

Math 313A Complex Variables

Spring 2006

Hobbs 313

MWF 1:00-1:50pm

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Office Hours: TR 10:00am-12:00pm or by appointment

Textbook: Fundamentals of Complex Analysis with Applications to Engineering and Science by *E.B. Saff and A.D. Snider* Third Edition.

Course Description

This course examines properties of complex numbers; elementary functions of a complex variable; complex derivatives and analytic functions; mappings; definite and indefinite integrals; Cauchy's theorem and integral formulas; Taylor and Laurent expansions; singular points and the residue theorem; conformal mapping with applications.

Course Objectives

Upon completion of this course the student will be able to:

1. Demonstrate an understanding of the structure of the Complex Number System.
2. Demonstrate an understanding of Functions defined on the Complex Plane.
3. Integrate Complex Functions.

Course Outline

We will cover most sections from Chapters 1-4.

Attendance

Attendance will not be taken. However since a lot of material will be covered each day, some of you may find it difficult to pass this course if you do not attend class.

Homework

Homework will be assigned periodically. Some problems will be collected and graded. These should be written up as neatly and as detailed as possible. Your homework average will make up $\frac{1}{5}$ of your course grade. The remaining problems are for extra practice and are certainly fair game for tests. I suggest you take advantage of these assignments and do as many exercises as possible.

Tests

There will be three semester tests. Each test will be worth $\frac{1}{5}$ of your final grade. Their tentative dates are:

Test 1 Friday February 10

Test 2 Friday March 17

Test 3 Friday April 21

Test make-ups will not be given. If you miss a test for a legitimate reason that test will be dropped and the final exam will be counted twice in its place. If you miss a second test for a legitimate reason and are still capable of passing the course special arrangements will be made.

Final Exam

The final exam will be comprehensive, covering the entire content of the course, and will make up $\frac{1}{5}$ of your final grade. Under no circumstances will the final exam be given early. *Make travel plans accordingly.* The scheduled date, time and place of the final are:

Monday May 8, 2006 2:00pm Hobbs 313

Grading

Course grades will be assigned using a 10-point scale. That is,

A 90-100

B 80-89

C 70-79

D 60-69

F 0-59

Your grade will be calculated using the following formula:

$$\frac{\text{Test 1} + \text{Test 2} + \text{Test 3} + \text{Homework Avg} + \text{Final Exam}}{5}$$

Important Dates

1/23 End of add period

2/3 End of 3-week withdrawal period
2/10 Pass/fail deadline
3/4-12 Spring Break
3/31 End of 10-week withdrawal period
5/2 Last day of classes

Quality of work

In general, it is difficult to do Math neatly in pen since it is not possible to erase mistakes. I strongly suggest doing most of your work in pencil, or that you, at least, always have a pencil with you in class. Any work turned in to me (i.e. homework, tests, etc.) must be done neatly.

Special Needs

The college will make reasonable accommodations for persons with documented disabilities. Students should notify the Learning Resources Coordinator, Academic Advising Office, and their instructors of any special needs. Instructors should be notified by the third week of classes. All such discussions are confidential.