

Math 416
Complex Variables
FALL 2004

Instructor: Dr. Jae-Hyouk Lee, Cupples I (108C), 5-6866, email: jhlee@math.wustl.edu

Time and Location: M, W, F 3:00 - 4:00 PM, Cupples I 111.

Office Hours: Monday, Friday 9:30 - 10:30

Textbook: Complex Variables and Applications, 7th ed., James Ward Brown/ Ruel Vance Churchill.

Material: Chapters ?

This course is an introduction to complex variables. Its base line is study of analytic functions, namely functions can be express as a power series. In the Calculus courses, we have learnt power series of one and multi variable functions. Simply adding complex numbers on this layout, we come up with very powerful way to understand analytic functions. This course will cover how to put the portion, complex numbers and show to cook complex valued functions by learning the Cauchy integral formula, residues and poles.

On the other hands, a complex valued function can be regarded as a mapping between two dimensional real vector spaces. Again, the extra properties from complex numbers bring very interesting class of mappings. Here, we study conformal mapping.

Some applications, in particular to geometry and topology will be covered.

Grading: There will be weekly assignments, two midterm exams and a final. They will count toward the grade as follows.

Assignments	40%
Midterms	30%
Final	30%.

Exams and Homework: The midterm exam will be on Monday, October 18 and Monday, November 22. The final exam is on Wednesday, Dec 15 from 6:00 to 8:00 p.m. A written homework assignment will be due every Monday during the semester and no late homework is acceptable.