MATH 235 Complex Analysis Revised Fall 1997

Fall 99's syllabus will be very similar

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Office Hours : Mondays 10-11, Wednesdays 3-4, Thursdays 9:30-11:30 , and by appointment ???
Class meetings : Mondays and Wednesdays 1:10-3:00, Burton 302

Text : *Visual Complex Analysis* by T. Needham

Topics covered: Complex numbers, complex functions as transformations, Möbius transformations, analytic functions, Cauchy-Riemann equations, conformality, complex integration, the Cauchy integral formula, Laurent series, singularities and residues.

Prerequisite: MATH 225 or 243, or by permission.

Homework: I will be collecting homework every week, on wednesdays. You should be ready for a discussion about it in the monday class. You are encouraged to work in groups, but you must each write your own assignment.

Midterm: The midterm will be a take home exam, given a week or so before the due date. This should entirely be personal work.

Final: The final will be a special project, or a take home final which may take several forms: a survey paper on a theme that we could not cover in class (the book offers plenty of exciting off-tracks material for that), a guided sequence of problems leading to an interesting result, a computer aided exploration of some aspect of the class or a combination of the above. If some student want to pair up on an ambitious project, I will allow joint work on this project.

Computers: We will be working with the program "$f(z)$" to help us visualize complex functions and their action on the complex plane.

Exams and Grading:

What	When	Percent of Final Grade
Homework	weekly	40 %
Midterm	Due Wed Oct 29 (Take home)	30 %
Final	Dec 16-19	30 %

Attendance: because we will work in groups in the classroom, it is important for all of you to be there each time. If you cannot make it to a class, I would appreciate an email warning me of it before hand.

Tentative Schedule: We will go through the following chapters of the book, excluding the sections that are marked by a star in the book. This is a rough and flexible outline.

CHAPTER 1:	Sep 5-Sep 8	Complex numbers
CHAPTER 2:	Sep 10- Sep 24	Functions as Transformations
CHAPTER 3:	Sep 26-Oct 3	Möbius Transformations
CHAPTER 4:	Oct 6- Oct 15	Amplitwist
CHAPTER 5:	Oct 17-24	Differentiation
CHAPTER 7:	Oct 27- Nov 3	Winding Number, topology
CHAPTER 8:	Nov 5- Nov 21	Integration
CHAPTER 9:	Nov 24- Dec 10	Cauchy's formula and Applications