

Math 311: Introduction to Analysis

Instructor: Marius Ionescu (mionescu@math.cornell.edu)

Office Hours: Malott 588, Monday 11:00–12:30pm & Tuesday 3:30–4:30pm

TA: Ri-Xiang Chen (rxcmath.cornell.edu)

Office Hours: Malott 218 Wednesday 3–4pm & Thursday 11:30–12:30pm

Course web site: <http://www.math.cornell.edu/~mionescu/Teaching/Fall2007/math311.html>

Overview: This course is a bridge from introductory calculus to higher-level analysis. The main focus will be on developing the logical skills required to analyze and construct mathematical proofs. This will be done in the setting of familiar ideas from basic calculus, which will be revisited in rigorous detail.

Text: *Introduction to Analysis*, by Arthur Mattuck. The text is required. We will begin with Appendix A, and then work through about one chapter per class. A copy is on reserve in the Math library.

Webpage: Homework assignments and other important communications will be conveyed via the course web page:

<http://www.math.cornell.edu/~mionescu/Teaching/Fall2007/math311.html>

Preparing for class: Before each lecture, students are required to read the relevant sections from the textbook, and make an attempt at understanding the material. It is not expected that everything will be clear after the first reading; the purpose of lecture is to clarify things. Most sections in the book are followed by Questions. These are intended to provide extra examples and help you in your understanding. You are advised to answer some/most of the questions (at least mentally) before moving on.

Participation: There will be occasional in-class group assignments, and I will also call on individuals to talk about specific ideas and proofs from the text. You will have advance warning about what topics will be covered.

Homework: The most important part of the learning process. Homework will be assigned most lectures, collected on Tuesdays, and returned to you the following Tuesday. Assignments will be posted on the course webpage. Full credit for the homework will require solutions which are mathematically correct AND which are written with clarity. You are encouraged to work with others as long as you write your solutions in your own words and indicate the names of your collaborators on the assignment.

Exams: There will be two prelim exams and one final. You may use your notes, results proved in the textbook, and results that you have proved in homework assignments (as long as your proofs are correct). Exam solutions must be entirely your own work.

Grading:

Participation	10%	
Homework	30%	Due on Tuesdays
Prelim 1	15%	Due Thu, Oct. 4
Prelim 2	15%	Due Thu, Nov. 8
Final	30%	Due Thu, Dec 6, 5pm.