

## Math 241: Calculus IV, Section 002

Spring 2020 Syllabus

**Instructor:** Eduardo García-Juárez

**Email:** [edugar@math.upenn.edu](mailto:edugar@math.upenn.edu)

**Lectures:** Tuesday-Thursday 10:30am-12pm in DRL A4.

**Office hours:** Wed 10:30am-12:30pm in DRL 3N4C.

**Course Web Page:** Canvas

**First class, last class:** September 16th, April 28th.

**TA:** John Ta ([jta2000@sas.upenn.edu](mailto:jta2000@sas.upenn.edu))

**Recitations:** M/F 8-9am and 9-10am

**Office hours:** TBA.

**Prerequisites:** Math 114 and Math 240.

**Topics to be covered:** The course will cover the study of the prototypical PDEs: Laplace, heat and wave equations. It will start with an introduction and motivation about the physics that underline these equations, and then proceed with several methods to solve them: separation of variables, Fourier series, eigenvalues and Fourier transform. A complete and detailed list of topics, in order and with an indication of the time we will spend on them, can be found here:

**https:**

[//www.math.upenn.edu/sites/www.math.upenn.edu/files/math241syllabus.pdf](https://www.math.upenn.edu/sites/www.math.upenn.edu/files/math241syllabus.pdf)

According to the schedule in the above link, the first midterm will cover Chapters 1 and 2, the second midterm will cover Chapters 3, 4, and 5. The final exam will cover all the previous ones together with Chapters 7, 8, and 10.

**Textbook:** Haberman, Richard. *Applied Partial Differential Equations with Fourier Series and Boundary Value Problems*, 5th Edition 2012, Pearson/Prentice Hall, Publishers.

You can find copies for of the book in the math library in DRL, and also you can visit the Greenfield Intercultural Center for free copies.

Lecture notes will be updated on Canvas.

The following link contains very useful information from previous years, including many exams and what are considered the core problems for the course (many of them will be part of the homework assignments)

<https://www.math.upenn.edu/undergraduate/calculus-homepages/calculus/>

**Canvas:** The class will make use of Canvas to post assignments, grades, notes, announcements, etc. Students will be responsible for checking Canvas regularly during the semester.

**Homework:** Weekly, posted on the Canvas website. Homework will be assigned on Thursdays at 10am, and it will be due the following week on Thursday no later than 10am (online submission through Canvas). You will be allowed one week to complete each assignment. **Collaboration between students is encouraged**, but you must write your own solutions, understand them, and list the names of your collaborators at the top of each assignment.

*Late homework will not be accepted.*

*Your two lowest homework scores will be dropped.*

**Exams:** There will be two in-class midterms and a final exam. Exam attendance is *mandatory*. You can take the make-up midterm only if you have a medical excuse or *prior* arrangement (you must inform me at least 24 hours prior). The final exam will be cumulative.

*The first midterm is on Thursday February 20. **Before drop deadline.***

*The second midterm is on Thursday March 26. **Before withdraw deadline.***

*The final exam is on May 6, 12-2pm.*

**Evaluation:** Your final grade is based on the homework (24%) and participation on Piazza platform (1%), the midterms (25% each), and the final exam (25%). In-class quizzes (mainly during recitations) will add up to a maximum of 5 points as extra credit.

**Extra resources:** Most students struggle at some point during their years in college, and calculus courses are especially challenging for many. So please don't hesitate in leaning on the following useful resources:

- **Me.** I am always available through email to arrange a meeting (and of course during office hours).
- **Math Help** is available Monday through Thursday 4PM to 7PM in Education Commons 235. No appointment is necessary. This is a great place to work together on homework, with extra assistance available if need be  
<https://www.math.upenn.edu/undergraduate/calculus-homepages/schedule-math-centers>  
<https://www.math.upenn.edu/undergraduate/getting-help/calculus-help>

- **CAPS: Counseling & Psychological Services.** This is an excellent resource, not sufficiently known, that everybody should use whenever stress or any other personal issues arise.  
<https://www.vpul.upenn.edu/caps/>
- **Greenfield Intercultural Center.**  
<https://www.vpul.upenn.edu/gic/>
- **The Tutoring Center** [www.vpul.upenn.edu/tutoring/](http://www.vpul.upenn.edu/tutoring/)
- **Math Department Approved Private Tutors**  
[www.math.upenn.edu/ugrad/tutors.html](http://www.math.upenn.edu/ugrad/tutors.html)