

SYLLABUS FOR MAT 532

Instructor: Jingrui Cheng

Office: Math Tower 2-116.

Office Hour: Monday and Thursday 7-8 pm, on zoom, or by appointment. Please go to the following link: <http://www.math.stonybrook.edu/office-hours>. (Or you can go to the webpage for SBU math department, then there is a tab “Advising and Assistance”, then you click on “Office hours”.)

Grader: Zhuang Tao.

Office Hour: Monday 4-5 pm.

Class: Tuesday/Thursday 9:45-11:05 am, in Javits 101. (The room assignment may subject to change). Everyone must wear a mask ! The class moves to online (zoom on Blackboard) after Thanksgiving.

Textbook: Gerald B. Folland, Real analysis: modern techniques and their applications, 2nd ed. We will cover Chapter 1, 2, 3 and 6, possibly part of chapter 4 if time permits. Some recommended reading:

- (1) Real Analysis by Royden. H. L. Very thorough and detailed treatment of abstract measure theory. Reasonably easy to follow, but quite boring.
- (2) Real and Complex Analysis by Walter Rudin. The Exercises in this book are highly recommended. Quite a few brain teasers.
- (3) Real Analysis, Functional Analysis and Fourier Analysis by Elias Stein. Very friendly to readers and interesting, since it contains applications of the theory.

There is a beautiful and interesting subject called “geometric measure theory”. You may take a look at the following to find out:

- (1) Measure theory and fine properties of functions by Evans.
- (2) Sets of Finite Perimeter and Geometric Variational Problems: An Introduction to Geometric Measure Theory by Maggi.

Homework: It will be assigned weekly from the book above. Keep track of the Black board.

Grades: 20 percent HW, 30 percent midterm, and 50 percent final.

Midterm: It will be held in class on week 9 (around Oct 20). Precise dates to be announced.

The following are some required statements:

- **Student Accessibility Support Center Statement** If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or via e-mail at: sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.
- **Academic Integrity Statement** 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 is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology and Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at [http://www.stonybrook.edu/commcms/academic integrity/index.html](http://www.stonybrook.edu/commcms/academic%20integrity/index.html).
- **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 University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook. Americans with Disabilities Act. If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC(Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, 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 web site: <http://www.ehs.sunysb.edu> and search Fire Safety and Evacuation and Disabilities.