Complex Variables

MATH 4283

Time and Place: MWF 11:30-12:20 in CLBN 213
Professor: Igor E. Pritsker
Office: MSCS 524
Office Hours: MWF 10:30-11:30
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Textbook: Fundamentals of Complex Analysis with Applications to Engineering and Science, by E. B. Saff and A. D. Snider, 3rd ed.

Complex analysis is a classical and beautiful part of mathematics with numerous applications in mechanics, thermodynamics, electrostatics, fluid mechanics and many other sciences. The course and our textbook are tailored for mathematics, science and engineering students who completed the calculus sequence.

Grading: There will be three semester tests and the Final Exam. The break up of your course grade is as follows:

Tests 1-3	60% (20% each)
Homework	10%
Final Exam	30%

Your grade will be determined according to the scale

A	90-100
B	80-89
C	70-79
D	60-69
F	59 and lower

Note that the above numbers are percentages of the highest possible score in the course.

Attendance is mandatory in this class.

Homework will be assigned daily (see the detailed schedule below), and will be collected periodically. It is required that you complete all homework.

Extra Credit: I plan to give a number of extra credit problems. They will be optional, of course.

Make-up Exams are given only in cases of serious illness or extreme emergency that prevents you from taking a test at the specified time. You have to contact me before the test and communicate all circumstances. Furthermore, you must appear in person, with supporting documents, to discuss the situation as soon as possible.

University Syllabus Attachment: Contains drop deadlines and procedures, as well as many other important dates and university policies.

Brief Schedule

Chapter 1	Chapter 2	Test 1	Chapter 3	Chapter 4	Test 2	Chapter 5	Chapter 6	Test 3	Chapter 7	Final Exam

Note: The homework problems below are assumed to be odd numbered, unless it is indicated otherwise.

Detailed Schedule

Week	Date	Sec	Page	Topic	Homework
1	M, Aug 23	1.1-2	1, 7	Algebra and Representation of Complex Numbers	3-15, 19-23 (p. 5); 1-13 (p. 12)
	W, Aug 25	1.3	14	Vectors and Polar Forms	3-11, 17
	F, Aug 27	1.4	26	The Complex Exponential	1-13
2	M, Aug 30	1.5	33	Powers and Roots	1-13
	W, Sep 1	1.6	39	Planar Sets	1-15
	F, Sep 3	2.1-2	53, 58	Functions of a Complex Variable, Limits and Continuity	1-7 (p. 56); 1-5, 9-11 (p. 63)
3	M, Sep 6	2.3	65	Analyticity	3-11
	W, Sep 8	2.4	73	The Cauchy-Riemann Equations	1-11
	F, Sep 10	2.5	79	Harmonic Functions	1-11
4	M, Sep 13	2.6	87	Steady State Temperature as a Harmonic Function	1, 3
	W, Sep 15	**Test 1** (1.1-1.6, 2.1-2.5)			
	F, Sep 17	3.1	99	Polynomials and Rational Functions	1-7, 11, 13
17	W, Dec 15	**Final Exam (CLBN 213, 10-11:50 a.m.)**			