

MA 713
Complex Variables
Paul Blanchard
Spring 2007

Class time and location: MWF 1:00–2:00 in MCS B29

Text: Lars V. Ahlfors, *Complex Variables*, 3-th Edition. McGraw-Hill, 1979.
ISBN number 0070006571.

This will be a traditional graduate-level course in the theory of complex variables. During the first two-thirds of the semester, we will cover many of the standard topics: the Cauchy-Riemann equations, Cauchy's Theorem, the Cauchy Integral Formula, harmonic functions, Taylor series, Laurent expansions, the classification of singularities, and residues. For the remainder of the semester, we will discuss specialized topics such as conformal mapping, infinite sum and infinite product expansions, and if there is sufficient time, we will discuss Riemann surfaces and the role of the Poincaré metric in the theory of complex analysis.

This course is primarily intended for graduate students in mathematics, but it is also of interest to students in physics or engineering. An undergraduate course in complex variables is a desirable prerequisite, but it is not a necessity. The most important prerequisite is “sufficient mathematical maturity.”

Assignments and grading: Problems will be assigned and graded weekly. You will also make a 50-minute presentation on a special topic at the end of the semester. Your grade will be determined from the problem sets and the presentation.

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Office hours: Monday 2–3, Wednesday 2–3:30, and Friday 2–3.

Course web page: <http://math.bu.edu/people/paul/MA713.html>