

# HEALTH CARE INFORMATICS, MS

The Department of Health Informatics and Administration in the College of Health Sciences offers the Master of Science in Health Care Informatics degree. Health care informatics focuses on the use of information technologies, data analytics and automation to improve health care. Professional expertise in health care informatics is needed by hospitals and other health care providers, medical centers and facilities, medical software companies, pharmaceutical companies, public health organizations, health insurance companies and medical research institutions. The master's program is designed to meet the demand for highly trained health care informatics professionals. The curriculum covers several areas including: systems analysis and design, database design and management, clinical decision support and computer programming. Students also get exposed to cutting-edge research in areas such as big data, predictive analytics, natural language processing, medical knowledge representation and information retrieval, which are rapidly becoming indispensable for improving health care.

The program is designed for both full-time and part-time students. Courses are offered both face-to-face and online. Mid-career professionals can use the fully online option for completing the degree.

## Admission Requirements

### Application Deadlines

Application deadlines vary by program, please review the application deadline chart (<http://uwm.edu/graduateschool/program-deadlines/>) for specific programs. Other important dates and deadlines can be found by using the One Stop calendars (<https://uwm.edu/onestop/dates-and-deadlines/>).

### Admission

An applicant must meet Graduate School requirements (<http://uwm.edu/graduateschool/admission/>) 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 PhD, 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.

## 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.

Code	Title	Credits
<b>Core</b>		
HCA 700	Introduction to Health Care Informatics	3
HCA 741	Essential Programming for Health Informatics	3
HCA 760	Biomedical and Healthcare Terminology and Ontology	3
HCA 723	Health Care Systems Applications - Administrative and Clinical	3

HCA 541	Healthcare Information Systems Analysis and Design	3
HCA 722	Legal, Ethical and Social Issues in Health Care Informatics	3
HCA 740	Introduction to Biomedical Database Applications	3
HCA 742	Computational Intelligence in Health Informatics	3

### Electives

Select two of the following: <sup>1</sup>		
HCA 721	Health Information Technology Procurement	
HCA 743	Predictive Analytics in Healthcare	
HCA 744	Text Retrieval and Its Applications in Biomedicine	
HCA 745	Health Big Data Processing Platforms	
HCA 776	Biomedical Natural Language Processing	
HCA 789	Biomedical Information Extraction	
HCA 909	Guided Teaching Experience in Health Sciences	
HS 917	Seminar in Health Outcomes Assessment	

### Project or Thesis

HCA 890	Health Care Informatics Research and Thesis (taken for 6 credits)	3-6
or HCA 891	Health Care Informatics Professional Project	
Total Credits		33-36

<sup>1</sup> Electives other than those listed below are to be approved by the student's major professor.

## 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.

## Additional Requirements

### 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.

**Program Completion Time Limit**

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