Syllabus

General Info

Course MAT461 Advanced Seminar: Complex Analysis
Instructor Charilaos Skiadas (skiadas at hanover dot edu)
Term Winter 2015-2016
Office SCH 121C
Office Hours MW 2pm-4pm, R 2pm-3pm, and by appointment.
Book *Complex Analysis*, 3rd ed, by Joseph Bak and Donald Newman
Websites skiadas.github.io/ComplexAnalysisCourse/site/
Class times MWF 10am-11am in SCC201.

Course Description

In this course we will cover *Complex Analysis*, which is the study of functions of a complex variable. It is a beautiful and elegant theory that unifies and reinforces various themes you have seen in the past, from both Algebra and Analysis.

We will start with an algebraic study of the complex numbers as an extension of the real numbers. We will then proceed to consider the geometry of the complex plane, then move on to functions and complex differentiability. We round up the course with a discussion of integrals in the complex plane and some truly remarkable results that follow.

In addition to the content, this course is also meant to solidify your ability to communicate in the language of mathematics, both verbally and in writing. You will learn how to use the LaTeX software to produce high quality mathematical output, and your assignments will be evaluated on more than just correctness. You will also present many of your solutions to class and comment on other students' solutions.

Course Components

Reading Notes and Practice Problems

On the website you will find a schedule[1] with links to documents for each class day. In those documents you will find notes for the day's lesson, a reading assignment, and a list of practice problems. You should work on those practice problems, and ask any questions you have about them. You do not have to turn the problems in.

[1] http://skiadas.github.io/ComplexAnalysisCourse/site/schedule.html

Class Participation

15% of the final grade will be based on your class participation. This will include: asking questions in class, answering questions, presenting homework problems as well as commenting on those presentations.

Homework Assignments

There will be regular homework assignments about once per week. There will also be a list of problems that you are expected to solve but not turn in. Questions on the exams tend to be similar to the homework problems, so it is to your advantage to really *understand* the homework, and not merely "do it" or copy it just to get it turned in. Homework will be written using Overleaf, an online LaTeX editor, and will be evaluated for style, readability and correctness. Homework assignments are 15% of your final grade.

Exams

There will be two midterms, on Monday, February 15th and Wednesday, March 23th, and a final/3rd midterm during finals week. **You have to be here for the exams**. If you have conflicts with these days, let me know as soon as possible. Do not plan your vacation before you are aware of the finals schedule. In terms of your final grade, the exams you did better on will weigh more.

Getting Help

- You should never hesitate to ask me questions. I will never think any less of anyone for asking a question. Stop by my office hours or just email me your question, which has the great benefit of forcing you to write it down in clear terms, which often helps you understand it better.
- You are allowed, and in fact encouraged, to work together and help each other regarding the notes and the practice problems. However, I strongly encourage you to try the problems out on your own first before talking to someone about them.
- You may discuss homework problems with others, but only after you have spent some time trying them on your own. And in any event the submitted work must be your own! So even though you may talk to others about the problem, when you sit down to write the answers you should be on your own.

Grading

Your final grade depends on class attendance, homework, project, quizzes, midterms and the final, as follows:

Component	Percent
Participation	15%
Homework	15%
Worst Midterm	20%
Middle Midterm	25%
Best Midterm	30%

This gives a number up to 100, which is then converted to a letter grade based roughly on the following correspondence:

Letter grade	Percentage Range
A, A-	90%-100%
B+, B, B-	80%-90%
C+, C, C-	70%-80%
D+, D, D-	60%-70%
F	0%-60%