Math 133 - Calculus I

Course Information

Instructor and Course Meeting Information

Instructor: Lola Thompson
E-mail: lola.thompson@oberlin.edu
MWRF 11-11:50 AM
Location: King 239
Office: King 200
Office Hours:
   M 5 - 6 PM
   R 7 - 8 PM (Math 133 Group Office Hours)
   F 2:30 - 3:30 PM
   *And by appointment.

Course Objectives

By the end of this course, you will be able to:

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

Textbook

Single Variable Calculus (8th edition) by James Stewart.

Grades

The grades in this course will be calculated as follows:

	number	percentage each	total percentage
WeBWorK	≈ 30	$\approx 0.5\%$	15%
Quizzes	9*	$\approx 1.5\%$	15%
Midterms	2	20%	40%
Final Exam	1	30%	30%

*There will actually be 10 quizzes, but your lowest quiz score will be dropped at the end of the term.

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 `https://courses1.webwork.maa.org/webwork2/oberlin-math133/`. You are responsible for keeping track of the deadlines – once an assignment closes, it cannot be re-opened.

Exams and Quizzes

There will be two in-class midterms and a cumulative final exam at the end of the semester. There will also be 10-minute quizzes at the beginning of class on Fridays.

Blackboard

Copies of lecture notes, handouts, practice exams, etc. can be found on the course Blackboard site. Go to `http://blackboard.oberlin.edu` to access these materials.

Course Policies

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 and Quizzes

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, dumb phones, iPads, 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.

Note: Information about the Honor System at Oberlin can be found at the following website: `http://www.oberlin.edu/students/links-life/honorcode.html`. Please familiarize yourself with its content. All students are responsible for maintaining the highest standards of honesty and integrity in every phase of their academic careers. The penalties for academic dishonesty are severe and ignorance is not an acceptable defense.

Attendance

Class attendance is not a formal part of your grade in the course. That said, students are expected to attend classes regularly. Excessive absences will adversely affect your performance on tests, quizzes and homework assignments. If you have extenuating circumstances that may cause a prolonged period of absence from the course, please contact me immediately.

Disabilities

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.

Make-up Policy

Typically, I will not accept late homework, and missed quizzes 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 me immediately. 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!

Religious Observances

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 third 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.

Other Useful 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 133 coursework. Fortunately, there are a number of academic resources available to the 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) *Private Tutoring*: Free one-on-one tutoring services are available from the Student Academic Success Office in Peters 118.

4) *Math Department Drop-in tutoring*: The Math Department organizes evening drop-in tutoring sessions for all calculus courses. These will take place every week on week nights (Monday - Thursday) from 7:30 PM - 9:30 PM. The location is still TBD.

5) *QS Center Drop-in tutoring*: The Quantitative Skills Center hosts drop-in tutoring for students enrolled in introductory math and science courses. Tutoring takes place on Sundays (7-11 PM), Mondays (7-11 PM), Tuesdays (7-11 PM), Wednesdays (7-11 PM), and Thursdays (7-11 PM). The location is: Science Library, group study room N176.

Extra Practice

The best way to learn math is to *practice*. Some additional resources that you may wish to consult:

- **WeBWorK "Review" Problem Sets** From time-to-time, I will post "review" problem sets on WeBWorK. These problems do not count towards your grade. Feel free to solve as many (or as few) as you find useful. You will be able to check your solutions against the WeBWorK answer key.

- **Old Calculus I Exams** Before each of our scheduled exams, I will post an old Calculus I exam on Blackboard, which you are strongly encouraged to try for yourself.

- **Textbook Problems** I am always happy to recommend extra problems from our course textbook.

Important Dates

Labor Day	September 4th (Monday)
Add/Drop Deadline	September 7th (Thursday)
Fall Break!	October 14th (Saturday) – October 22nd (Sunday)
Withdraw and P/NP Deadline	October 31st (Tuesday)
Thanksgiving Break	November 23rd (Thursday) – November 26th (Sunday)
Classes End	December 8th (Friday)
Reading Period	December 9th (Saturday) – December 12th (Tuesday)
Final Exam	December 13th (Wednesday)

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
8/28	1.4	The Tangent and Velocity Problems
8/30	1.5	The Limit of a Function
8/31	1.5	The Limit of a Function
9/1	1.6	Calculating Limits Using Limit Laws
9/4		**No Class – Labor Day!**
9/6	1.8	Continuity
9/7	1.8	Continuity
9/8	1.8	The Intermediate Value Theorem (Quiz)
9/11	2.1	Derivatives and Rates of Change
9/13	2.2	The Derivative as a Function
9/14	2.2	The Derivative as a Function
9/15	2.3	Differentiation Formulas (Quiz)
9/18	2.3	Differentiation Formulas
9/20		Review of Trigonometric Functions
9/21	2.4	Derivatives of Trigonometric Functions
9/22	2.5	The Chain Rule (Quiz)
9/25	2.5	Applications of the Chain Rule
9/27		Midterm Exam Review
9/28		**Midterm Exam #1**
9/29	2.6	Implicit Differentiation (Quiz)
10/2	2.8	Related Rates
10/4	2.8	Related Rates
10/5	2.9	Linear Approximation and Differentials
10/6	3.1	Maximum and Minimum Values (Quiz)
10/9	3.1	Maximum and Minimum Values
10/11	3.2	The Mean Value Theorem
10/12	3.3	How Derivatives Affect The Shape of a Graph
10/13	3.3	How Derivatives Affect The Shape of a Graph (Quiz)
10/14 - 10/22		**No Class – Fall Break!**
10/23	3.4	Limits at Infinity; Horizontal Asymptotes
10/25	3.5	Summary of Curve Sketching
10/26	3.5	Summary of Curve Sketching
10/27	3.7	Optimization Problems (Quiz)
10/30	3.7	Optimization Problems
11/1		Midterm Exam Review
11/2	3.8	Newton's Method
11/3		**Midterm Exam #2**

Lectures	Section In Text	Brief Description
11/6	3.9	Antiderivatives
11/8	3.9	Antiderivatives
11/9	4.1	Area; Estimating with Finite Sums; Limits of Finite Sums
11/10	4.1	Area; Estimating with Finite Sums; Limits of Finite Sums (Quiz)
11/13	4.2	The Definite Integral
11/15	4.2	The Definite Integral
11/16	4.3	The Fundamental Theorem of Calculus
11/17	4.3	The Fundamental Theorem of Calculus (Quiz)
11/20	4.4	Indefinite Integrals
11/22		**Class Cancelled (Happy Thanksgiving!)**
11/23		**No Class - Thanksgiving Break!**
11/24		**No Class - Thanksgiving Break!**
1/27	4.5	The Substitution Rule
11/29	4.5	The Substitution Rule
11/30	5.1	Areas Between Curves
12/1	5.2	Volumes (Quiz)
12/4	5.3	Volumes
12/6		Calculus Jeopardy!
12/7		Final Exam Review
12/8		Final Exam Review
12/13		**Final Exam (9 - 11 AM)**