

MATH 231: Calculus II
University of Illinois, Urbana-Champaign
Fall 2020

Instructor: Lena Folwaczny

- **Email:** lfolwa2@illinois.edu
- **Office Hours:** Monday 8 - 9:30am, 11:30 - 1pm, At these times I will be available on a zoom link via our class Moodle page, and via email.

Course Information:

- **Description:** Calculus II is the second semester continuation of Calculus I, and assumes a very good working knowledge of limits, derivatives, basic integration, and integration by substitution. We will learn that integration is not nearly as straightforward as differentiation, and learn MANY different techniques for integrating functions (such as partial fractions and trig substitution). We go on to study infinite sequences and series and their applications, which is a major shift in methodology. For most people, Calculus II is the most challenging term in the calculus sequence, mainly because it takes a fair amount of maturity and creativity that you may not have needed up to this point. There are a larger number of interrelated concepts than before, and solving a single problem can require thinking about one concept or object in several different ways. Because of this, conceptual understanding is more important than ever, and it is not possible to learn a short list of “problem templates” in lecture that will allow you to do all the HW and exam problems. Thus, while lecture and section will include many worked examples, you will still often be asked to solve a HW problem that doesn’t match up with one that you’ve already seen. The goal here is to get a solid understanding of calculus so you can solve any such problem you encounter in mathematics, the sciences, or engineering, and that requires trying to solve new problems from first principles, if only because the real world is sadly complicated.
- **Textbook:** James Stewart, Calculus: Early Transcendentals, 8th edition, with Enhanced WebAssign.
- For complete information on purchasing options for both, see

<http://go.illinois.edu/CalculusBookInfo>

If you have the standard text and WebAssign package from Math 220 or 221 from the last semester, then you already have everything you need for this course. Even before you purchase WebAssign, you can freely use it for the first two weeks of class and so not miss any homework assignments.

Weekly Schedule:

- Monday: Professor Office Hours. Watch Lecture Videos, take Lecture Quiz, and start WebAssign HW.
- Tuesday: Discussion Section for worksheet
- Wednesday: Watch Lecture Videos, take Lecture Quiz and start WebAssign HW.
- Thursday: Discussion Section for worksheet.
- Friday: TA Office Hours (All Day)

All course work and videos for the week will be posted on our class Moodle page by Monday morning 8am. So on Monday you will see videos and lecture quizzes for Monday/Wednesday lectures, worksheets for Tuesday/Thursday discussions, Written HW for the week, WebAssign HW for the week, and Study Guide for the upcoming exam.

Approximate Schedule:

- Week 1: Sections 5.3, 5.4, 5.5
- Week 2: Sections 6.1, 6.2
- Week 3: Sections 6.3
- Week 4: Sections 7.1, 7.2, 7.3
- Week 5: Sections 7.3, 7.4, 7.5
- Week 6: Sections 7.8
- Week 7: Sections 7.7, 8.1, 8.2, 8.3
- Week 8: Sections 8.3, 11.1, 11.2
- Week 9: Sections 11.2, 11.3
- Week 10: Sections 11.4, 11.5, 11.6
- Week 11: Sections 11.7, 11.8, 11.9
- Week 12: Sections 11.10
- Week 13: Sections 11.11, 10.1
- Week 14: Thanksgiving Break
- Week 15: Sections 10.1, 10.2, 10.3
- Week 16: Sections 10.3, 10.4

Grade Information: Overall grade cutoffs will never be stricter than 90% for an A- grade, 80% for a B-, and so on. We will not curve the final averages down. For example, if your final average in the class is 80 % then your grade will be at least a B-. The precise function which assigns a letter grade to each percentage will be determined at the end of the course.

- **WebAssign Homework** (5% of overall grade): There will be regular online homework assigned via WebAssign for each lecture. Your two lowest homework grades will be dropped at the end of the semester. Each week's two WebAssign assignments are both due together the following week, on Monday at 2pm.
- **Written Homework Solutions** (5% of overall grade): Each week, problems will be chosen from your assigned WebAssign Homework. The detailed solutions to these problems must be written up clearly and turned in by Saturday at 8am.
- **Lecture Quizzes** (5%) There will be a short Lecture Quiz assigned every Monday/Wednesday to check basic comprehension of lecture material. The lecture quiz is due the following day by 8am.

- **Groupwork** (5%) During discussion sections on Tuesday/Thursday, you will be assigned a group of 4 students that will meet 4 times together. The group will work together to solve worksheet problems, but each student should fill out their own worksheet. Exactly one student from the group must upload the worksheet to Moodle by 8am the next morning for grading. The names of all group members who were present must be on this worksheet, and each group member will receive the same score from this worksheet. Each group member can upload a worksheet exactly one time - a group member uploading a worksheet for more than one of the four days will result in a score of 0 for the group (unless this was absolutely necessary due to an absence).

- **Midterm exams** (Lowest exam 5%, Others 10% each): There will be seven midterm exams during class, each administered via CBTF Remote, the Computer-Based Testing Facility at U of I. Midterm exams begin at 5pm. The complete list of Midterm Exams is as follows:

Midterm 1 Monday, August 31st, 5pm
 Midterm 2 Monday, September 14th, 5pm
 Midterm 3 Monday, September 28th, 5pm
 Midterm 4 Monday, October 12th, 5pm
 Midterm 5 Monday, October 26th, 5pm
 Midterm 6 Monday, November 9th, 5pm
 Midterm 7 Monday, December 7th, 5pm

- **Final exam** (15%): This will cover all class material. Exact days and times to be announced later.

Weekly Due Date Schedule

- Monday: 2pm - WebAssign HW due, 5pm - Midterm (every other week)
- Tuesday: 8am - Lecture Quiz Due
- Wednesday: 8am - Group Worksheet due
- Thursday: 8am - Lecture Quiz due
- Friday: Group Worksheet due
- Saturday: 8am - Written HW due

Policies:

- **Calculators:** While calculators may be used in class or to help with homework, they will not be permitted in exams.
- **Netiquette:** Write clearly and professionally. In any course-related communication (emails, chats, discussions), use standard proper English with correct grammar. Stay on topic. Whether you are writing a discussion post or a message to your instructor, stay focused on the topic.

In an online course, most communication is done through written messages either in private posts or public discussions. It is important that students in online courses be especially sensitive to how messages and sentiment are communicated and received. Remember you are communicating with real people.

Stay on topic. Whether you are writing a discussion post or a message to your instructor, stay focused on the topic. Be kind and ethical. Do not belittle other students or the instructor. You may disagree with what someone says, but focus on the issue, not the person. Instead, be overly kind. Thank people for their response. Let them know you appreciate their time, how quickly they responded, etc. Behave online as you would in person. Be forgiving of the mistakes of others.

- Technology: You will need:
 - To have access to the internet using a laptop or desktop computer, in order to watch class videos, participate in discussion sections on zoom, and take exams. Students are responsible for having a backup plan if the primary computer crashes and/or Internet service fails. Mobile devices cannot be used for timed online exams.
 - The ability to scan homework and worksheets to a .pdf file (for this a smartphone will suffice).
 - To know how to download files and have the ability to install software. Students must have Adobe Acrobat Reader (free download) installed on the computer.

- Response time: I check the course frequently for postings and emails throughout the week. I will try to respond to any weekday messages within 24 hours, and weekend messages by the end of Monday.

- Late work and absence: Late work is not accepted. I understand that situations arise during the semester, which is why I will drop your lowest 2 written HW scores, your lowest 2 WebAssign HW scores, and your lowest 2 worksheet scores at the end of the semester. This is the only reason I drop scores. The university policy on excused absences will be followed; in particular, please let the instructor know in advance if you must miss work.

- Honor code: All work is conducted under the UIUC Student Conduct Code. In particular, all graded work you turn in must be your own.

Disability Services: Students with disabilities who require reasonable accommodations to participate in this class should contact me as soon as possible. In particular, any accommodation on quizzes and exams must be requested at least a week in advance and will require a letter from DRES.

Cheating: Cheating is taken very seriously as it takes unfair advantage of the other students in the class, and is handled as per Article 1 Part 4 of the student code. Penalties for cheating on exams, in particular, are very high, typically resulting in a 0 on the exam or an F in the class.