Math 5283 - Complex Analysis I

http://math.okstate.edu/people/lebl/osu5283-f18/

Lectures: TuTh 9:00 - 10:15, MSCS 509

Lecturer:

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Text/Schedule:

David Ullrich, Complex Made Simple, 2008, American Mathematical Society.

The link above is to the AMS website and you can browse a part of the book online.

Gradescope

We will be using Gradescope (http://gradescope.com) for all graded work (homeworks and exams). Create an account. I will provide (in class) an *Add code* that will add you to the class. Homeworks will be announced here (see below), and you will upload your homeworks to Gradescope. Exams will also be graded on gradescope.

Grading:

The grading scheme is given below:

$$\text{Grade} = 0.2 \times (\text{Homework}) + 0.2 \times (\text{Exam 1})$$
$$+ 0.2 \times (\text{Exam 2}) + 0.4 \times (\text{Final Exam})$$

To account for bad exam day, etc..., an alternative grade will be computed as follows

$$\text{Grade} = 0.2 \times (\text{Homework}) + 0.1 \times (\text{Exam 1})$$
$$+ 0.1 \times (\text{Exam 2}) + 0.58 \times (\text{Final Exam})$$

A second alternative (to account for bad final day) will be follows

$$\text{Grade} = 0.2 \times (\text{Homework}) + 0.3 \times (\text{Exam 1})$$
$$+ 0.3 \times (\text{Exam 2}) + 0.18 \times (\text{Final Exam})$$

The higher of the three will be used for your grade. Notice that in the alternative schemes, the score does not sum to 100 percent. That is on purpose! You should count on the first scheme, the second scheme is only to account for things going terribly terribly wrong on one of your exams.

Exams:

Exam 1: TBA, (evening, hopefully), 20% of your grade.

Exam 2: TBA (evening, hopefully), 20% of your grade.

Final Exam: TBA, (same room as the class), 40% of your grade. (Comprehensive, think of the final exam as half exam 3 and half comprehensive final)

Exam Policies: No books, calculators or computers allowed on the exams or the final. **One page (one sided) of notes allowed on the exams.**

Homework:

Assigned weekly (some weeks may be skipped) on this page. To be submitted on gradescope. Here I will link the homework on overleaf, and you can clone/download the latex file from there if you want, or just print out the PDF or whatnot. The link is to the beta version 2 of overleaf as they are actually switching to it in early september anyway, so no sense in using the old version for a couple of weeks

To edit the homework on overleaf, make sure to create an account, then after you click on the link below, click "Menu" and "Copy Project".

1. Homework 1, due Thu. Aug. 30.

Worth 20%, spot checked (*spot checked* means: some spot(s) of each homework checked, and all will be collected). Part of the grade is simply for turning the homework in. Lowest 2 homework grades dropped (so no late homeworks). There will be extra cradit (approximately 5-10 percent of the homework grade) for homework that is **TYPED UP** using LaTeX. Since you are learning to be mathematicians, learning to type math in LaTeX is indispensible (you'll need LaTeX anyway to type up the various theses that you'll need to get through in our program). Plus, not only does it make it easier to read for me, you'll be surprised at how much better does it actually make your proofs mathematically.

Missed Work:

No makeup or late homework (two lowest are dropped anyhow), but feel free to turn homework in **early** if you you cannot for whatever reason turn it in on time. For exams, there will be reasonable accommodation if you have a valid and **documented** reason, and the documentation is provided **in advance** unless absolutely impossible. If you have a university approved (see the syllabus attachment) final conflict exam, you must tell me at least two weeks befre the final exam week, so so that we can figure out what to do.

Syllabus attachment:

See the official syllabus attachment, for some more information.

Useful books for reference:

John B. Conway, *Functions of One Complex Variable I* - One of the standard books for a graduate level course.

Lars V. Ahlfors, *Complex Analysis* - The classic complex analysis textbook.

Walter Rudin, *Real & Complex Analysis* - A combined real and complex analysis course. Rudin was David's advisor, so there is likely to be quite a bit of "philosophical overlap" in the two books.

Ralph P. Boas, Harold P. Boas, *Invitation to Complex Analysis* - Another excellent complex analysis book.

Matthias Beck, Gerald Marchesi, Dennis Pixton, Lucas Sabalka, *A First Course in Complex Analysis* - An undergraduate proof based complex analysis course. It might be good to consult for basic concepts if the other books are too fast. The main advantage is that it is free online.