## MATH 555, Winter 2009 Introduction to Complex Variables TTh 8:30-10:00AM, 1084 East Hall

Instructor: Smadar Karni, 4832 East Hall, 647-9720, karni@umich.edu

Office Hours: After class or by arrangement.

Text: Complex Variables and Applications, Brown and Churchill, McGraw-Hill (7th edition).

This course is an introduction to the theory of complex valued functions of a complex variable with special attention to applications in science and engineering. The course emphasizes concepts and their implementation over proofs, but arguments are rigorous. The prerequisite of a course in advanced calculus is essential. This course is a core course for the Applied and Interdisciplinary Mathematics (AIM) graduate program, and is a prerequisite to many advanced courses in science and engineering.

## **Topics include:**

Differentiation and integration of complex valued functions of a complex variable, series, mappings, residues, evaluation of improper real integrals and applications. This corresponds to Chapters 1–9 of Brown and Churchill.

Final Exam Date: Wednesday, April 29, 8:00 am - 10:00 am.

**Grading:** There will be regular weekly homework assignments. The course grade will be based on Homework (30%), 2 Midterms  $(2 \ge 20\%)$  and a Final Exam (30%).