines. Prospective language and literacy specialists venturing into today's school environments would benefit from an understanding of leadership, teaching and learning theory, research, and effective practice across the broad range of disciplines involved in interventions. Successful interventionists require many tools to teach, as well as the skills to know when and how to apply those tools. These skills come from a critical, reflective understanding of the research and theory, as well as a complex problem-solving approach to assessment and instruction. The 16-credit certificate program is multi-disciplinary, drawing upon current coursework in Educational Psychology, Curriculum and Instruction, and Exceptional Education in the School of Education, as well as courses in Communication Sciences and Disorders in the College of Health Sciences.

Eligibility and Admission

Applicants must have completed a bachelor's degree prior to admission, must have a minimum 2.75 cumulative undergraduate grade point average. Applicants with a graduate degree must have a minimum 3.0 graduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Sixteen credits are required as indicated below:

Required Core Courses: (3 credits)

EdPsy 748/Linguistics 748 Oral Language, Cognition, and Literacy

Language and Literacy Intervention Electives (12 credits from the following):

Communication Disorders (ComSDis)

661 The Role of the Speech-Language Pathologist in Literacy (2 credits)
799 Independent Study – Application of Theory to Learning Activities (1 credit)

Curriculum and Instruction (CurrIns)

543 Developing Biliteracy (3 credits)
646 University of Wisconsin System Reading Research Symposium (3 credits)
647 Early Reading Empowerment, Part 1 (3 credits)
648 Early Reading Empowerment, Part 2 (3 credits)
747 Reading Assessment and Instruction with Practicum: K-12, Part I (3 credits)

748 Reading Assessment and Instruction with Practicum, K-12: Part II (3 credits)

846 Seminar in Developmental Reading: (with the topic of "Current Trends in Literacy") (3 credits)

849 Guiding and Directing School Reading Programs K-12 (3 credits)

740 UWM Writing Project: Teachers as Writers (3 credits)

741 UWM Writing Project: Teacher Leadership in Writing (3 credits)

Educational Psychology (EdPsy)

760 Alternative Assessment and Academic Interventions (3 credits)

779 Current Topics in Educational Psychology: (with the topic of "Self-Regulation Assessment and Interventions") (3 credits)

852 Social, Psychological, and Biological Basis of Learning Disorders (3 credits)

Exceptional Education (ExcEduc)

685 Advanced Methods in Learning Disabilities (3 credits)

Linguistics (Linguis)

570 Issues in Bilingualism (3 credits)

Other courses upon approval of the Certificate Director

Required Core Capstone Course: (1 credit)

ILLI Capstone — Independent Study with advisor

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the five courses that constitute the certificate. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.

Interdisciplinary Language and Literacy Intervention Certificate (ILLI)

- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

International Human Resources and Labor Relations, Graduate Certificate in

Overview

The Master's in Human Resources and Labor Relations program offers the Graduate Certificate in International Human Resources and Labor Relations. The certificate responds to the increasing influence of globalization on the practice of Human Resource Management and the conduct of Labor Relations. Firms and unions are increasingly part of a complex web of international economic relationships. Many of the workplace innovations now taken for granted began overseas: quality circles, work groups and flatter hierarchies. Many firms operate overseas under very different labor market institutions and human resource expectations. The program of study provides practical and theoretical knowledge designed to help students function as professionals in the increasing broad international context of human resource management and labor relations.

Eligibility and Admission

Students applying for the Certificate Program in International Human Resources and Labor Relations must hold a bachelor's degree and must have earned a 2.75 GPA overall or must furnish substantial evidence of ability to succeed in graduate-level work. Students admitted to the Certificate will be expected to present at least three credits of prior work in microeconomics and three credits in statistics.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Required Courses, 12 cr

Ind Rel 701 Industrial and Labor Relations
Econ 755 Comparative Labor Markets and the Employment Relationship
Bus Mgt 723 Managing Across Cultures
Bus Adm 738 Human Resource Management or Bus Adm 795
International Human Resource Management

Course substitutions would be allowed with the consent of the MHRLR Director for those who had previously completed similar coursework.

Recommended Courses (not required)

Ind Rel 999 Independent Study
Bus Adm 799 Reading and Research
Ind Rel 921 Internship in Industrial Relations

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Investment Management, Graduate Certificate in

Overview

The Graduate Certificate in Investment Management is designed to offer business graduate students the opportunity to enhance their education with focused study in investment management. Students completing the Investment Management certificate will have coursework in investment-related subjects and three special courses comprising intensive research and real-time practical training in investment portfolio management that utilizes the David O. Nicholas Applied Finance Lab in Sheldon B. Lubar School of Business. Students who complete this certificate in addition to their graduate degree requirements will gain substantial competitive edge in pursuing a career initially as a financial analyst and as an investment advisor, later as an investment portfolio manager, possibly as a chief investment officer, and ultimately as an independent financier.

Eligibility and Admission

It is recommended that the following courses have been completed prior to admission to the certificate: Bus Adm 721, Financial Accounting Theory & Bus Adm 771, Investments (or undergraduate equivalents). If not completed prior to admission to the certificate, Bus Adm 721 (or Bus Adm 301, Intermediate Accounting) and Bus Adm 771 must be taken concurrently with Bus Adm 552, Investment Management Practice I. Admission is competitive and is based on cumulative GPA, quantitative-related course grades, personal statement, a possible interview and interview essay, interest in investments and finance, and other considerations.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

To obtain the certificate, a student must complete 18 credits of required coursework. The certificate may be completed alone, or in conjunction with a degree program. Due to the intensity of the coursework in the Investment Management Certificate, the program will be of most interest to students pursuing an M.S. in Management degree with a concentration in Finance Analysis, or an M.B.A.

Required Courses* (18 credits – all courses are 3 credits)

Bus Adm 552 Investment Management Practice I
Bus Adm 553 Investment Management Practice II
Bus Adm 554 Investment Management Practice III
Bus Adm 772 Portfolio Management
Bus Adm 773 Options and Futures
Bus Adm 851 Global Investments

Internship Requirement

Students completing the certificate are also required to have an internship experience prior to graduation from the certificate program. The internship experience must be approved by the IMCP director.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Certificate in Mathematics Teacher Leadership

Overview

This certificate program provides teachers with current professional knowledge of mathematics teaching, learning trajectories, and assessment. It also imparts mathematical knowledge specialized for teaching and content-focused coaching strategies to improve instruction and student learning in mathematics.

Certificate completers will be positioned to contribute mathematics leadership as members of collaborative professional learning communities in schools, school districts, and other educational settings.

Eligibility and Admission

Applicants must have completed a bachelor's degree with a 2.75 undergraduate GPA or a graduate degree with a minimum 3.0 GPA and must have teaching experience in mathematics.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Curriculum

Students complete 15-credits of coursework, including courses in instructional improvement, mathematics education, and mathematics instruction leadership.

Instructional Improvement Courses (3-6 credits)

Currins 560 Improving Mathematics Teaching and Learning: (Subtitled) (1-3 cr)

Currins 714 Analysis of Instruction to Improve Teaching and Learning (3 cr)

Currins 715 Guiding Instructional Improvement (3 cr)

Currins 725 Improving Teaching and Learning with Classroom-Based Assessments (3 cr)

Mathematics Education Courses (6-10 credits)

Currins 580 Mathematics Education: (Subtitled) (1-3 cr)

Currins 720 Curriculum and Standards for School Mathematics (3 cr)

Currins 624 Instructional Trajectories for Fraction Concepts and Operations. 3 cr

Currins 625 Principles and Practices of Teaching Geometry and Geometric Thinking (3 cr)

Currins 626 Principles and Practices of Teaching Algebraic Reasoning (3 cr)

Currins 730 Mathematics in Elementary Education (3 cr)

Currins 731 Mathematics in the Secondary School (3 cr)

Currins 779 Current Topics in Curriculum & Instruction: (Mathematics education subtitle) (1-3 cr)

Capstone Course (3 credits)

Currins 761 Mathematics Instructional Leadership (3 cr)

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Transfer credits will be considered only if the applicant can provide evidence that the course is substantially the same as an approved course in the certificate program. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Mediation and Negotiation, Graduate Certificate in

Overview

The Department of Communication, in cooperation with the Master's in Human Resources and Labor Relations (MHRLR) and the Lubar School of Business, offers the Graduate Certificate in Mediation and Negotiation.

The program of study is designed to provide practical and theoretical knowledge for students who wish to pursue or advance careers that involve managing or resolving disputes in organizational, educational, community, or family contexts. The program is designed to meet the increasing need of business, organized labor, public sector, and community organizations for people with skills in conflict resolution.

Using an interdisciplinary approach, the program offers a basic knowledge of mediation and negotiation between individuals and across organizations, allows some specialization in further coursework, and is integrated with a final course involving either field-work or a research paper written under the direction of an expert in the area.

Students can complete the Graduate Certificate in Mediation and Negotiation while enrolled either part-time or full-time, and by taking courses during evenings and/or weekends. With the approval of the program, students admitted to either the M.A. in Communication or the MHRLR degree program may apply courses taken to meet certificate requirements toward their degree.

Eligibility and Admission

Students applying for the Certificate Program in Mediation and Negotiation must hold a bachelor's degree and must have earned a 2.75 GPA overall or must furnish substantial evidence of ability to succeed in graduate-level work.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The certificate requires 12 credits, including 9 credits of coursework and 3 credits of field work or research.

Required Courses (2)

Comm 665: Introduction to Mediation
Econ 753: Collective Bargaining

Elective Course (1)

Comm 865: Theory and Practice of Mediation
IR 715: Alternative Dispute Resolution
Bus Admin 737: Managerial Decisions and Negotiations

Field Work or Research Requirement (1)

Comm 998: Internship in Communication

Comm 999: Independent Study
IR 801: Research Seminar in Industrial and Labor Relations
IR 921: Internship in Industrial Relations
IR 999: Independent Study
Bus 799: Reading and Research

Recommended or Related Courses

Not required for the Certificate
Comm 710: Managerial Communication
Comm 823: Seminar in Small Group Communication
Ed Pol 510: Foundations of Human Relations
IR 711: Labor Relations Law
IR 714: Industrial Relations in the Public Sector
Soc 766: Theory and Method in Social Psychology

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Multicultural Knowledge of Mental Health Practices, Graduate Certificate in

Overview

This online certificate is designed for students who want to learn about the mental health needs of various ethnic/cultural/gender groups, and guidelines for practice. It is open to students who are currently in graduate programs, or those at the post-master's level who are interested in additional training in this area.

Eligibility and Admission

Prospective students should send a letter of intent and a graduate transcript to the Department of Educational Psychology, School of Education, P.O. Box 413, University of Wisconsin-Milwaukee, 53201. A graduate GPA of at least 3.0 or concurrent enrollment in a graduate degree program with a GPA of at least 3.0 is required for admission.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

15 credits

All certificate students are required to complete COUNS 704 and 705.
COUNS 704: Multicultural Guidelines: Overview and Ethics. (3 credits)
COUNS 705: Multicultural Practice: Awareness and knowledge of others. (3 credits)

Students must successfully complete these two courses. They may then choose 3 of the following:

Multicultural Mental Health Guidelines courses (total 9 credits):
Working with Latinos (COUNS 740)
Working with LGBT populations (COUNS 741)
Working with Asian Americans (COUNS 742)
Working with African Americans (COUNS 743)
Work with First Nations Persons (COUNS 744)
Working with Men (COUNS 745)

Exit Requirements

To earn the certificate, students must complete all certificate courses with a grade of B or better. No Incomplete (I) grades will be given.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No credits may be taken at an institution other than UWM.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Museum Studies, Certificate in

Overview

Enrollment in any graduate degree program required for this certificate.

The Certificate in Museum Studies is designed for students who are interested in pursuing careers in the museum world. It must be completed in conjunction with a UWM graduate degree program.

Eligibility and Admission

Students in the M.S. in Anthropology must complete a minimum of 39 credits to earn the certificate and the master's degree. Those interested in attaining a Certificate in Museum Studies must indicate this in their application to the program. Students deciding to pursue the Certificate after having started the M.S. program must apply in writing to the Director of Graduate Studies by the deadline for Fall admission.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students in the M.S. in Anthropology must complete a minimum of 39 credits to earn the certificate and the master's degree. Those interested in attaining a Certificate in Museum Studies must indicate this in their application to the program. Students deciding to pursue the Certificate after having started the M.S. program must apply in writing to the Director of Graduate Studies by the deadline for Fall admission. In addition to the 15 credits required for the certificate, the following courses and credits are required:

Core courses (12 Credits)

Anthro 801
Anthro 802
Anthro 803

Methods courses (3 Credits)

Any from one of the four subfields
Advanced seminar (3 Credits)
Any from one of the four subfields

Electives (9 Credits)

For students in other UWM graduate degree programs:

The certificate program consists of five courses (15 credits) at the graduate level. The four core courses must be taken in the following sequence, while the fifth course may be taken at any time after the completion of Anthro 721:

Anthro 720 History and Theory of Museums

Anthro 721 Museum Collections Management
Anthro 722 Exhibit Practicum
Anthro 723 Museum Curation and Interpretation
Anthro 724 or approved elective course

The fifth course requirement (Anthro 724) can be satisfied through supplementary coursework at UWM or through completion of a 150-hour internship at the Milwaukee Public Museum or other approved institution. Anthropology, Art History, History, and Educational Psychology all offer courses that supplement the Museum Studies curriculum and fulfill the required elective. The structure and scheduling of the coursework requires at least two years for completion, since each course is taught only once a year and the four courses must be taken in sequence.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Nonprofit Management, Graduate Certificate In

Overview

The Graduate Certificate in Nonprofit Management is designed to provide students with the knowledge and skills needed to successfully pursue or advance careers within nonprofit sector organizations.

Eligibility and Admission

Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Application

- Students wishing to obtain the CERTIFICATE must declare their intention by applying to the PROGRAM OFFICE OR DIRECTOR.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students wishing to earn a Graduate Certificate in Nonprofit Management must complete the required 15 graduate credit hours. No student may complete all 15 credits within a single school or college. The curriculum consists of the following five courses:

Required Courses (12 credits)

BUSMGMT 718 Concepts and Practice of Nonprofit Organizations

BUSMGMT 721 Fundraising and Development for Nonprofit Organizations

BUSMGMT 724 Accounting for Nonprofit Organizations

NONPROF 725 Governance of Nonprofit Organizations

One of the following courses (3 credits):

BUS ADM 766 Marketing for Nonprofit Organizations

NONPROF 740 Executive Leadership of Nonprofit Organizations

NONPROF 705 Professionals and Volunteers in Nonprofit Organizations

NONPROF 795 - Introduction to Nonprofit Revenue Streams and Portfolios

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:

- Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
 3. A course may count toward no more than one certificate and one degree.
 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Professional Writing and Communication, Graduate Certificate in

Overview

The Graduate Certificate in Professional Writing and Communication is designed for students who wish to pursue professional careers in technical writing, communication, corporate training and instructional design, or user interface and Web-document design.

Eligibility and Admission

Students must have completed a bachelor's degree with a minimum GPA of 2.75.

Application

- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- In addition, send the following items directly to the Department of English:
 1. A portfolio of writing samples.
 2. Two letters of recommendation from persons knowledgeable about applicants' recent academic or work experience.
 3. A statement of purpose that identifies the applicants' knowledge of workplace communication practices and business operations, their professional experience, or basic undergraduate coursework in business writing, technical writing, and communication.
 4. A statement describing the applicants' access to and operational knowledge of online communication technology, including a PC or equivalent computer system with Internet access and other applications sufficient to participate in the program's online learning activities.
 5. An unofficial transcript from each undergraduate and graduate institution attended.

MAILING ADDRESS: Department of English, Attn:
Certificate Program, UWM, P.O. Box 413, Milwaukee, WI
53201-0413.

- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students must complete 15 credits of coursework as outlined below. The Certificate will be awarded when students achieve the following:

Courses in English, 9 credits

Students will take 9 credits selected from the following graduate-level English courses:

Topics in Advanced Communications: (subtitled) (English 431)
Professional and Technical Communications (English 435 or English 708)
Writing for Information Technology (English 436)
Project Management for Professional Writers (English 437)

Information Design (English 439)
Grant Writing (English 443)
Technical Editing (English 444)
Advanced Professional Writing (English 708)
Rhetoric, Writing, and Information Technology (English 709)
Advanced Project Management for Professional Writers (English 710)
Topics in Professional Writing: Subtitle (English 711)
Professional Writing Theory (English 712)
Qualitative Research (English 713)

Students who within the past five years have successfully completed courses equivalent to these required English courses may, with the approval of the Certificate Coordinator, substitute alternate English graduate courses.

Courses in Communication, 6 credits

Students will take 6 credits selected from the following graduate-level Communication Courses:

International and Global Communication (Commun 550)
Introduction to Mediation (Commun 665)
Managerial Communication (Commun 710)
Argumentation Theory and Practice (Commun 762)
Rhetorical Leadership and Ethics (Commun 772)
Studies of Communication in Organizations (Commun 810)
Seminar in Mediated Communication (Commun 813)
Communication Technologies in Organizations (Commun 815)
Communication in a Customer Service Setting (Commun 820)
Seminar in Small Group Communication (Commun 823)
Seminar in Instructional Communication (Commun 827)
Negotiation (Commun 830)
Theory and Practice of Mediation (Commun 865)
The Digital Mirror (Commun 873)
Rhetoric of/and the Internet (Commun 893)

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Public Health, Graduate Certificate in

Overview

During its ongoing restructuring, the Public Health Graduate Certificate program is not currently accepting applications.

The Public Health Certificate is designed for students and working professionals involved in health programming, evaluation, education policy, engineering administration, research, and other areas related to public health. It is a 15-credit program with courses in each of the five core disciplines: epidemiology, biostatistics, health administration and policy, social and behavioral health, and environmental health. The certificate allows students to choose courses that are customized to the student's interests.

This program is open to post-baccalaureate students, to those currently enrolled in a UWM graduate degree program, as well as to health professionals who have completed a baccalaureate, master's or doctoral degree. The certificate program is a collaborative program between the Zilber School of Public Health, College of Health Sciences and College of Nursing, and is coordinated through the Zilber School of Public Health. Courses are offered from a variety of disciplines campus-wide, including social welfare, psychology, nursing, and health sciences.

Eligibility and Admission

Applicants are admitted to the certificate program in one of three categories:

- Post-baccalaureate student who has completed a bachelor's degree with a grade point average of 2.75 or above (4.0 scale) and is not currently enrolled in a graduate degree program at UWM.
- Current UWM graduate student. Admission requirements are consistent with those specified in the UWM Graduate School and the graduate health profession program.
- Post-graduate student who has completed a graduate degree with a grade point average of 3.0 or above (4.0 scale).

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The completion of 15 credit hours is required for the certificate program. All students are required to complete three core courses: Biometry BIOSCI 465 (3 credits), Epidemiology NURS 727 (3 credits), and Environmental Health CLS 590 (3 credits). In addition, students will complete courses in Social/Behavioral Health, and in Health Administration & Policy. A current listing of courses that meet these requirements can be obtained from the Zilber School of Public Health. Other courses may be included upon approval of the Program Director.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Rhetorical Leadership, Graduate Certificate in

Overview

Leadership is a highly valued, yet always scarce resource in all areas requiring coordinated action: civil society, professional work, profit and non-profit venues, religious and social action contexts. Communication's Rhetorical Leadership certificate program prepares leaders with humanistic knowledge, skills and attitudes through five graduate courses. "Rhetorical Leadership and Ethics" covers rhetoric's role in and potential for responsible leadership in multiple arenas; it is informed by the long history of debate over the legitimacy of studying rhetoric as a means of promoting joint action. "Theories of Rhetorical Communication" introduces certificate students to the vast, nearly three millennia-long theoretical range of the rhetorical tradition. "Communication and Social Order" examines how existing institutions and values get established and "naturalized" using symbolic action and conversely how they can be challenged strategically through rhetoric. The more advanced "Rhetoric of Constituting Community and Social Controversy" addresses explicitly the rhetorical range available to leaders, whether their main goal is constituting communities or promoting change in ways that the existing decision-making channels cannot accommodate. "Argumentation in Theory and Practice" integrates argumentative theory and practice in ways that are useful for potential leaders; it involves some performance-based learning that requires students to test their preferred theory alternatives in action.

Eligibility and Admission

Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

15 Credits

Required courses (6 cr)

772 Rhetorical Leadership and Ethics, 3 cr
762 Argumentation in Theory and Practice, 3 cr OR 872 Rhetorics of Constituting Community and Social Controversy, 3 cr

Electives (9 cr)

665 Introduction to Mediation, 3 cr
667 Great American Speakers and Issues, 3 cr
672 Communication and Social Order, 3 cr
701 Critical Analysis of Communication, 3 cr
735 Rhetorical Theory, 3 cr
762 Argumentation in Theory and Practice, 3 cr (if not selected above)

835 Seminar in Contemporary Public Address, 3 cr
860 Seminar: Issues in Communication: (Subtitle, with a rhetorical topic), 3 cr
862 Public Deliberation, 3 cr
865 Theory and Practice of Mediation, 3 cr
872 Rhetorics of Constituting Community and Social Controversy, 3 cr (if not selected above)
873 The Digital Mirror, 3 cr
882 The Rhetoric of Kenneth Burke, 3 cr
893 Rhetoric of/and the Internet, 3 cr
973 Topics in Rhetorical Research: (Subtitle), 3 cr
998 Communication Internship, 1-3 cr (with rhetorical leadership topic directed by a member of the Rhetorical Leadership Committee)

Students who have little experience in positions of responsibility will be encouraged to participate in a relevant internship during the course of their studies. The program will assist students in identifying appropriate opportunities.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the five courses that constitute the certificate program. The Rhetorical Leadership Committee will make such determinations, and its decision is final. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program. No transfer credit is allowed for post-graduate students.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Gainful Employment Disclosure Information

[UWM Financial Aid Gainful Employment](#)

[Gainful Employment Disclosure Information](#)

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.

Rhetorical Leadership, Graduate Certificate in

- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

School Counseling Post-Master's Certificate

Overview

The School Counseling Certificate program is provided for students who already possess a master's degree and need to meet the course requirements for certification as a K-12 School Counselor, as listed below. Courses can be waived if equivalent courses have already been completed, as determined by consultation with an advisor. The requirements for this certification program meet the certification standards of the Wisconsin Department of Public Instruction. For more information on the School Counseling: Initial Educator: K-12, five-year license, please see the [Wisconsin Department of Public Instruction Website](#).

In order to be eligible to receive an initial educator license as a school counselor, students will need to:

1. Complete the coursework and practica listed below
2. Complete a portfolio assessment
3. Pass the national Praxis II licensing examination

Other states have different licensing standards and if you are interested in being eligible for a different state you are strongly encouraged to contact that state's Department of Public Instruction to ascertain whether additional requirements are necessary.

Eligibility and Admission

In order to successfully complete the certification sequence, a student must be accepted into the School Counseling Post-Master's Certificate Program. To be considered, applicants must have a graduate GPA of 3.0 or better, and must complete the [Panthera Admission Application](#).

Application

- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Applicants must submit the following to the Counseling Admissions Committee in the Department of Educational Psychology as part of the admissions process for the certification program:
 - Three letters of reference, which must address the applicant's academic and interpersonal skills. These must be hard-copy, received in signed, sealed envelopes.
 - An official transcript showing the awarding of your master's degree.
 - A completed "Career Statement" form.*
 - A completed "Personal Data" form.*

Both are on the [Department of Educational Psychology Website](#)

Counseling Admissions Committee address: Counseling Admissions Committee, Department of Educational Psychology, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201.

The department must receive all materials by **March 1**. To ensure department receipt of materials on time, it is highly recommended that you submit the application to the Graduate School, and the supporting materials (three letters of recommendation, official transcript from your master's degree,

Personal Data Form, and Career Statement) to the Department of Educational Psychology by **January 31**.

Shortly after the March 1 application deadline, the Counseling Area Admissions Committee will meet and review the applications. Applicants will be notified of the Committee's decision generally within four weeks after the deadline. The Counseling Admissions Committee carefully reviews the following information as part of the decision making process for admitting students to graduate school: GPA, letters of recommendation, and the applicant's statement on the "Career Statement" form. Applicants are urged to take special care in describing long range goals, how they see themselves fitting into UWM's program, which has an urban and multicultural emphasis, and relating experiences which influenced their decision to pursue counseling.

- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students will need to complete the following sequence of courses from the Counseling Core and the School Core, or have equivalent previous coursework, as determined in consultation with an advisor.

Counseling Core (21 credits)

710 Counseling: Theories and Issues
711 Foundations of Career Development
714 Essentials of Counseling Practice
715 Multicultural Counseling
800 Group Counseling Theory
820 Counseling Appraisal and Clinical Decision Making
904 Family Systems Theory, Research, and Practice

School Core (15 credits)

602 Introduction to School Counseling
774 Supervised Practicum I in School Counseling
810 Counseling in the Schools
816 Counseling Children and Adolescents
968 Supervised Practicum II in School Counseling

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not

School Counseling Post-Master's Certificate

contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
- 2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
- 3. A course may count toward no more than one certificate and one degree.
- 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Support Services for Online Students in Higher Education, Certificate in

Overview

This graduate certificate program offers a unique opportunity for professionals interested in online student support in higher education. Prospective professionals venturing into today's higher education environment would benefit from an understanding of teaching and learning and student support service theory, research, and effective practice. Successful professionals require many tools to educate, motivate, and support online students, as well as the wisdom to know when and how to apply those tools. This wisdom comes from a critical, reflective understanding of the research and theory behind teaching, learning, and student support. The 15-credit certificate program draws upon current coursework in Adult Education, Higher Education, Education Technology, and Distance Education.

Eligibility and Admission

Applicants must have completed a bachelor's degree prior to admission, must have a minimum 2.75 cumulative undergraduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Five courses are required as indicated below:

Core Course Requirement: 6 credits from the following:

Ad Ldsp 703 (1) Resources for Self-directed Learning
Ad Ldsp 704 (1) Technologies for Online Student Support
Ad Ldsp 706 (1) Professional Development for Online Instruction
Ad Ldsp 707 (3) Using Technology with Adults
Ad Ldsp 708 (3) Online Support Services in Adult, Continuing, and Higher Education

Electives (6 credits)

Courses above that are not taken as part of the six credit core can also be used as electives.

Ad Ldsp 687 (3) Instructional Design & Teaching Strategies
Ad Ldsp 740 (3) Seminar in Innovative Technology for Learning in Education
Ad Ldsp 757 (3) Principles and Foundations of Adult Education
Ad Ldsp 778 (3) Introduction to Student Personnel Services
Ed Psy 640(3) Human Development: Theory and Research
InfoSt 521 (3) Introduction to Reference Services and Resources
InfoSt 734 (3) Library Services and Resources for Adults

Required Practicum (3 credits)

Choose one of the following:

Ad Ldsp 750 (3) Internship in Administrative Leadership
Ad Ldsp 647 (3) Evaluation of Adult and Continuing Education Programs

NOTE: These credits should not be taken before completion of at least 9 credits of coursework.

This practicum would require students to complete an internship in an online student support service unit (a total of 150 hours) by enrolling in Ad Ldsp 750 or an instructor supervised evaluation project of an existing online student support service by enrolling in Ad Ldsp 647.

Courses

Descriptions of required and elective courses offered at UWM as part of the Certificate in Support Services for Online Students in Higher Education can be found under the respective curricular areas (see below).

[Administrative Leadership \(Ad Ldsp \)](#)
[Educational Psychology \(Ed Psy\)](#)
[Information Studies \(Info St\)](#)

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the five courses that constitute the certificate. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

Support Services for Online Students in Higher Education, Certificate in

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Teaching and Learning in Higher Education, Graduate Certificate in

Overview

This graduate certificate program offers a unique opportunity for students interested in teaching in higher education to gain knowledge about teaching and learning, both generally and within their discipline. Prospective teachers venturing into today's higher education environment would benefit from an understanding of teaching and learning theory, research, and effective practice. Successful instructors require many tools to teach, as well as the wisdom to know when and how to apply those tools. This wisdom comes from a critical, reflective understanding of the research and theory behind teaching and learning. The 15-credit certificate program is multi-disciplinary, drawing upon current coursework in Communication, the School of Education, and other disciplines that have teaching and learning courses in place.

Eligibility and Admission

Applicants must have completed a bachelor's degree prior to admission, and must have a minimum 2.75 cumulative undergraduate grade point average. Applicants with a graduate degree must have a minimum 3.00 graduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Required Courses

Core Courses: 6 credits from the following

Ad Ldsp 757 Principles and Foundations of Adult Education, 3 cr (offered every semester)

Ad Ldsp 687 Instructional Design and Teaching Strategies, 3 cr (offered every summer)

Ad Ldsp 900 Role of the Professoriate, 3 cr

CurrIns 774 College Teaching 3 cr (offered every year)

Practicum: (3 credits)

Teaching and Learning Practicum (COMMUN 998 or AD LDSP 750, every semester). These credits should not be taken before completion of at least 9 credits of coursework.

Elective Courses (6 credits)

Teaching and Learning (General)

Ad Ldsp 587 Serving Multicultural and Special Needs Learners, 3 cr (offered every year)

Ad Ldsp 707 Using Technology with Adult Learners, 3 cr (offered every spring)

Ad Ldsp 737 Distance Education for Adults, 3 cr (offered every fall)

Ad Ldsp 827 Seminar in Adult and Organizational Learning, 3 cr (offered every fall)

Commun 727 Seminar in Communication and E-Learning, 3 cr (offered every other year)

Commun 827 Seminar in Instructional Communication, 3 cr (offered every other year)

Commun 837 Instructional Communication in the College Classroom, 3 cr (every other spring)

Ed Psy 631 Cognition: Learning, Problem Solving and Thinking. 3 cr

Any core course not taken as a required core course

Teaching and Learning (Discipline Specific)

Students can count discipline-specific teaching and learning courses from their own department as electives or as one of their core courses (3 credits) with the permission of the Certificate Coordinator. Examples of such courses include:

English 701 The Teaching of College Composition, 4 cr (offered every fall)

English 706 Seminar in Professional Writing Theory and Pedagogy, 3 cr (offered every other year)

MAFLL 700 Language Teaching Methods, 3 cr (offered every fall)

Nurs 705 Instructional Strategies for Patient Education, 3 cr (offered every other spring)

Hist 716 Pedagogical and Professional Issues in History, 3 cr (offered every other year)

BMS 909/HCA 909 Guided Teaching Experience in Health Sciences, 3 cr (offered every year)

OccThpy 900 Teaching, Learning & Educational Leadership in the Health Sciences, 3 cr (offered every year)

Physics 610 The Art and Science of Teaching Physics, 1 cr

Nurs 752 Curriculum Development in Nursing Education, 3 cr

Nurs 751 Teaching in Practice Disciplines, 3 cr

Nurs 731 Practicum and Seminar in Health Professional Education, 3 cr

Successful completion of this certificate is NOT a teaching license or credential for K-12 instruction.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Courses will be considered for transfer into the certificate program only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the five courses that constitute the certificate. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.

Teaching and Learning in Higher Education, Graduate Certificate in

2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Teaching and Learning, Certificate of Advanced Study in

Overview

This certificate provides individual teachers with the knowledge, skills, and research tools to make evidence-based claims as to their effectiveness in the classroom. The set of five, 3-credit graduate courses prepares professionals with the knowledge base needed to engage in data-driven, action research that draws from the use of formative, benchmark, and summative assessments and leads to effective upgrades in instruction. Certificate completers will be positioned to become school and district leaders having an integrated set of instruction, assessment, and research skills needed to advance student achievement levels in their respective disciplines.

Certificates of Advanced Study in Teaching and Learning may be earned in the following areas: Science, Mathematics, Reading, Social Studies, Interdisciplinary Studies, English, Literary Studies, Adolescent Literature, Children's Literature, Writing, and Second Language Acquisition.

Eligibility and Admission

Applicants must have a bachelor's degree with an undergraduate GPA of 2.75 or a graduate degree with a minimum 3.0 GPA.

Application

- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Five required, 3-credit, graduate-level courses. Total credits: 15

Course I

CurrIns 701 Curriculum Planning and Ideologies
Or a curriculum elective in the disciplinary focus area

Course II

One graduate-level elective in the student's disciplinary focus area.

Course III — Discipline-specific advanced methods course

One of the following:

CurrIns 710 Curriculum for Early Adolescents
CurrIns 721 Advanced Problems in the Teaching of Social Studies
CurrIns 724 Advanced Problems in Science Education
CurrIns 730 Mathematics in Elementary Education
CurrIns 731 Mathematics in the Secondary School
CurrIns 734 Advanced Problems in the Teaching of Foreign Languages
CurrIns 746 Advanced Reading Education
CurrIns 751 Language Arts in the Elementary School
CurrIns 753 Teaching Language and Composition
CurrIns 754 Teaching Literature
Other courses as approved by the certificate program committee.

Course IV

CurrIns/ED PSYCH 725 Improving Teaching and Learning with Classroom-based Assessments

Course V — Capstone

CurrIns 705 Research in Schools and Communities
Or a capstone elective in the disciplinary focus area.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. Transfer credits will be considered only if the applicant can provide ample, acceptable evidence that the course taken is substantially the same as one of the first three courses that constitute the certificate program. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

TESOL Graduate Certificate Program, Adult/University-Level

Overview

The Adult/University-Level TESOL (Teaching English to Speakers of Other Languages) Graduate Certificate Program is designed to meet the needs of graduate non-degree students or graduate students concurrently enrolled in a UWM master's or Ph.D. program who wish to teach English as a Second Language (ESL) to adults or university-level students abroad. Requirements for this program are very similar to those for the "Adult/University-Level TESOL Certificate Program," which accepts undergraduate students and post-baccalaureate special students, but training in the graduate certificate program is more rigorous and can be applied (concurrently or subsequently) to the M.A. program in Linguistics.

Eligibility and Admission

Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Application

- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Submit the following materials to the TESOL Certificate Program Coordinator in the Department of Linguistics:
 - Adult/University-Level TESOL Graduate Certificate Program application form (available from the Linguistics Department office).
 - Transcripts of all college-level academic work, with evidence of a GPA of 2.75 or better.
 - A statement of purpose.
 - Two letters of recommendation from persons knowledgeable about the applicant's recent academic and/or work experience.
 - Applicants who are not native speakers of English should also submit TOEFL scores of at least 550 (paper-based test) or 79 (internet-based test), or at least 6.5 on the IELTS exam, and 45 on the TSE, or an equivalent means of demonstrating proficiency.
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.

Certificate Requirements

Credits and Courses

Students are required to complete the six courses (18 credits) plus teaching internship (3 credits) outlined below.

Linguis/MALLT 708 Proseminar in Linguistics
 Linguis 410 Literacy, Grammar, and Methodologies in ESL Education
 Linguis 420 Introduction to Second Language Acquisition
 Linguis/English 565 Introduction to Adult/University-Level TESOL
 Linguis 430 Language and Society or Linguis/Anthro 570 Issues in Bilingualism

One elective selected from the following:
 English 404 Language, Power, and Identity
 Linguis 415 First Language Acquisition
 Linguis 460 Introduction to Phonology

Linguis 464 Introduction to Syntax
 Linguis 468 Language in its Various Forms: (Subtitle)
 Linguis 470 Historical/Comparative Linguistics
 Linguis 560 Advanced Phonology
 Linguis 564 Advanced Syntax
 Linguis/Ed Psych 748 Oral Language, Cognition, and Literacy
 Linguis/English 806 Seminar in Linguistics: (Subtitle)
 Linguis/English 569 Internship in Teaching ESL to Adult Learners

The teaching internship is completed at one of the internship institutions affiliated with the Certificate Program. The site of the internship will be determined by the Certificate Program staff. The student is expected to complete between 40 and 60 hours of supervised teaching over a period of four to eight weeks.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 6 credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program. Students who have completed any of the required courses for undergraduate credit must substitute other courses at the graduate level, selected in consultation with the certificate program coordinator to fulfill the credit requirements.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Transition for Students with Disabilities Graduate Certificate

Overview

The Transition for Students with Disabilities Graduate Certificate provides students with increased knowledge and awareness of state-of-the-art transition planning, as well as experience with specific strategies related to transition assessment, instruction, and community/business collaboration. Those who complete the Transition for Students with Disabilities Certificate program will be able to critically examine and implement effective transition planning while ensuring students are accessing the general education curriculum; effectively collaborate with the business and general community to access work and post-secondary experiences for students with disabilities; implement customized job development strategies to meet the needs of students and the business; identify and collaborate with various community based organizations; learn strategies to develop self-determination and self-advocacy skills for students with disabilities; and understand cultural and ethnic diversity issues related to transition planning.

The courses are aligned with the APSE (www.apse.org) professional standards and will provide the knowledge and skills to pass the national Certification of Employment Support Professionals (CESP).

Eligibility and Admission

Applicants must have completed a bachelor's degree prior to admission, with a minimum 2.75 cumulative undergraduate grade point average. Applicants with a graduate degree must have a minimum 3.0 graduate grade point average.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The certificate requires a minimum of 15 credits. Students take five required courses and then, in consultation with the Program Coordinator, they may choose to take an optional 3 credit course in Business Management for more in-depth knowledge of working with the business community.

Required Core Courses—ExcEduc (all 3 cr, G)

679 Critical Issues in Transition Planning
703 Vocational Aspects in Rehabilitation and Exceptional Education
705 Understanding Culture and Ethnicity in Transition Planning
708 Student, Family & Community Involvement in Transition Planning
709 Linking Academic Instruction to Transition Planning

Optional elective courses—BusMgmt (all 3 units, G)

708 Marketing Strategy: Concepts and Practice

715 Leadership, Team Building, and Effective Management

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Translation, Certificate in

Overview

The Graduate Certificate in Translation offers online-only professional training to students in French, German, Spanish, Arabic, Russian, and often other languages, who wish to pursue careers in the language-services industry broadly speaking, or in other fields requiring advanced professional use of a language other than English.

Eligibility and Admission

Applicants to the Certificate Program must hold a bachelor's degree with an overall GPA of 2.75 or must provide substantial evidence of ability to succeed in graduate-level work.

A degree in the foreign language of concentration, or advanced study in that area, is desirable. In addition, admission to the program is based in part on a qualifying examination administered by the Program. The two-hour exam consists of a short translation from the source to the target language (between 200 and 250 words, depending on the source language) and one 300 to 500 word essay in English.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera Admission Application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

Students must complete 21 credits of required courses; all credits must be at the graduate level, including the following:

Trnsltn 709 Seminar in Literary and Cultural Translation, 3 cr
 Trnsltn 726 Computer-Assisted Translation, 3 cr
 Trnsltn 730 Translation Internship, 3 cr

Language Concentration

Students must select a language concentration and complete the three courses (9 cr) listed below for that concentration.

French to English

Trnsltn 706 Introduction to Translation: French to English, 3 cr
 Trnsltn 716 Seminar in Advanced Translation: French to English, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

German to English

Trnsltn 708 Introduction to Translation: German to English, 3 cr
 Trnsltn 718 Seminar in Advanced German Translation, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

Spanish to English

Spanish/Trnsltn 707 Introduction to Translation: Spanish to English, 3 cr
 Spanish/Trnsltn 717 Seminar in Advanced Translation: Spanish to English, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

English to Spanish

Trnsltn 702 Introduction to Translation: English to Spanish, 3 cr
 Trnsltn 712 Seminar in Advanced Translation: English to Spanish, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

Arabic to English

Trnsltn 704 Introduction to Translation: Arabic to English, 3 cr
 Trnsltn 714 Advanced Translation: Arabic to English, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

Russian to English

Trnsltn 719 Introduction to Translation: Russian to English, 3 cr
 Trnsltn 729 Seminar in Advanced Translation: Russian to English, 3 cr
 Trnsltn 710 Comparative Systems for Translation, 3 cr

Electives

In consultation with the program coordinator, students must select 3 credits from among the following courses. Additional appropriate courses may be counted toward the certificate with the consent of the coordinator. All courses are online unless otherwise noted.

Trnsltn 530 Business & Professional Aspects of Translation
 Trnsltn 727 Project Management in Translation
 Trnsltn 728 Editing for Translation
 Trnsltn 700 Consecutive Interpreting (all languages)
 Trnsltn 711 Ethics & Procedures in Interpreting (all languages)
 Trnsltn 820 Translation Theory
 MALLT 708 Proseminar in Linguistics (on site only)

English 708 Advanced Professional Writing
 English 709 Rhetoric, Writing, and Information Technology

Transfer Credit

Certificate coursework at the graduate level may be applied toward an M.A. degree in the MALLT Program. Required courses completed as part of an undergraduate degree will not count toward the certificate requirements; in such cases, students, in consultation with the certificate program coordinator, will select additional appropriate elective courses to complete a minimum of 21 certificate program credits after the baccalaureate degree has been awarded.

Grade Point Average Requirement

Students must earn at least an average GPA of 3.0 in courses completed at the graduate level as well as a 3.0 GPA average on all credits completed for the certificate.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain

Translation, Certificate in

the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)

- Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
- 2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
- 3. A course may count toward no more than one certificate and one degree.
- 4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Students must complete all certificate courses within 3 years of initial enrollment in the certificate sequence.

Trauma-Informed Care, Certificate in

Overview

The Certificate in Trauma-Informed Care will expose graduate students in several helping professions to the theory and practice of trauma-related service delivery. This is a multidisciplinary program that integrates knowledge from the social, behavioral, and health sciences. The primary goal of the program is to train graduate students from the helping professions in specialized knowledge and skills related to psychological trauma.

Eligibility and Admission

Students in good standing currently in a graduate program or those who have already completed a graduate degree are eligible for the certificate.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School via the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

All students participating in the certificate program will complete 15 academic credits related to trauma theory and practice.

Two courses will constitute the core curricular requirements:

Core courses (6 credits)

Trauma Counseling I (Soc Wrk 774, Couns 774, Nurs 774, or OccThpy 774)

Trauma Counseling II (Soc Wrk 775, Couns 775, Nurs 775, or OccThpy 775)

Potential elective coursework (9 credits)

Soc Wrk/Crm Jus 497 (Bristol or South Africa)

Soc Wrk 820 Seminar in Social Work Practice (Qualifying topics: Violent & Traumatized Families or Motivational Interviewing)

Soc Wrk 753 Adult Psychopathology

Soc Wrk 754 Psychopathology of Childhood & Adol.

Soc Wrk 791 Current Topics in Social Work (Topic: Death & Dying)

Psych 711 Current Topics in Psychology (Qualifying topics: Functional Assessment and Intervention or Neurobiology of Learning & Memory)

Psych 727 Introduction to Cognitive Neuroscience

PH 732 Youth Mental Health Practice for Non-Mental Health Professionals

Couns 704 Multicultural Mental Health Guidelines & Ethics Overview

AND Couns 705 Multicultural Practice*

Couns 715 Multicultural Counseling

Couns 744 Multicultural Mental Health Guidelines for Working w/First Nations People

Couns 812 Clinical Studies in Counseling

Couns 816 Counseling Children & Adolescents

Couns 820 Counseling Appraisal & Decision-Making

Couns 904 Family Systems Theory, Research

*Couns 704 and 705 must be taken together to fulfill this requirement

Recommended field work (3-6 credits)

Students also have an opportunity to complete anywhere from 3 to 6 additional qualifying program credits through participation in in trauma-informed practice field settings, contingent on the respective department's field credit policy.

Soc Wrk 721, 722, 821, 822 or 921

Couns 764 or 765

Nurs 737, 738 or 739

OccThpy 725 or 735)

Four departments are participating in this interdisciplinary certificate program—Social Work, Educational Psychology, Nursing, and Occupational Therapy—and accordingly, the program curriculum will consist of courses offered via multiple campus departments.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.

Women's & Gender Studies, Graduate Certificate in

Overview

The Graduate Certificate Program in Women's & Gender Studies is designed for students enrolled in a graduate program in any field who wish to complement their training with an additional specialization in Women's & Gender Studies.

Eligibility and Admission

To pursue this certificate, students must be enrolled in a graduate degree program or already hold a graduate degree.

Application

- Students wishing to obtain this certificate must declare their intention by applying to the program office or director.
- All graduate certificate applicants—even those already enrolled in a UWM graduate program—must apply to the Graduate School through the [Panthera Admission Application](#).
- Graduate degree and previously admitted graduate non-degree students who decide to pursue a certificate program must submit the Panthera application before completing 6 credits in the certificate sequence.
- Applicants must possess a baccalaureate degree and have a minimum 2.75 cumulative undergraduate grade point average to be admitted in to a certificate program.

Certificate Requirements

Credits and Courses

The Graduate Certificate in Women's & Gender Studies requires completion of 15 credits in approved courses with an overall GPA of 3.0. The following are required:

1. WGS 401 – Global Feminism; U/G, 3 cr. (Students who have previously earned undergraduate credit in this course will substitute, with approval of the DGS, a graduate course with a focus on globalization and women.)
2. WGS 700 – Feminist Issues and Scholarship, G, 3 cr.
3. WGS 710 – Advanced Feminist Theory, G, 3 cr.
4. Electives, 6 credits, selected from a combination of WGS and approved cross-listed Graduate (G) or Undergraduate/Graduate (U/G) courses in other programs and departments.

No more than 6 credits in U/G courses can apply toward the certificate, and a maximum of three credits in independent study may count toward the 15 credits required for the certificate. At least three credits must be taken outside of Women's & Gender Studies and the student's home department or discipline (i.e., the program in which the student currently is enrolled as a graduate degree candidate or in which the student has received an advanced degree). Thesis and research credits may not be counted toward the Certificate.

Grade Point Average Requirement

A minimum cumulative 3.00 grade point average in certificate courses taken at UWM is required.

Transfer Credit

No more than 20% of the required credits may be taken at an institution other than UWM. These courses are subject to Graduate School transfer policy and must be approved by the director of the certificate program.

Articulation with Degree Programs

1. Credits and courses required for a certificate may double count toward meeting UWM graduate degree requirements subject to the following restrictions:
 - Degree programs must approve the courses from certificates that can double count toward the degree.
 - All credits taken in completion of certificate requirements may count towards a UWM graduate degree as long as they do not contribute more than 90% of the total credits needed to obtain the degree. (Note: Students in Ph.D. programs must still complete the minimum residency requirements)
 - Certificate courses used toward meeting degree requirements must be completed within the time limit for transfer credit.
2. Courses completed for a degree may be counted toward a subsequent certificate, subject to all certificate policy requirements.
3. A course may count toward no more than one certificate and one degree.
4. Students may not earn a certificate subsequent to a concentration in the same area.

Time Limit

Certificate program time limits shall be established as follows:

- 18 or fewer credits: Three years from initial enrollment in the certificate sequence.
- 19 or more credits: Four years from initial enrollment in the certificate sequence.

For certificates that are designed as add-ons to degree programs and are awarded concurrent with the degree, the time limit shall be the same as that of the degree program.