MATH 3364
Introduction to Complex Analysis
Fall 2010

Class: T&Th 11:30am-1:00pm, AH 108

Instructor: Bernhard Bodmann, bgb@math.uh.edu

Office: PGH 604; W 10-11:30am, Th 9:30-11am

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Objectives: This course covers functions of a complex variable, complex differentiability and contour integration. Applications include the evaluation of series, convergence of Taylor series, real integrals, some Fourier analysis and solutions of the two-dimensional heat equation.

Contents:

Topic	Approximate Time
Algebra with complex numbers	1 week
Complex functions and analyticity	2 weeks
Contour integrals	2 weeks
Liouville's theorem and max modulus	1 week
Taylor series	1 week
Residues	2 weeks
Multi-valued functions	1 week
Fourier analysis	2 weeks
Conformal mapings	1 week

Prerequisites: MATH 3331.

Text: E. B. Saff and A. D. Snider, "Fundamentals of Complex Analysis", 3rd edition, Prentice Hall, 2003.

Exams: Midterms: October 5 and November 16, 2010; in-class exams. Final exam date and location to be announced by the registrar.

Assignments: You will be asked to hand in approximately eight assignments, which will be due on Thursdays in the lecture. Solutions will be posted online.

Final Grade: Final exam contributes 30%, midterms 20% each, assignments 30%. All grades are summed and divided by the total number of points you can collect in the course. A percentage of 46% or more is D- , 54% or more is D, 62% or more is C, 70% is B-, 77% is B, 85% or more is A- , of 90% or more is A.