

Online

Monday, Wednesday 2:40-4:00

Please read the entire syllabus carefully before continuing in this course. Be sure that you are available for the exams.

Instructor: Dr. Matthew Romney (matthew.romney@stonybrook.edu)

Office: TBD

Office Hours: Monday 1-2pm/Wednesday 4-5pm, or by appointment

Course assistant: Jonathan Galvan Bermudez

Course Description This course is an introduction to Fourier series and to their use in solving partial differential equations (PDE). We will study in detail three fundamental PDE: the heat equation, the wave equation and Laplace's equation. These equations are important in many applications from various fields (mathematics, physics, engineering, economics, etc.) and illustrate important properties of PDE in general.

Prerequisites: You must have completed the following courses with a grade of C or higher: MAT203 or 205 or 307 or AMS261; MAT303 or 305 or AMS 361. It is also recommended that you have taken MAT 200 or MAT 250.

Exam Dates

- Midterm 1: Monday, September 28, 2:40-4:00pm (Online)
- Midterm 2: Wednesday, November 4, 2:40-4:00pm (Online)
- Final Exam: Wednesday, December 9, 2020, 5:30-8:00pm (Online)

Resources

- **Course Webpage:** TBA
- **Discussion board:** pi Piazza.com/stonybrook/fall12020/mat341
All course related questions should be posted here.
- **Textbook:** David Powers, Boundary Value Problems and Partial Differential Equations, 6th ed., Elsevier (Academic Press), 2010. (Reading and homework assignments will be assigned out of this textbook. Make sure you can access a copy of the textbook.)

Graded Components

- **Homeworks** – 30% of course average.
- **Two Midterm Exams** – 35% of course average
- **Final Exam** – 35% of course average

Lectures

Lectures will be uploaded to the course webpage. It is expected that you will have watched the lecture ahead of the corresponding class meeting. The class itself will be conducted in an interactive format, with a focus on problem solving.

Homework

There will be a homework assignment most weeks. These will be listed on the course website. Homework should be submitted on Gradescope.

Each week's homework assignment is due at the **beginning of Monday's lecture** (2:40 pm) of the following week. Homework may be turned in up to a week late for 60% of the points.

You are welcome to work together with your fellow classmates on the homework, provided that each person in a group is actively contributing. In particular, you must completely understand

your solution and write it in your own words. If you use an outside resource, such as an internet site, you should cite this in your solution.

Exams

Exams will be proctored through Zoom. You must take the exams logged into the Zoom session with your camera enabled, and upload your work immediately to Gradescope.

No make-up exams will be given. If a student misses a midterm exam with documented evidence, then the student's final exam grade will be substituted for the missed midterm. A student must sit the final exam at the scheduled time in order to receive a passing grade in the class.

Disability Support Services

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or

studentaffairs.stonybrook.edu/dss/

They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website:

www.sunysb.edu/facilities/ehs/fire/disabilities

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at

www.stonybrook.edu/uaa/academicjudiciary/

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

The instructor reserves the right to modify the standards and requirements in this syllabus. Notice of such changes will be by announcement in class, and changes to this syllabus will be posted on the course website.