Math 142: College Calculus II

Instructor(s)

Lecturer: Mark Sullivan
    Office: Mathematics building 136
    E-mail: marksull@buffalo.edu
    Office hours: (all virtual; see UB Learns for the Zoom link)
        Tuesdays, Wednesdays and Thursdays, 9:00 AM ET to 11:00 AM ET
        Tuesdays and Thursdays, 2:00 PM ET to 3:30 PM ET
        (and by appointment)
Teaching assistant: Mark Sullivan

Prerequisites

MTH 141, with a recommended grade of C or higher. MTH 121 is usually not adequate preparation for MTH 142.

Textbook

James Stewart, Calculus, Early Transcendentals, Math 141, 142 8th custom UB edition

Meeting times and locations

August 30th, 2021 - December 10, 2021

Lectures: NSC 210. Tuesdays and Thursdays, 5:30 PM ET to 6:45 PM ET
Recitations:
    Section Y1: Talbert 111. Tuesdays, 7:05 PM ET to 7:55 PM ET
    Section Y2: Bell 138. Thursdays, 7:05 PM ET to 7:55 PM ET

Course description

From the Mathematics Department: "This is the second part of a 3-semester sequence in calculus for students of mathematics, natural sciences and engineering. MTH 142 covers Chapters 6-8 and 10-11 of the text, which include material on techniques of integration, applications of integration, parametric equations and polar coordinates, and infinite sequences and series."

From me: This class has four topics:
Techniques for computing definite and indefinite integrals (Chapter 7)
Sequences and series (Chapter 11)
Applications of integration to problems in geometry (Chapters 6 and 8)
Calculus for parametric and polar curves (Chapter 10)

Assignments and grades

Homework will be assigned weekly throughout the semester (with some exceptions, to account for midterm exams and the Fall recess). Altogether, we will have 11 homework assignments. Your lowest homework grade will be dropped. Homework assignments will account for 20% of your final grade.

Quizzes will be given in some recitations. There will be 6 quizzes throughout the course. Your lowest quiz grade will be dropped. No make-up quizzes will be given; if you miss a quiz, then your score for that quiz will be a 0. Quizzes will account for 15% of your final grade.

Two midterm exams will be given in the course. Their tentative dates are *Tuesday, September 28th* and *Thursday, November 11th*. These midterm exams will not be cumulative; no problem that could have appeared on the first midterm exam will appear on the second midterm exam. Make-up exams will only be given in extreme circumstances, in which case you'll have to provide documentation to prove that such circumstances prevented you from taking the exam at the normal time. Each exam will account for 20% of your final grade.

There will be a **cumulative final exam** for this course. See the following section for more details. The final exam will account for 25% of your final grade.

To summarize:

Course Component	Percentage
Homework	20%
Quizzes*	15%
Midterm Exams**	40%
Final Exam	25%
TOTAL	100%

The following system will be used to assign letter grades:

Letter Grade	Course Average x
A	$93 \leq x \leq 100$
A-	$90 \leq x < 93$
B+	$87 \leq x < 90$
B	$83 \leq x < 87$
B-	$80 \leq x < 83$
C+	$77 \leq x < 80$
C	$73 \leq x < 77$
C-	$70 \leq x < 73$
D+	$67 \leq x < 70$
D	$60 \leq x < 67$
F	$0 \leq x < 60$

Final exam information

There will be a cumulative final exam for the course, scheduled **within** the following time:

Monday, December 13th, 2021, 8:00 AM ET - 11:00 AM ET

If you have a conflict or some other legitimate reason for which you cannot attend the final exam at this time, you **must** inform me immediately. This exam is standard for all Math 142 sections throughout the Mathematics Department. **Despite that the exam period is three hours, you will have exactly two hours from the official start time, which is 8:30 AM ET. The location is NSC 228.**

Controlled enrollment

This is a Controlled Enrollment Course. If you need to repeat this course in the future (because you failed it, resigned from it etc. at the first attempt) you may be forced to do it in a UB summer or winter session. Registering to repeat this course in a Fall or Spring semester may be difficult or impossible. For more information see the Repeat Policy in the UB Undergraduate Catalog:

`https://catalog.buffalo.edu/policies/repeat.html`.

Academic honesty

The University at Buffalo's policy on academic honesty can be found here:

https://catalog.buffalo.edu/policies/integrity.html

Specific to this class: no outside resources will be allowed on exams or quizzes. The only things you'll be able to use during an exam or quiz are paper, writing instruments, and your nervous system. Use of any other resource is prohibited.

To be frank, I really don't want to have to deal with academic dishonesty. If, during the course of the semester, I discover that you have not closely adhered to the university's policies, then you will get no sympathy from me. I will pursue the most severe punishment possible in that case. In short, **I assure you that it would be far better for you to fail the class honestly than to disobey the rules.**

Incomplete grades

If, at some point during the semester, you have a passing course grade, but are unable to finish the remaining coursework by the official end date of the course (due to exceptional circumstances), then you may be eligible to receive a grade of "I." The "I" grade is a temporary placeholder. It allows the student more time to complete the coursework than the semester would ordinarily allow. This requires the instructor to assess what assignments need to be made up, and to designate a deadline (less than 12 months) for the completion of these assignments. After this deadline, the "I" is replaced with an official grade for the course which considers all of the work the student has done from the beginning of the course up to the deadline. **In order for a grade of "I" to be assigned, the student must initiate a request for such an extension prior to the end of the semester.** Additional information about incompletes can be found here:

https://catalog.buffalo.edu/policies/explanation.html

Accessibility

Reasonable accommodations for equal access to this course because of disability should be requested through Accessibility Resources located at 60 Capen Hall, (716) 645-2608.

Advice

This class is hard. I have worked with many students in this class before, and not one of them has ever expressed to me that they found this course easier than Math 141. It would therefore be reasonable to expect that it will be harder than Math 141. Of course, my job is to teach you, so I have some pieces of advice for handling the class.

1. There is exactly one way to improve your skill in mathematics, and it's to practice doing the types of problems that you're studying. For some reason, we humans simply cannot learn how to do an activity well just by being told how to do it, or by watching someone else do it. To believe that you can become better at mathematics by watching someone else do it is equally absurd as believing that you can become a pianist by watching someone else play the piano.

2. Confidence comes from familiarity. As a psychological corollary to the previous point, the only way to get over any anxiety that you might feel (especially in preparation for a test) is to become so familiar with the material that nothing could possibly surprise you. Think of any task that you feel you could easily do. Surely you didn't always think you could do it. So, how did you overcome your self-doubt?

3. Budget your time. This is important in general, but especially so for exams. Divide the amount of time allotted for an exam by the number of problems on the exam. This gives you a guideline for how long to spend on each problem. (It would also be wise to budget for some additional time at the end of the exam, in order to deal with any unexpected difficulties.)

4. Check your e-mail daily. I have a history of forgetting to make announcements to the whole class before or during the class time. Therefore, at times, it may be necessary for me to make an announcement through an e-mail. I promise you that if these e-mails were not important to you, then I would not send them.

5. Don't hesitate to ask me for help. Educating you is my job, and I happen to love my job. If there's ever anything I can do to help you learn, let me know. Additionally, if you have any suggestions for how I should run the course, I'd be open to those, as well.