

## Math 414: Honours Introduction to Analysis II

Instructor: Marius Ionescu ([mvi3@cornell.edu](mailto:mvi3@cornell.edu))

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

TA: Remus Radu ([remusradu@math.cornell.edu](mailto:remusradu@math.cornell.edu))

Course web site: <http://www.math.cornell.edu/~mionescu/Teaching/Spring2008/math414.html>

**Overview:** This course is the continuation of Math 413, Honours Introduction to Analysis. The main focus will be on developing the logical skills required to analyze and construct mathematical proofs.

**Text:** *The Way of Analysis*, by Robert Strichartz. The text is required. We will begin with Chapter 8, and then work through most chapters consecutively. 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/Spring2008/math414.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 the reading and provide an alternate perspective.

**Participation:** I will also call on individuals to talk about specific ideas and proofs from the text. Also, you will need to present a theorem or two to the class. 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 Thursdays, and returned to you the following Thursday. Assignments will be posted on the course web page. 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. Some problems may require you to think for hours (days?) so start the assignments as soon as possible. Some exam questions will come from the homework, or be tailored after them.

**Exams:** There will be two take home prelim exams and one take home 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 Thursdays
Prelim 1	15%	Due Th, March 6
Prelim 2	15%	Due Th, April 10
Final	30%	Due Thu, May 8, 5pm.