

MAT 533: REAL ANALYSIS, II

Instructor: Jingrui Cheng (jingrui.cheng@stonybrook.edu)

Class location: Physics, P-127.

Class time: MW: 11:30-12:50 pm.

Office Hour: Thursday and Friday: 2:30-3:30 pm.

Grader: Runjie Hu (runjie.hu@stonybrook.edu)

Office Hour: Friday: 5-6 pm on zoom.

Course description: L^p spaces, Radon measures, Fourier series and Fourier transform, Sobolev spaces, Hilbert and Banach spaces, uniform boundedness principle, BV functions and sets with finite perimeter.

Prerequisites: Mat 532, Real Analysis, I.

Exam Dates:

- Midterm: Wednesday, March 6 (i.e. the Wednesday before spring break), in class.
- Final exam: Monday, 5/15, 11:15-1:45 pm.

Textbook: Gerald B. Folland, Real analysis: modern techniques and their applications, 2nd ed.

Suggested reading:

- Real and Complex Analysis (3rd edition) by Walter Rudin,
- Functional analysis, (1st edition) by Peter Lax.

Grading: 20 percent homework, 30 percent midterm, 50 percent final.

Late Homework Policy: Student's homework assignment shall be considered late if it is not turned in to the instructor by the midnight of the due date (by turning in person or by email to the instructor). Late homework will be accepted with the following penalty: you lose 30 percent of the highest possible grade for every day past the due date (i.e. if you are 3 days late, your maximum score is 10 percent).

Missed Exam Policy: 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 instances 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

<http://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.

Syllabus Revision: The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class and changes to this syllabus will be posted on the Brightspace.