

Math 8400 Syllabus (Fall 2003)

Topic: Analytic Number Theory
Call Number: 43-732

Room: Grad Studies 326
4th Period: 11:05-11:55 AM

Instructor: Dr. Robert Rumely
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Office Hours: 3rd Period (10:00-11:05) MWF; other times by appointment, gladly.

Text: Montgomery/Davenport: Multiplicative Number Theory

Purpose: The goal of this to explore various kinds of L-functions, and their applications to number theory. The course will begin with a thorough study of the Riemann Zeta function and a proof of the Prime Number Theorem. It will then study Dirichlet L-series and the theorem on Primes in Arithmetic Progressions, via Ikehara's Tauberian Theorem. Then, depending on the class's interest, it will either study the L-series attached to modular Forms and their connection to Elliptic Curves, or Artin L-series and Tate's conjecture.

Grades: Homework exercises will be assigned approximately every other week. There will also be a midterm and a final, designed to ascertain your overall understanding of the material.. However, the course will not be graded strenuously. If you attend class regularly and keep up with the work, you can expect a good grade.

Academic Honesty: The course will operate in accordance with UGA's academic honesty policy (<http://www.uga.edu/ovpi>)