Math 133 - Calculus I

Course Information

Instructor and Course Meeting Information

Instructor: Lola Thompson
E-mail: lola.thompson@oberlin.edu
MTRF 10-10:50 AM
Location: AJLC 102
Office: King 200
Office Hours:
   M 2:30 - 4 (general)
   W 10 - 11 (priority Math 133)
   Th 11 - 12 (general)
   *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 (7th edition) by James Stewart. ISBN#0-538-49786-6. 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%
Quizzes	10*	1.5%	15%
Midterms	2	20%	40%
Final Exam	1	30%	30%

   *There will actually be 10 quizzes and a Math 133 Scavenger Hunt (which counts for 1 quiz grade), 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 1-2 homework assignments per week. All deadlines will be posted on our course's WeBWorK site, which can be found at `https://ftcourses.webwork.maa.org/webwork2/ft-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.

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, 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.

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 second 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 tutoring services are available from the Office of Student Academic Services (http://new.oberlin.edu/office/student-academic-services/tutoring.dot). Kay Knight is the person to contact for tutoring in math courses. Kay is located in Peters Hall, Room 118. Her campus extension is x58464.

4) *Walk-in tutoring*: The Math Department organizes evening walk-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 in King 241.

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 (or from other calculus books).

Important Dates

Add/Drop Deadline	September 12th (Thursday)
Fall Break!	October 19th (Saturday) - October 27th (Sunday)
Withdraw and P/NP Deadline	November 5th (Tuesday)
Thanksgiving Break	November 28th (Thursday) - December 1st (Sunday)
Classes End	December 12th (Thursday)
Reading Period	December 13th (Friday) - December 16th (Monday)
Final Exam	December 19th (Thursday)

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
9/3	1.4	The Tangent and Velocity Problems
9/5	1.5	The Limit of a Function
9/6	1.6	Calculating Limits Using Limit Laws
9/9	1.6	Calculating Limits Using Limit Laws
9/10	1.8	Continuity
9/12	1.8	Continuity; Add/Drop Deadline
9/13	1.8	The Intermediate Value Theorem (Quiz)
9/16	2.1	Derivatives and Rates of Change
9/17	2.2	The Derivative as a Function
9/19	2.2	The Derivative as a Function
9/20	2.3	Differentiation Formulas (Quiz)
9/23	2.3	Differentiation Formulas
9/24		Review of Trigonometric Functions
9/26	2.4	Derivatives of Trigonometric Functions
9/27		Midterm Exam Review (Quiz)
9/30		Midterm Exam #1
10/1	2.5	The Chain Rule
10/3	2.5	Applications of the Chain Rule
10/4		Derivatives of Inverse Functions
10/7	2.6	Implicit Differentiation
10/8	2.8	Related Rates
10/10	2.8	Related Rates
10/11	2.9	Linear Approximation and Differentials (Quiz)
10/14	3.1	Maximum and Minimum Values
10/15	3.1	Maximum and Minimum Values
10/17	3.2	The Mean Value Theorem
10/18	3.3	How Derivatives Affect The Shape of a Graph (Quiz)
10/21 - 10/25		No Class – Fall Break!
10/28	3.3	How Derivatives Affect The Shape of a Graph
10/29	3.4	Limits at Infinity; Horizontal Asymptotes
10/31		Midterm Exam Review
11/1		Midterm Exam #2
11/4	3.5	Summary of Curve Sketching
11/5	3.5	Summary of Curve Sketching
11/7	3.7	Optimization Problems
11/8	3.7	Optimization Problems (Quiz)
11/11	3.8	Newton's Method
11/12	3.9	Antiderivatives
11/14	3.9	Antiderivatives
11/15	4.1	Area; Estimating with Finite Sums; Limits of Finite Sums (Quiz)

Lectures	Section In Text	Brief Description
11/18	4.1	Area; Estimating with Finite Sums; Limits of Finite Sums
11/19	4.2	The Definite Integral
11/21	4.2	The Definite Integral
11/22	4.3	The Fundamental Theorem of Calculus (Quiz)
11/25	4.3	The Fundamental Theorem of Calculus
11/26	4.4	Indefinite Integrals
11/28 - 11/29		No Class – Thanksgiving Break!
12/2	4.5	The Substitution Rule
12/3	4.5	The Substitution Rule
12/5	5.1	Areas Between Curves
12/6	5.2	Volumes (Quiz)
12/9	5.2	Volumes
12/10	5.3	Volumes by Cylindrical Shells
12/12		Final Exam Review (Quiz)
12/19		Final Exam (2 - 4 PM)