

## **Math 804: Applied Complex Variables I, Course Policy and Syllabus, Au '11**

**Instructor:** Saleh Tanveer

**Office:** 402 Math Tower, Phone: 2-5710, Classroom: Scott Lab E 103, Time: 12:30-1:30 p.m.

**Text:** No text, but notes will be posted on my website beginning of every week.

**Office hours:** MWF 11:30-12:30

**Website:** <http://www.math.ohio-state.edu/~tanveer>

### **REFERENCE MATERIAL on the web and SEL**

1. O. Costin, Complex Analysis, <http://www.math.ohio-state.edu/~costin/805/c10.pdf>
2. Ablowitz & Fokas, Complex Variables, 1997, Cambridge. Call No. QA331.7.A25 2003
3. Lars Ahlfors, Complex Analysis, McGraw-Hill (1979) QA331 .A4 1979
4. Zeev Nehari, Conformal Mapping, Dover (1975), QA360.N4
5. Carrier, Krook & Pearson, Functions of complex variable, Hod (1983), QA331.C285
6. W. Rudin, Real and Complex Analysis, McGraw Hill. QA300.R82

**Grades:** Based on homework performance (5-6 sets) and a take-home final given out last week of class and due Monday, December 5th. If you signed up as a post-general student through the internal registration system and don't care for a letter grade, only regular attendance will suffice.

### **Syllabus\*:**

1. Preliminaries (Elementary functions, Analytic functions, Fundamental Theorems)
2. Contour Integration and Applications
3. Conformal Mapping and applications.
4. Integral Transforms and applications
5. Asymptotics, Basic Definitions and Asymptotics of Integrals
6. Riemann Hilbert Problems and applications
7. Analytic properties of differential equations

\* The number of these topics covered in 804 will depend on the background of the class.