

MATH. 60370 BASIC COMPLEX ANALYSIS I

Mei-Chi Shaw

Fall 2008

MWF

We will cover the following topics:

- 0) Complex Numbers
- 1) Analytic Functions, Complex Derivatives and Power Series
- 2) Conformal Mappings
- 3) Complex Integration
- 4) Singularities and Residues
- 5) Series and Product developments
- 6) Convergence of Analytic Functions and the Riemann Mapping Theorem
- 7) Harmonic Functions and the Dirichlet Problem

Text Book:

1. Ahlfors, L. V., Complex Analysis, 3rd edition, New York, Mcgraw-Hill, 1979. ISBN 07-00657-01

Other reference book:

2. Narasimhan, Raghavan; Nievergelt, Yves, Complex analysis in one variable. Second edition. Birkhuser Boston, Inc., Boston, MA, 2001. xiv+381 pp. ISBN: 0-8176-4164-5