## AMAT510A Real Analysis (Spring, 2023)

Text: Real Analysis (4th ed.), by Royden and Fitzpatrick

**Instructor**: Dr. Ron Yang, **Time**: Lecture 1:30-2:50pm (TuThr) , Hudson B003

Contact: phone: 2-4640; email: ryang@albany.edu

Office Hours: 9–10 am (TuThr) or by appointment at Catskill CK337

**Course objectives**: In this course we will study Lebesgue measure and Lebesgue integration. The theory has a wide range of applications in mathematics, science and engineering. The construction of nonmeasurable sets requires the use of the Axiom of Choice which has a deep philosophical meaning, and many of its theorems require refined and delicate analysis which can be quite enjoyable to read and comprehend. We will cover Part I of the textbook and a few selected sections from Part II. Students are required to remember most of the definitions, examples, and theorems as well as their proofs. Indeed, proving theorems and constructing examples will be an important part of the training of this course. The best learning strategy is Preview, Listen, Review and HW.

**Homework**: Homework is assigned at each class and will be collected for grading. However, only a randomly selected set of problems will be graded.

**Test**: There is a midterm exam sometime around spring break and a final exam in early May. Precise dates will be scheduled later.

**Percentage**: HW 30%, midterm exam 30%, final exam 40%.

Grading: A: 90-100, B:70-89, C:0-69.

**Classroom manners**: Arrive before the class starts, leave after the class. Attendance will be a factor in grading. Copying from each other or from an online source for HW or exams is a form of cheating. Please read academic integrity regulations at http://www.albany.edu/undergraduate\_bulletin/regulations.html.