

Math 134: Calculus II

Course Information

Instructor and Course Meeting Information

Instructor: Lola Thompson

E-mail: Lola.Thompson@oberlin.edu

MTuThF 10:00 - 10:50

Location: King 321

Office: King 200

Office Hours:

M 11 - 12

Tu 3 - 4

Th 11 - 12

*Also available by appointment.

Course Objectives

In this course, you will be able to:

- explain your thought processes in a clear, logical manner.
- apply your theoretical knowledge to solve a variety of real-world problems.
- integrate a wide variety of functions.
- assess when it is appropriate to use a particular ‘test’ on a given infinite series.
- map the progression of ideas that lead us to approximate functions with Taylor series.

Textbook

Single Variable Calculus (8th edition) by James Stewart. ISBN#978-1-305-26663-6. You can purchase your textbook online (e.g., 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	9*	≈ 1.67%	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://ftcourses.webwork.maa.org/webwork2/ft-oberlin-math134/>. 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.

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 speak with me as soon as possible. *Please note that I cannot provide accommodations on exams or quizzes until I receive documentation from the Office of Disability Services.*

Make-up Policy

Typically, missed quizzes and exams cannot be made up. That said, I understand that some situations 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 or office hours if you are extremely sick!*

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

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.

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 134 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) *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.

4) *QS Center tutoring*: The Quantitative Skills Center offers evening help sessions for all calculus courses in the Science Library. These take place every week from Sunday - Thursday. For a detailed schedule, see <http://new.oberlin.edu/office/clear/for-students/drop-in-tutoring/>

5) *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.

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 II Exams** Before each of our scheduled exams, I will post an old Calculus II 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 10th (Thursday)
Fall Break!	October 17th (Saturday) - October 25th (Sunday)
Withdraw and P/NP Deadline	November 3rd (Tuesday)
Thanksgiving Break	November 26th (Thursday) - November 29th (Sunday)
Classes End	December 11th (Friday)
Reading Period	December 12th (Saturday) - December 15th (Tuesday)
Final Exam	December 18th (Friday)

Course Schedule

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

Date	Section	Brief Description	Practice Problems
8/31	6.1	Introduction, Inverse Functions	p. 406, #13, 17, 25, 33
9/1	6.2	Derivatives of Exponential Functions	p. 418, # 15, 25, 39, 41
9/3	6.3	Logarithmic Functions	p. 426, #3, 11, 13, 29
9/4	6.4	Derivatives of Logarithms (Review Quiz)	p. 436, #5, 7, 73, 77
9/7		No Class – Labor Day!	
9/8	6.6	Derivatives of Inverse Trig Functions	p. 481, #19, 25, 63, 67
9/9 (WED)	6.8	Indeterminate Forms and L'Hopital's Rule	p. 499, #11, 13, 19, 25
9/10	7.1	Integration By Parts	p. 516, #5, 15, 17, 39
9/11	7.2	Trigonometric Integrals (Quiz); Add/Drop Deadline	p. 524, #3, 11, 29, 41
9/14	7.3	Trig Substitution	p. 531, #9, 13, 17
9/15	7.3	Trig Substitution	
9/17	7.4	Partial Fractions	p. 541, #7, 11, 23, 31
9/18	7.5	Strategy for Integration (Quiz)	p. 547, #7, 31, 41, 45
9/21	7.8	Improper Integrals	p. 574, #11, 13, 21, 31
9/22	7.8	Improper Integrals	
9/24	8.1	Arc Length	p. 588, #7, 11, 13
9/25		Midterm Exam Review (Quiz)	
9/28		Midterm Exam #1	
9/29	8.3, 8.4	Applications	
10/1	8.5	Applications to Probability	
10/2	9.1	Modeling with Differential Equations	p. 630, #3, 9
10/5	9.2	Direction Fields and Euler's Method	p. 637, #3, 5, 7, 11
10/6	9.3	Separable Equations	p. 645, #5, 7, 13
10/8	9.3	Separable Equations	
10/9	9.4	Models for Population Growth (Quiz)	
10/12	11.1	Sequences	p. 744, #17, 25, 43, 53
10/13	11.2	Series	p. 755, #9, 15, 23, 27, 39, 43
10/15	11.3	The Integral Test	p. 765, #7, 11, 15, 21
10/16	11.4	The Comparison Tests (Quiz)	p. 771, # 5, 9, 17, 29
10/17 - 10/25		Fall Break!	
10/26	11.4	The Comparison Tests	
10/27	11.4	Alternating Series, Absolute Convergence	p. 776, #3, 7, 11, 17
10/29	11.6	Absolute Convergence, Ratio/Root Tests	p. 782, #3, 13, 17, 19
10/30	11.6	Strategy for Testing Series (Quiz)	p. 786, #3, 5, 7, 9, 17, 19, 25
11/2		No Class!	
11/3		No Class!	
11/5	11.7	Power Series	p. 791, #5, 7, 9, 15, 23
11/6	11.8	Power Series	
11/9	11.8	Representing Functions as Power Series	p. 797, #13, 15, 23, 25
11/10	11.9	Taylor and Maclaurin Series	p.811, #5, 15, 27, 45
11/12	11.10	Taylor and Maclaurin Series	p. 811, #5, 15, 27, 45
11/13		Midterm Exam Review (Quiz)	
11/16		Midterm Exam #2	
11/17	11.11	Applications of Taylor Polynomials	p. 820, #5, 7, 9, 19
11/19	11.11	Applications of Taylor Polynomials	
11/20	10.1	Curves Defined by Parametric Equations	p. 685, #4, 9, 13

Course Schedule

Date	Section	Brief Description	Practice Problems
11/23	10.2	Calculus with Parametric Curves	p. 695, #5, 7, 11
11/24	10.2	Calculus with Parametric Curves	
11/26		Thanksgiving Break – No class!	
11/27		Thanksgiving Break – No class!	
11/30	10.3	Polar Coordinates	p. 706, #11, 17, 25
12/1	10.3	Polar Coordinates	
12/3	10.4	Areas and Lengths in Polar Coordinates	p. 712, #21, 27, 31
12/4	10.4	Areas and Lengths in Polar Coordinates (Quiz)	
12/7	10.5	Conic Sections	p. 720, #5, 15, 19
12/8		Parametric and Polar Review	
12/10		Calculus Jeopardy!	
12/11		Final Exam Review (Quiz)	
12/18		Final Exam (2 - 4 PM)	