

Math 621: Measure Theory and Integration

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

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Course web site: <http://www.math.cornell.edu/~mionescu/Teaching/Fall2007/math621.html>

Overview: We will begin with Lebesgue measure and integration in Euclidean spaces and then develop the general theory of measures and integration, including the powerful limit theorems that are not available for Riemann integration. This will lead us to Hölder's and Minkowski's inequalities and to L^p spaces.

Text: Bartle, *The Elements of Integration and Lebesgue Measure*, Wiley Classics Library Edition.

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

<http://www.math.cornell.edu/~mionescu/Teaching/Fall2007/math621.html>

Course Outline: We will begin with Lebesgue measure on Euclidean spaces, starting at Chapter 11 of the text and completing up to Chapter 17 in the first two weeks. We will then return to Chapter 1 and work through to Chapter 10 if time permits. I anticipate that we will get through about two chapters per week in this section of the book.

Homework: Homework will be assigned most lectures, collected on Mondays, and returned to you the following Monday. Assignments will be posted on the course webpage. 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 one take home prelim exam and one take home final. Exam solutions must be entirely your own work.

Grading:

Homework	30%	Due on Mondays
Prelim	30%	Due Wed, Oct. 27
Final	40%	Due Thu, Dec 6, 5pm.