

# Math 5583: BASIC COMPLEX ANALYSIS, Fall, 2012

Albert “Al” Marden  
Professor of Mathematics  
Office: VH 327, 625-5857 (voice mail)  
Office hours MW 11:00 –11:30 and by appointment  
*am@umn.edu*

VH 209, MWF 10:10–11:00

## 1 Text

*Saff and Snider, Complex Analysis with Applications to Engineering and Science (3rd ed).*

This book is a reliable text for the subject and will remain a useful reference throughout your career. The senior author, Ed Saff, is an established expert in those parts of the subject which are especially directed to applications.

## 2 Goal of the Course

To give students a working knowledge of the basic aspects of complex analysis, especially those that may be useful in applications. This is not primarily a theoretical course and we will not always give detailed proofs. Yet we will try to give insight and understanding into why and how techniques work.

## 3 Our Class

I would like to cover through Chapter 7 of the text. I will skip the specific engineering applications—the starred sections; those who are interested in them should of course read them. We will strictly follow the order of topics in the text, however I will often present an alternate explanation of the material in each section with the hope of increasing clarity. Along the way, I will probably tell you (but not test you) on other cool things in complex analysis that are not discussed in the text.

The table of contents of the text will serve as the outline of the course.

Optimally, it would be nice to cover one section in each lecture. Yet I am not sure we can do that, as some sections are more complicated than others. I

will be heavily guided by the reaction of the class as we move forward. I will rely on you to tell me what is too fast or too slow. And to ask questions if something is not made sufficiently clear.

Therefore the actual amount we cover and the speed we cover it will depend on the class.

You will get more out of each lecture, if you look the section in advance of class in order to identify what is not clear. If you do this, you will be ready to ask for clarifications in class.

The problem sets are one of the strengths of the book. The key to leaning math is doing enough problems, and this course is no exception. In advance of each lecture, I will assign selected problems at the end of each upcoming section. These will be posted on my Math 5583 (Basic Complex Analysis) web page, The homework assignments from sections completed in class the preceding week will be collected each Monday, starting Sept. 17.

**[www.math.umn.edu/~am](http://www.math.umn.edu/~am)**

From a practical point of view, doing the assignments consistently should give you the experience necessary to receive a good grade on exams.

## 4 Grading

Our class will have a grader who will grade selected problems from the assigned homework of each week. In addition there will be a 50 minute midterm exam and a two hour final. The final exam will count 60% of the final grade, the homework 10%, and the midterm 30%. At any rate this is the norm; I will look closely at the record of each student and try to emphasize what is done best.