

Math 2250: Calculus I for Science and Engineering

Course Information

Instructor and Course Meeting Information

Instructor: Lola Thompson

E-mail: lola@math.uga.edu

MWF 12:20 - 1:10

Th 2:00 - 3:15

Location: 455 Chemistry

Office: 603C Boyd

Office Hours:

M: 2:30 - 4

Th: 1 - 2

*And by appointment.

Course Objectives

In this course, you will be able to:

- Compute derivatives and integrals of a variety of functions
- Interpret the derivative of a function in several different ways
- Explain your thought processes in a clear, logical manner
- Apply your theoretical knowledge to solve real-world problems

Textbook

University Calculus (2nd edition) by Hass, Weir and Thomas. ISBN#9780321694591.

You can find used textbooks online (eg. Amazon.com) but please check to make sure that the edition matches the one that we are using.

Grades

The grades in this course will be calculated as follows:

	number	percentage each	total percentage
WeBWorK:	30	0.5%	15%
Midterms:	3	20%	60%
Final Exam:	1	25%	25%

Homework Assignments

There will be one WeBWorK assignment for each section of the textbook that we cover in class. Assignments will be due at the beginning of the first class period following the completion of a given textbook section. Generally, this will translate to 2-3 homework assignments per week. All deadlines will be posted on our course's WeBWorK site, which can be found at <http://webwork.uga.edu>.

Exams

There will be three in-class midterms and a cumulative final exam at the end of the semester. Calculators and notes are not permitted.

Course Policies

Attendance

The University of Georgia attendance policy states that “Students are expected to attend classes regularly. A student who incurs an excessive number of absences may be withdrawn from a class at the discretion of the professor.” In this class, ‘excessive’ means four or more absences (i.e. the equivalent of one week’s worth of classes). If you have extenuating circumstances that may cause a prolonged period of absence from the course, please contact me immediately.

Make-up Policy

Typically, I will not accept late homework, and missed tests and exams cannot be made up. That said, I understand that some circumstances are beyond your control. Should you contract a serious illness, please contact your instructor. I will be happy to make arrangements with you under these types of extreme circumstances. Please do not come to class if you have an influenza-like illness!

Academic Honesty

WeBWorK

You are welcome to consult the course text, your class notes, and the instructor. I also encourage you to form study groups with other students, provided that you abide by the following guideline: you may discuss the general problem-solving techniques for WeBWorK problems with other students, but you must independently arrive at the answers that you submit.

Exams

You are not allowed to use any electronic device or consult any source other than the instructor during the exams. In particular, this means *no calculators, smartphones, regular cellphones, iPods, eReaders, laptops, notes, textbooks, etc.* You are on your honor not to talk to another student about an exam until both students have turned them in.

Disabilities, Religious Observances, Etc.

Students in this course with disabilities, including “invisible” disabilities such as chronic diseases and learning disabilities, and who may need disability-related classroom accommodations, are encouraged to make an appointment to see their instructor as soon as possible.

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the first week of the semester to discuss appropriate accommodations.

Withdrawing From The Course

Students who receive failing grades on any of the midterm examinations are encouraged to speak with me immediately in order to determine the best course of action. Any student who wishes to withdraw within one week of taking the first midterm exam may do so without penalty (such students will receive a grade of ‘WP’). Subsequent decisions to withdraw from the course will be handled on a case-by-case basis and may result in a grade of ‘WF.’ In particular, students who choose to continue in the course after failing the first midterm exam must demonstrate that they are making a good faith effort to improve their standing in the course.

Other Information

Seeking Help

Because math topics have a tendency to build on one another, students may find it difficult to catch up after falling behind in their Math 2250 coursework. Fortunately, there are a number of academic resources available to students who seek them out:

1) *My office hours*: I am available at regularly scheduled times to answer your questions on the course material (see “Instructor and Course Meeting Information” above). I am also available to meet by appointment. In particular, I am always happy to discuss current homework assignments during office hours.

2) *Your classmates*: The other students in the course can be one of your most valuable resources. You are strongly encouraged to form study groups, provided that you abide by the policies outlined in the “Academic Honesty” section above.

3) *Tutoring*: Tutoring services are available from the Division of Academic Enhancement (<http://tutor.uga.edu/arc/tutoring>). There are several options, including tutoring by appointment, drop-in tutoring and e-mail responses (within 24 hours) to WeBWorK questions. Please visit the website for detailed information.

Important Dates

Drop Deadline	August 16th (Thursday)
Labor Day	September 3rd (Monday)
Withdrawal Deadline	October 18th (Thursday)
Fall Break	October 26th (Friday)
Thanksgiving Break	November 19th - 23rd (Monday - Friday)
Friday Schedule	December 4th (Tuesday)
Reading Day	December 5th (Wednesday)
Final Exam	December 10th (Monday)

Course Schedule

The following is a rough schedule for the course. Please note that the test dates are tentative.

Lectures	Section In Text	Brief Description
8/13	2.1	Rates of Change and Tangents to Curves
8/15	2.2	Limit of a Function and Limit Laws
8/16	2.2	Limit of a Function and Limit Laws (Drop Deadline)
8/17	2.4	One-Sided Limits
8/20	2.5	Continuity
8/22	2.5	Continuity
8/23	2.6	Limits Involving Infinity; Asymptotes of Graphs
8/24	2.6	Limits Involving Infinity; Asymptotes of Graphs
8/27	3.1	Tangents and the Derivative at a Point
8/29	3.2	The Derivative as a Function
8/30	3.3	Differentiation Rules
8/31	3.3	Differentiation Rules
9/3		Labor Day - No Class!
9/5	3.3	Differentiation Rules
9/6	3.4	The Derivative as a Rate of Change
9/7	3.4	The Derivative as a Rate of Change
9/10		Review for Midterm Exam #1
9/12	3.5	Derivatives of Trigonometric Functions
9/13		Midterm Exam #1
9/14	3.6	The Chain Rule
9/17	3.6	The Chain Rule
9/19	3.7	Implicit Differentiation
9/20	3.8	Derivatives of Inverse Functions and Logarithms
9/21	3.8	Derivatives of Inverse Functions and Logarithms
9/24	3.9	Inverse Trigonometric Functions
9/26	3.10	Related Rates
9/27	3.10	Related Rates
9/28	3.11	Linearization and Differentials
10/1	4.1	Extreme Values of Functions
10/3	4.1	Extreme Values of Functions
10/4	4.2	The Mean Value Theorem
10/5	4.2	The Mean Value Theorem
10/8		Review for Midterm Exam #2
10/10	4.3	Monotonic Functions and the First Derivative Test
10/11		Midterm Exam #2
10/12	4.4	Concavity and Curve Sketching
10/15	4.4	Concavity and Curve Sketching
10/17	4.4	Concavity and Curve Sketching
10/18	4.5	Indeterminate Forms and L'Hopital's Rule (Withdrawal Deadline)
10/19	4.5	Indeterminate Forms and L'Hopital's Rule
10/22	4.6	Applied Optimization
10/24	4.6	Applied Optimization
10/25	4.6	Applied Optimization
10/26		Fall Break - No Class!

10/29	4.7	Newton's Method
10/31	4.8	Antiderivatives
11/1	4.8	Antiderivatives
11/2	4.8	Antiderivatives
11/5	5.1, 5.2	Area; Estimating with Finite Sums; Limits of Finite Sums
11/7	5.1, 5.2	Area; Estimating with Finite Sums; Limits of Finite Sums
11/8	5.3	The Definite Integral
11/9	5.3	The Definite Integral
11/12		Review for Midterm Exam #3
11/14	5.4	The Fundamental Theorem of Calculus
11/15		Midterm Exam #3
11/16	5.4	The Fundamental Theorem of Calculus
11/19		Thanksgiving Break - No Class!
11/21		Thanksgiving Break - No Class!
11/22		Thanksgiving Break - No Class!
11/23		Thanksgiving Break - No Class!
11/26	5.5	Indefinite Integrals and the Substitution Method
11/28	5.5	Indefinite Integrals and the Substitution Method
11/29	5.6	Substitution and Area Between Curves
11/30	5.6	Substitution and Area Between Curves
12/3		Review for Final Exam
12/4		Review for Final Exam (Friday Schedule)
12/5		Reading Day - No Class!
12/10		Final Exam (12 - 3 PM)