Math 21 – Summer 2023

Overview

Review of limits/integration, Improper integrals with applications to probability, comparison of integrals, sequences and series, convergence tests for series, power series, Taylor Series, and applications. If time permits, we will preview Math 51.

Prerequisites

Math 19 and 20 or equivalent (for example, Calculus AB*).

*L'Hospital's rule and integration by parts are typically not taught in Calculus AB, however, they are covered in Math 19 and 20. We will briefly review both as they pertain to this course. If you're not familiar with them, I highly recommend studying them prior to the start of the course. That being said, unfamiliarity with these two topics should not prevent success in the course so long as they are learned early on in the quarter.

Textbook/Lecture Outlines

Calculus, Volume 2, OpenStax.
https://openstax.org/details/books/calculus-volume-2

The textbook is mostly a resource for practice problems as well as a reference if one wants a few more details than covered in class. The main source of content will arise from my lecture outlines (Files -> Lectures). **Completed outlines will not be provided.** If you miss a lecture, please obtain the notes from a classmate.

Discussion Lectures

Every Wednesday will be a "Discussion Lecture." For at least 50 minutes, we will go over problems individually and together. They will also be used to make up any skipped material as well as preview the Thursday lecture should time permit.

Instructor

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Course Assistant

Simona Diaconu
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Office Hours

Check Canvas for the office hours schedule. Please look out for any Canvas announcements for changes to the schedule.

Grading Scheme

- Homework – 30% (graded out of 80%, not to exceed 100%)
- Midterm Exam – 30%
- Final Exam – 40%

The sections below will go more in-depth on the above. The grade in this course is a measure of mastery of the material. No graded assignment in this course is curved, but there may be a curve at the end of the course applied to the final grade cutoffs. There is no predetermined curve, and any curve will be decided after all grades are in the system. Grades will not be curved down, however (for example, 70% guarantees a C-, 80% guarantees a B-, and 90% guarantees an A- regardless of curve).

Homework

Homework will be posted every Thursday beginning Week 1 on Canvas under the "Assignments" tab and will be **due the following Thursday no later than 10am on Gradescope**. Homework will be due every Thursday starting week 2, and solutions will be posted shortly after the due date (Files->Homework Solutions). **Late homework will not be accepted**, so if you feel like you cannot complete an assignment for any reason, please submit what you have for partial credit before the deadline. If there are technical difficulties uploading the assignment, you must contact us **before the deadline with your assignment**. To account for unforeseen hardships throughout the quarter, the homework category will be graded out of 80% of the total points. What this means is that if your total homework score equals or exceeds 80% of total available homework points, you will receive the full 30% from the homework category.

Homework must be submitted as a PDF. You may either write it on a tablet and export that or handwrite it on paper and scan it. There are many free applications on iOS and Android that allow you to do this. Here are some examples:
- Genius Scan, Cam Scanner, Scanner Pro, TurboScan

Here is a guide with instructions on how to upload to Gradescope directly through your phone: http://gradescope-static-assets.s3-us-west-2.amazonaws.com/help/submitting_hw_guide.pdf
When uploading to Gradescope you must tag your problems appropriately as this makes the assignment much easier to grade and look back on once graded. Starting with Homework 3, **there will be a 10% homework score penalty if you do not tag your problems.** If you do not want to submit a specific homework problem, then I'd prefer if you included "Problem skipped" in your scanned document so that you can still tag something for it.
For help on how to do this, please refer to the following link:

https://help.gradescope.com/article/ccbpppziu9-student-submit-work#submitting_a_pdf I highly encourage you to collaborate on your assignments. However, **you must submit the assignments in your own words/handwriting.** Write your name somewhere on the first page of your assignment.

Exams

There will be two exams in this course: one midterm exam and one final exam.

- Midterm Exam – Thursday, July 20th 10:30am – 11:45am/12pm*
- Final Exam – Saturday, August 19th 8:30am – 11:30am

Rooms are TBD.

*The midterm will be in class. If there are no conflicts, I will give you an additional 15 minutes past the usual class time to complete the exam (90 minutes total). If there **are** conflicts, then you will have the 75-minute class period, but I will adjust the length of the exam.

You are allowed to bring one handwritten 8.5x11-inch sheet of paper to each exam on which you can put on both sides whatever material you wish from the course. You may write your sheet on a tablet and print it out, however, screenshots are not allowed.

If you have a course related conflict or university sanctioned event (e.g. away game for a sport) with the midterm/final, you must contact me **at least two weeks prior via the form on Canvas** to the exam to make arrangements for an alternate (earlier) sitting. The same policy holds for any OAE accommodations you may have. No other schedule conflicts are accommodated for the midterm/final, and alternate exam times are limited. The final exam must be taken at the time mentioned above. **Conflicts informed solely via email and not using the form will not be considered.**

If you must miss an exam due to illness, please contact the instructor for more information.

Special Accommodations

If you experience disability, please register with the Office of Accessible Education (OAE). Professional staff will evaluate your needs, support appropriate and reasonable accommodations, and prepare an Academic Accommodation Letter for faculty. To get started, or to re-initiate services, please visit **oae.stanford.edu**. Please submit your letter to the form on Canvas as soon as possible.

Honor Code Policy

Please review the Honor Code here: https://communitystandards.stanford.edu/policies-guidance/honor-code

In particular, it is forbidden to collaborate with another student or any other person on an exam. Any use of online sources included but not limited to Chegg, Slader, CourseHero, ChatGPT, etc. is considered an Honor Code violation.

Rough Course Schedule (Subject to change)

Week	Textbook Sections	Comments
1	3.7, 5.1	Course begins Monday 6/26
2	5.1, 5.2	No class Tuesday 7/4
3	5.2 – 5.5	
4	5.5 if not finished, 5.6, Review	Midterm 7/20 in class
5	6.1, 6.2	
6	6.3, 6.4	
7	6.4, Math 51 Preview	
8	Review	Final Exam 8/19