



Honors College Course Book: Fall 2021

A community of students, staff, and teachers devoted to excellence in learning.



Honors College Courses Fall 2021

To satisfy graduation requirements in the Honors College, you must complete 21 credits in courses approved for Honors credit, including: Honors 200 (3-6 credits), Upper-level seminars (minimum of 9 credits) and other non-seminar or Honors experiences (up to 9 credits).

- Honors Courses cannot be audited or taken with the credit/no credit option.
- Students must earn at least a B- in an Honors course to earn Honors credit.
- All upper-level seminars require sophomore standing or consent of the Honors College Director.
- All upper-level seminars are retakeable with change in topic to 9 credits max other than HON 380. HON 380 is retakeable ONCE with change in topic.

Honors 199	U 1H	Honors Independent Study				
		Admission to Honors College or consent by director. Not open to University Special Students.				
	SEM 001	17204	T	9:30-10:45am	Daigle	Honors College Research & Writing
	SEM 002	17205	R	3:30-4:45pm	Daigle	Honors College Research & Writing
	SEM 003	17206	F	12:30-1:45pm	Daigle	Honors College Research & Writing
	<i>Students should be concurrently enrolled in English 102 and Honors 199. Students earning a B- or better in HON 199 and C or better in English 102 will receive 4 credits toward their Honors Degree.</i>					

Honors 200 (HU, OWCB)	U 3H	Honors Seminar: The Shaping of the Modern Mind				
		Cons Honors College Director. Not open to students with credit in Honors courses 300-level & above.				
		Retakeable once with a change in topic				
	SEM 001	13460	MW	9:30-10:45am	Schneider	Dirty Realism and the Other America
	SEM 002	14956	MW	11am-12:15pm	Daigle	Invisibility & Dis/Empowerment
	SEM 003	13357	MW	12:30-1:45pm	Schneider	Dirty Realism and the Other America
	SEM 204	13358	MW	2:00-3:15pm	Stuhmiller	Telling Tales
	SEM 005	14952	MW	2:00-3:15pm	Daigle	Invisibility & Dis/Empowerment
	SEM 006	15539	MW	3:30-4:45pm	Budny	Left, Right, and Center: Bridging the ...
	SEM 007	13359	MW	3:30-4:45pm	Southward	Graphic Memoir: The Art of Self-Creation
	SEM 008	13360	TR	9:30-10:45am	Singer	The Birth of the Modern (*)
	SEM 009	13867	TR	9:30-10:45am	Snow	Tokyo: A Cultural Biography (*)
	SEM 010	13634	TR	11am-12:15pm	Listoe	Human Rights at the Borders of Injustice
	SEM 011	15007	TR	11am-12:15pm	Snow	Tokyo: A Cultural Biography (*)
	SEM 012	18363	TR	12:30-1:45pm	Singer	The Birth of the Modern (*)
	SEM 213	18364	TR	2:00-3:15pm	Stuhmiller	Telling Tales
	SEM 014	18365	TR	3:30-4:45pm	Southward	Graphic Memoir: The Art of Self-Creation

Math 221	U 5H	Honors Calculus II				
		Maximum of 6 cr. in combination of Math 221 & 222 may count toward Honors College requirements.				
	SEM 001	13480	MTWR	2-3:15 PM	Franecki	Honors Calculus I

HONORS 199: HONORS COLLEGE RESEARCH & WRITING Independent Study

Lindsay Daigle, Honors College Lecturer

Tuesdays 9:30 a.m.-10:45 a.m. (9/7, 9/14, 9/21, 10/5, 10/19, 11/2, 11/16, 11/30)

- Sem 001, Class #17204

Thursdays 3:30 p.m.-4:45 pm (9/9, 9/16, 9/23, 10/7, 10/21, 11/4, 11/18, 12/2)

- Sem 002, Class # 17205

Fridays 12:30 p.m.-1:45 p.m. (9/10, 9/17, 9/24, 10/8, 10/22, 11/5, 11/19, 12/3)

- Sem 003, Class # 17206

Reading/Viewing

- Texts that complement English 102 texts (provided in class)
- Student-generated texts

Course Description

Honors students concurrently enrolled in English 102 are eligible for this 1-credit collaborative independent study course. Honors 199 complements English 102 with orientation to Honors coursework and expectations in a writing-intensive setting. Students build upon this rhetoric-based framework with Honors-specific assignments and activities. Additionally, students are fully part of the Honors College as they prepare for Honors 200 and upper-level Honors courses.

Honors 199 will meet eight times throughout the semester. During these meetings, students draw on their English 102 learning and research experiences in both collaborative and individual activities responding to contemporary academic conversations. Coursework includes discussions, writing, and creative exercises in critical thinking and inquiry foundational to academic writing and UWM's Honors curriculum.

Students who earn a B- or better in Honors 199 and a C or better in English 102 receive 4 credits toward their 21-credit Honors requirements. All credits earned in both classes count toward UWM graduation and GPA calculations, whether or not Honors credit is earned. Students may enroll in **any** section of Honors 199 and **any** section of English 102, but must enroll in both concurrently.

Course Requirements

- Class Engagement (60%): This refers to presence which can take many forms. It can include but is not limited to: full participation in writing and creative exercises, discussions, and peer feedback, as well as arriving on time, posing relevant questions/concerns, commenting thoughtfully, and being equipped with relevant daily texts/materials during class meetings. Students will have an opportunity to self-assess their engagement levels in order to contribute to the grading process.
- Honors College Engagement Group Project (25%): In groups of 3-4, students will collaborate on a detailed plan to A) establish a new club/organization/activity through the Honors College, B) propose an engaging activity for an existing Honors club/organization to host, or C) implement meaningful changes to an existing Honors club/organization/activity. This is an opportunity for students to reflect on, research for, and create real changes within their communities.
- Honors Event/Club Engagement (15%): This includes attendance of and written account for 2 Honors-hosted events or club meetings.

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)

Dirty Realism and the Other America

Benjamin Schneider, Honors College Senior Lecturer

Sem 001, Class #13460: MW 9:30 a.m. – 10:45 a.m.

Sem 003, Class #13357: MW 12:30 p.m. – 1:45 p.m.

Reading (selections)

Lucia Berlin, *A Manual for Cleaning Women* (2015)

Raymond Carver, *What We Talk About When We Talk About Love* (1981)

Denis Johnson, *Jesus' Son* (1992)

Screening (subject to change)

Lance Hammer, *Ballast* (2008)

Sean Baker, *The Florida Project* (2017)

Benny and Josh Safdie, *Good Time* (2017)

Course Description

In 1983, Bill Buford, editor of literary magazine *Granta*, wrote that "Dirty realism is the fiction of a new generation of American authors. They write about the belly-side of contemporary life – a deserted husband, an unwed mother, a car thief, a pickpocket, a drug addict – but they write about it with a disturbing detachment, at times verging on comedy. Understated, ironic, sometimes savage, but insistently compassionate, these stories constitute a new voice in fiction." While the "new voice" is no longer new, this brand of realism remains able to give voice to people and places that are often overlooked in the fiction and film of contemporary culture. Also called "Kmart Realism," the genre and its artists continue to reveal much about US culture and its people.

In this course, we will study these short stories and films closely to see how and if they speak to our contemporary moment. We'll ask about character, narrative, theme, setting, form, point-of-view, mise-en-scene, sound, and more to see what other questions derive from these close examinations. For example, do the people described in these narratives "count" in contemporary US culture? Do the artists' points-of-view register as inclusive? What do we learn about ourselves and our culture from engaging these fictions? Are there other cultural forms that depict similar narratives? Why do these artists choose the subjects they choose? Why would Buford call this genre "dirty"? We will spend our classroom time discussing these works and these questions from various angles. Note: Some of the course content may be upsetting.

Course Requirements

- Daily attendance, punctuality, and active participation 25%
- Three 4-5 page essays, two of which may be revised 75%

HONORS 200: SHAPING OF THE MODERN MIND (HU, OWCB)

Invisibility & Dis/Empowerment

Lindsay Daigle, Honors College Lecturer

Sem 002, Class #14956: MW 11:00 a.m. – 12:15 p.m.

Sem 005, Class #14952: MW 2:00 p.m. – 3:15 p.m.

Reading/Viewing

Laverne Cox et al, *Disclosure: Trans Lives on Screen* (Netflix documentary)

Mike Flanagan & Angela LaManna, “The Altar of the Dead,” *The Haunting of Bly Manor* (Netflix limited series)

@InvisiblePeople (Twitter account)

Henry James, *The Turn of the Screw* (novella)

Joss Whedon et al, “Out of Mind, Out of Sight,” *Buffy the Vampire Slayer* (Hulu, etc.)

Other materials available via Canvas, including selections from Mikki Kendall’s *Hood Feminism*:

Notes from the Women That a Movement Forgot; Krista Ratcliffe’s *Rhetorical Listening: Identification, Gender, Whiteness*; and Danez Smith’s *Don’t Call Us Dead*

Course Description

Novels, films, TV shows, and comics within the fantasy genre have often used invisibility as a source of power. Characters like Harry Potter, Sue Storm from *The Fantastic Four*, Cipher from *X-Men*, etc. render themselves undetectable via conventional sight in order to sneak, escape, eavesdrop, loot, and other acts across the good/evil spectrum. For them, invisibility can be a powerful tool of cunning.

However, it isn’t always a strength to be invisible within your surroundings. What happens when someone *wants* to be seen or heard, yet still remains unnoticed?

In this class, we’ll examine depictions of invisibility from multiple perspectives in fiction and nonfiction, A/V and print texts, social media and journalism. We’ll listen to experiences of political and social invisibility across intersecting identities: Black people and people of color, Indigenous people, poor and low income people, disabled people, and others. We’ll dig into LGBTQIA+ experiences, especially transgender, bisexual, and femme lesbian invisibilities, and ask, “What does it mean to ‘pass’?” We’ll look at “invisible disabilities” like mental illness, neurodiversity, and unseen physical conditions. We’ll examine experiences of bullying. We’ll read, watch, and tell each other ghost stories. We’ll also dig into concepts of anonymity – in big cities, on social media, and elsewhere.

And more. All with the goal of seeing each other a bit more clearly.

Course Requirements

Students will write and revise two shorter papers (10%) and one longer paper throughout the semester. For the longer, final essay (20%), students will write drafts, provide/receive peer feedback, and revise prior to the final due date. Reading assignments will coincide with weekly response and reflective assignments (20%). Each student will assume the role of Discussion Facilitator for one class each by developing discussion questions that closely interpret and make connections between course texts and their corresponding real world conversations (10%). Class engagement (40%) includes: being well prepared for class meetings and activities; participating thoughtfully in group work, class discussions, and in-class writing/activities; asking questions and showing active listening. Students will have an opportunity to assess their own levels of engagement as a part of the grading process.

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)

Telling Tales

Jacqueline Stuhmiller, Honors College Lecturer

Sem 204, Class #13358: MW 2:00 p.m. – 3:15 p.m., **ONLINE**

Sem 213, Class #18364: TR 2:00 p.m. – 3:15 p.m., **ONLINE**

Reading

Course Reader

Giovanni Boccaccio, *The Decameron*, trans. G. H. McWilliam (Penguin)

Geoffrey Chaucer, *Canterbury Tales*, trans. Neville Coghill (Penguin)

Ovid, *Metamorphoses*, trans. Rolfe Humphries (Indiana UP)

Maria Tatar, *The Classic Fairy Tales*, 2nd ed. (Norton)

Angela Carter, *The Bloody Chamber: And Other Stories* (Penguin)

Course Description

Traditional tales take many forms: myth, legend, folktale, fable, and parable, just to name some of the most well-known. Such stories typically have no set form and are passed down orally from generation to generation. They tend to be populated by flat characters and the stories and the language in which they are told is highly formulaic. To most contemporary Americans, such simple tales seem only appropriate for children. However, traditional tales are neither simple nor childish. In fact, they are typically far more difficult to understand, and are often more intricate, than contemporary tales.

In this seminar, students will (1) practice close-reading texts (that is, deciphering what they really say, not just what they seem to say); (2) examine different types of evidence and formulate original theories to explain the existence of that evidence; (3) learn to express their thoughts clearly and persuasively, both orally and on paper; and (4) engage in intellectual debate and discussion in a small group setting. The written work will be composed of a mixture of analytical and creative assignments.

No prior knowledge of traditional literature is assumed. Merely bring a sense of adventure, a willingness to abandon preconceived notions, and a love of storytelling.

Course Requirements

20% of the final grade will be based on two short formal papers. 20% of the final grade will be based on a final longer analytical paper. 30% of the final grade will be based on daily short, informal writing assignments. 10% of the final grade will be based on facilitations of two different class discussions. 20% of the final grade will be based on what I call student “presence”: attendance, preparedness, attention, and interest.

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)

Graphic Memoir: The Art of Self-Creation

David Southward, Honors College Senior Lecturer

Sem 007, Class #13359: MW 3:30 p.m. – 4:45 p.m.

Sem 014, Class #18365: TR 3:30 p.m. – 4:45 p.m.

Reading

Ellen Forney, *Marbles: Mania, Depression, Michelangelo, and Me*

Maia Kobabe, *Gender Queer*

Marjane Satrapi, *Persepolis: The Story of a Childhood*

David Small, *Stitches: A Memoir*

Craig Thompson, *Blankets*

Riad Sattouf, *The Arab of the Future* v. 1

Course Description

We all have to become someone. Acquiring an identity is essential to human growth and happiness, but the process is seldom quick or painless. Family, relationships, work, school, health, politics, and religion all tug at the psyche, even as they supply it with content and shape. How do we weave the loose threads of our experience into a tapestry of selfhood? How do we tell our story in a coherent, meaningful way? Is it possible to integrate one's identity using words and pictures, and what is to be gained by doing so?

These questions find fresh impetus in the recent trend of autobiographical comics. Looking to their own lives for material, comics artists have begun to lay bare the private suffering, shame, and occasional triumph of becoming an adult—in a form traditionally reserved for childhood fantasy. Through their amusing and harrowing tales of abuse and escape, disease and desire, graphic memoirists hold a mirror up to humanity. Their exuberant self-portraits remind us of the infinite forms a life can take.

Through close reading and discussion of exemplary memoirs, we will explore how personal conflicts are shaped by narrative, how identity is represented in graphic form, and how art interacts with imagination in the construction of a self.

Course Requirements

Students will write two short critical essays (3-4 pp.) to be revised in response to feedback by classmates and the instructor (each worth 20% of the final grade), as well as a longer final paper (20%). An autobiographical mini-comic will be assigned (15%), though no drawing skill is required. Every student is expected to participate actively in discussion; to prepare for class by reading closely and posting comments on Canvas; to lead two class discussions; and to critique four papers by classmates (25%).

HONORS 200: THE SHAPING OF THE MODERN MIND (HU)
The Birth of the Modern: 19th Century European Social and Political Thought (*)

Alan Singer, Honors College Senior Lecturer

Sem 008, Class #13360: TR 9:30 a.m. – 10:45 a.m.

Sem 012, Class #18363: TR 12:30 a.m. – 1:45 p.m.

Reading

Required for Purchase:

Charles Dickens, *Hard Times* [ISBN: 978-0451530998]

Jonathan Sperber, *The European Revolutions, 1848-1851* [978-0521547796]

Carolyn Eichner, *Surmounting the Barricades: Women in the Paris Commune* [ISBN: 978-0253217059]

The following titles will be among the excerpted readings posted as links and pdfs on the course Canvas site:

Mary Wollstonecraft, *A Vindication of the Rights of Woman*

Edmund Burke, *Reflections on the Revolution in France*

Adam Smith, *The Wealth of Nations*

Friedrich Engels, *The Condition of the Working Class in England*

Karl Marx, *The Eighteenth Brumaire of Louis Bonaparte*

Introduction to the Contribution to the Critique of Hegel's Philosophy of Right

J.G. Fichte "Thirteenth Address to the German Nation"

Ernest Renan, "What is a Nation"?

Alice Conklin, "The French Civilizing Mission"

Adrian Hastings, "Christianity, Civilization and Commerce"

Rudyard Kipling, "The White Man's Burden"

Course Description

Today, we regularly use the terms "liberal" and "conservative" in our political discourse. We also frequently use and hear the words "socialism," "feminism" and "nationalism, and "imperialism". These terms are relatively new to the English language, spoken for the first time only in the modern era. This course examines the dominant ideas that shaped European society and its satellites from the period of the French Revolution (1789-1815) until World War I (1914-1918). The themes covered in this course include the various types of political and social ideologies that took hold during and after the French and Industrial Revolutions. As the nineteenth century progressed and mass politics became increasingly important, leaders had to adopt their style of rule to accommodate the new reality. Therefore, we will also examine the role of realpolitik and nationalism. The role of racism during Europe's rapid colonial and economic expansion will also be discussed.

The ultimate goal of this course is to answer some fundamental questions about not only the past, but current European and global society: How have social and political thought changed over time? What major events and developments caused these changes? Which ideologies were most successful? Who are the true ideological ancestors of today's liberals, conservatives, socialists, feminists, and nationalists?

Course Requirements

Students will write three, one-page responses on class discussions and readings (worth 15% of the final grade) and three five-page essays offering critical analyses of the ideas covered in the course (worth 20%, 20%, and 25%, respectively). Students will be expected to do the reading and come to class prepared to participate in discussion (worth 20% of the final grade).

***Credits for this course topic count toward the College of Letters & Science International Requirement.**

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)

Tokyo: A Cultural Biography (*)

Hilary K. Snow, Honors College Lecturer

Sem 009, Class #13867: TR 9:30 a.m. – 10:45 a.m.

Sem 011, Class #15007: TR 11:00 a.m. – 12:15 p.m.

Reading including: (available on Canvas)

Waley, Paul. “From Edo to Tokyo.”

Nishiyama Matsunosuke. “Edo Temples and Shrines.”

Ichikawa Hiroo. “Reconstructing Tokyo: The Attempt to Transform a Metropolis.”

Screen, Timon. *Tokyo Before Tokyo*.

Fraser, Karen. “Picturing the City.”

Vaporis, Constantine. “Digging for Edo: Archeology and Japan’s Premodern Urban Past.”

Imai, Heide. “Between Old Row Houses and Skyscrapers – Tsukudajima and the Residential *Roji*.”

Takeda Rintarô. “Japan’s Three-Penny Opera.”

Viewing

Yasujirô Ozu, *Tokyo Story*, 1953

Course Description

Tokyo was a small fishing village in 1590 when the warlord Tokugawa Ieyasu made it his military capital. By 1700, it was the largest city in the world with a population of over one million. In 2020, it had over 37 million residents and is one of the most important World Cities. Tokyo today would be completely unrecognizable to a resident from 1590. However, a resident from 1700 would be able to navigate parts of the central city today. Even as Tokyo has grown and changed dramatically, aspects of the city from the seventeenth century still can be found there.

This course will trace the history of Tokyo from approximately 1590 to the present day from a variety of angles. We will explore political change, natural disasters, war, religion, entertainment, and the culture of daily life. Students in this course will gain an understanding of the many factors which impact the development of an urban environment. No background knowledge of Tokyo or Japan is necessary.

Course Requirements

- Participation including regular attendance, evidence of careful class preparation, active and productive contributions to class discussions, thoughtful responses to readings and peer critiques, short assignments throughout the semester, and respectful engagement with peers: 30%.
- Cartography paper (with required rewrite): 15%
- Synthesis paper and presentation (with optional rewrite): 25%
- Fiction analysis paper: 15%
- Discussion leading: 5%
- Reflective writing assignments: 10%

***Credits for this course topic count toward the College of Letters & Science International Requirement.**

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)

Human Rights at the Borders of Injustice

Daniel Listoe, Senior Lecturer in English

Sem 010, Class #13634: TR 11:00 a.m. – 12:15 p.m.

Reading

To purchase: J. M. Coetzee, *Waiting for the Barbarians* Penguin, Great Books of the Twentieth Century series, 1999 [ISBN-13: 978-0140283358]

Provided: selected articles and chapters of philosophy, political science, law, history, and cultural studies. Authors include Hannah Arendt, Amartya Sen, Primo Levi, James Dawes, Shannon Mattern, Greg Grandin, Christian Parenti, and Harsha Walia.

Course Description

This course investigates the ideals of Human Rights in an age of mass migration. When vast numbers of migrants and refugees seek asylum and safety from the entwined crises of proliferating wars, internal displacement, and the ravages brought by climate change, what rights might they carry with them and to what effect?

To explore this question, we will focus on borders. Borders between nations. Borders between groups. Borders between those granted status and respect for their rights and those denied such rights, protections, and care. We will look at the processes that allow some to cross into safety while others are confined to camps, deported, or driven off. The course allows students to think through why some people are afforded justice and rights while others are abandoned to their fates.

Drawing on a wide range of readings and films, we will investigate the development of Human Rights as a set of established principles; the selective and uneven processes of their recognition; as well as their remaining potential as universal claims for the value of the human. The course readings range from articles and chapters of philosophy, political science, law, history, and cultural studies. In addition, we will work be attentive to current events, work through several documentary films, and read J. M. Coetzee's novel, *Waiting for the Barbarians*. Analyzing such fine-grained representations of situations in which Human Rights become crucial, we can better imagine their multiple, contradictory meanings; both in terms of their potential and all-too-common catastrophic failures.

Course Requirements and Grades

- There will be two critical, interpretive essays (5 pages) that will be workshopped and revised before being graded (40% of final course grade).
- To help students develop their critical essays and foster class discussion, there will be six short response papers (1-2 pages) (30% of final course grade).
- The course requires consistent seminar participation and active engagement with the assigned readings and film viewings (30% final course grade).

HONORS 200: THE SHAPING OF THE MODERN MIND (HU, OWCB)
Left, Right, and Center: Bridging the Divide in American Politics

Jill M. Budny, Honors College Assistant Director & Lecturer

Sem 006, Class #15539: MW 3:30 p.m. – 4:45 p.m.

Reading

Provided in Canvas: selections from texts authored by Aristotle, David Boaz, Arthur Brooks, Edmund Burke, Noam Chomsky, Matthew Desmond, Thich Nhat Hanh, Nikole Hannah-Jones, John Locke, Lilliana Mason, Karl Marx and Friedrich Engels, Barack Obama, Parker J. Palmer, Jean-Jacques Rousseau, Bernie Sanders, Roger Scruton, and Isabel Wilkerson, among others.

Course Description

American politics has become dangerously dysfunctional as the ideological divide between the left and right has grown and as Americans have become more rigidly partisan. All too often, we are uncritically loyal to our own position while vilifying those with whom we disagree. Rather than trying to understand the complex and nuanced arguments of those whose viewpoints are different from our own, we reduce them to simplistic caricatures that can be easily dismissed. Or, even worse, we surround ourselves with those who think only as we do, and we attempt to completely shut out the voices of those who might ask questions or offer critiques. We treat these challengers as enemies rather than as fellow citizens, neighbors, and friends. When we engage in these behaviors, meaningful discussion and careful deliberation become difficult. Our political institutions, which were designed to foster compromise, begin operating according to a winner-take-all mentality. This causes instability in our political system, as well as frustration, anger, and fear among the individual members of our political community. These trends do not bode well for the long-term health of our democracy.

What can we do? The purpose of this course is to offer an alternative to the tendencies described above by fostering healthier dialogue about political ideas, their foundational assumptions, and their consequences. We will move beyond easy answers and convenient oversimplifications by performing critical, in-depth analysis of texts from across the American political spectrum as we seek to better understand the arguments offered by conservatives, liberals, and moderates in the United States. We will reflect on our own participation in polarization and contemplate reforms, in addition to practicing the skills required of members of a robust and thriving democracy: listening deeply, speaking thoughtfully, posing rigorous questions, analyzing strengths and weaknesses, deliberating respectfully, and seeking common ground when possible. This course also emphasizes experiential learning activities that require students to engage with individuals outside our classroom who embrace different political viewpoints.

Course Requirements

Engagement and class citizenship (25%), which includes actively joining in classroom discussions, writing discussion questions and answers, providing peer feedback, participating in experiential learning activities, and completing additional short assignments; student-led discussions (10%); two short essays (20% each), to be revised in response to feedback from peers and the instructor; and a longer final paper (25%).

MATHEMATICAL SCIENCES 221 (NS, QLB)
Honors Calculus I

Joseph Frannecki, Ph.D., Senior Lecturer of Mathematics

Sec 001, Class #13481: MTWR 2:00 p.m. – 3:15 p.m.

(Prerequisite: Must meet Math Dept placement levels for this course)

Reading

Required: *Calculus Single and Multivariable*, 7th edition, by Hughes-Hallet, et al, and access to WileyPLUS – an online learning platform. The ISBN for the bundle is: 978-1119343998. Students may also wish to purchase a Student Solutions Manual. Additional handouts may also be made available during the semester (at no charge).

Course Description

The world in which we live today could not exist without the explosion in mathematical knowledge which has occurred since the Renaissance. Not only does mathematics make modern technology possible, but mathematical ideas have profoundly changed our views of the structure of the world itself. The ideas, which today are grouped under the heading of Calculus, lie at the center of this transformation; although some of them can be traced back to Archimedes, the subject is usually considered to have been developed by Newton and Leibniz in the seventeenth century, and its success in solving problems such as planetary motion led to the modern idea of the universe as a complex, but predictable, machine.

In the two semesters of this course, we will cover material equivalent to the standard three-semester calculus sequence (Math 231, 232, 233), but our goal is to gain a richer understanding of the material, both the underlying notions and their use in the context of solving real-world problems. A sound knowledge of algebra and trigonometry is required for the course. The key concepts we will cover in the first semester are:

1. Review of essential functions (exponential, logarithmic, trigonometric, polynomial, rational).
2. Continuity and Limits.
3. Differentiation: definition, interpretation, and short-cuts (basic rules and formulas). Applications of differentiation (such as linear approximation, optimization, and related rates problems).
4. Anti-differentiation, Integration (including some techniques of integration such as the methods of substitution and integration by parts), and applications of integration.

Course Requirements

Students will be expected to solve a number of routine problems every week to test their knowledge of the mechanics of calculus. They will also solve a series of more challenging problems, some individually and others as group projects (more challenging due to the pure mathematics or due to the fact they are word problems).