

# MATH 532 - Complex Analysis

## Syllabus - Spring 2005

**Professor:** Michael Dorff  
**Office:** 281 TMCB  
**Office Phone:** 422-1752  
**Email:** mdorff@math.byu.edu  
**Office Hours:** TTh 1:30-2:30 pm  
**Course Text:** *Functions of One Complex Variable I* (2nd ed) by John B. Conway  
**Reference Texts:** *Complex Analysis* by Ahlfors  
*Complex Functions* by Jones and Singerman  
*Visual Complex Analysis* by Needham  
*Conformal Mapping* by Nehari  
*Function Theory of One Complex Variable* by Greene and Krantz  
**Course Meeting:** MWF 10:00-11:50 am in 112 TMCB  
**Course website:** <http://www.math.byu.edu/~mdorff/Math532/532Index.htm>

**Course Description:** Math 532 is a beginning graduate course in the study of the complex and analytic functions. You should have already had an undergraduate complex variables course, such as Math 332 (if not, please talk to me). Analytic functions have many “nice” properties that real-valued functions do not have. Along the way, we will see examples of how complex analysis applies to other fields of study, such as geometry, real analysis, abstract algebra, number theory, and minimal surfaces.

**Course Objectives:** The course objectives are:

1. to increase students’ understanding and appreciation of complex analysis, and its connection and significance to other areas of mathematics; and
2. to improve students’ ability to read, write, and communicate about mathematical concepts and proofs.

**Expectations:** Success in this class will depend largely on the work you do outside of class. I expect and encourage you to ask lots of questions and to visit me during my office hours.

**Homework:** Homework will be assigned every class meeting and will be due the next class meeting. Homework problems will consist of problems from the course text (these will be listed on the course website) and from *Extra Problem Sheets* which will be distributed in class (and can be downloaded from the course website). I encourage you to work with other students in the class by discussing the problems. However, the assignment that you hand in must be your own work.

**Student Presentations:** Part of the course and your grade will consist of inclass student presentation of homework problems or of lecture material. Usually, several students will be asked to present solutions to specific problems from that night’s homework during the next class. Occasionally, a student will be asked to present a proof or a concept from the text during an upcoming class period.

**Tests:** There will be a takehome midterm and a takehome final exam. The dates for these will be determined later.

**Grading:** Final grades will be determined by weighted scaling of the following items: (a) homework scores; (b) number and correctness of exercises presented in class; (c) midterm score; and (d) final exam.

The class has determined the weighted scale to be:

$$\underline{\quad} \cdot (a) + \underline{\quad} \cdot (b) + \underline{\quad} \cdot (c) + \underline{\quad} \cdot (d)$$

Letter grades will be assigned as follows:

	B+	= 89-87%,	C+	= 79-77%,	D+	= 69-67%,		
A	= 100-93%	B	= 86-83%,	C	= 76-73%,	D	= 66-63%,	E = 59-0%.
A-	= 92-90%	B-	= 82-80%,	C-	= 72-70%,	D-	= 62-60%,	

### Miscellaneous:

**Preventing Sexual Harassment:** BYU's policy against sexual harassment extends not only to employees of the university but to students as well. If you encounter sexual harassment, gender-based discrimination, or other inappropriate behavior, please talk to your professor, contact the Equal Employment Office at 378-5895, or contact the Honor Code Office at 378-2847.

**Students with Disabilities:** BYU is committed to providing reasonable accommodation to qualified persons with disabilities. If you have any disability that may adversely affect your success in this course, please contact the Services for Students with Disabilities Office at 378-2767. Services deemed appropriate will be coordinated with the student and instructor by that office.