

We will cover the following topics:

0) Complex Numbers 1) Analytic Functions, Complex Derivatives and Power Series 2) Complex Integration 3) Singularities and Residues 4) The Maximum Modulus Theorem 5) Conformal Mappings 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.

Other References:

2. Conway, J. B., Functions of One Complex Variable, 2nd edition, Springer-Verlag, 1978.

3. Narasimhan, R., Complex Analysis in One Variable, Birkhäuser.