

Department of Mathematics
Christopher Newport University

Math 355-01
CRN - 8942

Complex Variables

Spring Term 2007

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Classroom: Gosnold 205
Class Hours: MWF 10:00-10:50 am
Phone: 594-7037(office), 594-7194 (department secretary)

Textbook: *Complex Variables and Applications*, J.W. Brown & R.V. Churchill , 7th ed.

Course Objective: The subject of complex variables may be viewed as an extension of real-valued calculus. In the sense that we are going to study main topics of calculus including limits, continuities, derivatives and integrals, but this time from the point of view of imaginary(complex) numbers. It is worth noting that the word "complex" is the creation of the giant mathematician **Gauss**. The complex variables subject is very useful since there are many real-valued calculus problems that are either very hard or sometimes almost impossible to solve directly. However with the introduction of imaginary(complex) numbers they become more managable or at times easy to solve. We will see these types of applications towards the end of the semester. Overall complex vaiables is a beautiful subject in mathematics that has many applications in physics, engineering, and even in computer sciences.

This course is intended to achieve the following objectives

1. Gaining factual knowledge (terminology, classifications, methods, trends)
2. Learning fundamental principles, generalizations, or theories
3. Learning to apply course material (to improve thinking, problem solving, and decisions)

Course Outline:

<u>Chapter</u>	<u>Section</u>
1	1,2,3,4,5,6,7,8,9
2	1,2,3,4,5,6,7,8,9,10,11,13,14
3	1,2,3,4,5
4	1,3,4,5,6,7,8,9,10,11
5	1,2,3,4
6	1,2,3,4,5,6,7,8
7	1,2,3,4,5,6,7
8	1,2,3,4,5,6,7,8

Grading System: The course grade is based on three tests, weekly homework (about 10 homework will be collected), and the final exam. Each of these activities account for 20% of the course grade. Final exam is scheduled for Monday April 30 from 11:00-1:30 pm.

Homework: Homework will be assigned daily and covered in class the next day.

Grading Scale: The course grade is assigned based on the following scale:

92 - 100 = A	75 - 78 = C^+	58 - 60 = D^-
89 - 91 = A^-	71 - 74 = C	00 - 57 = F
85 - 88 = B^+	68 - 70 = C^-	
81 - 84 = B	65 - 67 = D^+	
79 - 80 = B^-	61 - 64 = D	

Attendance: Attendance is necessary, and you are responsible for all class materials, assignments and deadlines.

Withdrawal Policy: The withdrawal policy is the same as an official university policy. Therefore the last day to withdraw is March 26, 2007.

University Regulations on Students with Disabilities:

If you believe that you have a disability, you should make an appointment to discuss your needs. In order to receive an accommodation, your disability must be on record in Disability Services located in the Academic Advising Center, Student Union, Room 3125 (Telephone - 594-8763; Fax - 594-8765).

**Math 355 List of Homework
Complex Variables and Applications, J.W. Brown & R.V. Churchill , 7th ed**

<u>Pages</u>	<u>Problems</u>		
4 - 5	1,2,4,8,10.	266-267	1,2,3,5,9.
7 - 8	1,2,5,7.	276-277	1,2,3.
11	1,2,3,4,5.	280-280	1,2,3,4,5,6.
13-14	1,2,4,6,10,13,14,15,16.		
21-22	1,2,5,6,7,10.		
28-29	1,2,3,6,7,8.		
31-32	1,2,3,4,5,6.		
35-36	1,2,3,4.		
42-43	1,3,7.		
53-54	3,5,6,7,10.		
59-60	1,3,4,8.		
68-70	1,2,3,5,8.		
73-74	1,2,4.		
78-79	1,3,4,8.		
89-90	1,2,4,8,13.		
94-95	1,2,4.		
96-97	1,2.		
99-100	1,2,3.		
115-116	1,2,3,4.		
120-121	1.		
128-130	1,2,3,4,6,10,11.		
133-134	1,2,3,4.		
141-142	1,2,3,5.		
153-156	1,2,3.		
162-164	1,2,3,4,7.		
181-182	1,3,4.		
188-190	1,2,3,7,11.		
198-200	1,2,3,4,5,6.		
212-213	1,2,3.		
230-230	1,2,3.		
238-239	1,2,3,5,6.		
245-246	2,3,4,6.		
257-258	2,3,4,5,6,7,8.		