Math 617 Section 600 Fall 1994

Complex Variables I

This is a first rigorous course in the theory of functions of one complex variable. It covers the arithmetic, geometry, and topology of the complex numbers; elementary properties of analytic functions; representations of analytic functions by power series and by integrals; Cauchy's integral formula; computation of definite integrals by residues; singularities of analytic functions; the maximum principle and Schwarz's lemma; and other topics if time permits. This material is contained in chapters I–VI of the required textbook, *Functions of One Complex Variable*, second edition, by John B. Conway (Springer-Verlag, corrected fourth printing, 1986).

The official prerequisite for this course is Math 410 (Advanced Calculus II) or its equivalent. The essential background you need is familiarity with the kind of analytic reasoning used in "ϵ-δ proofs". I do not assume that you have taken a previous course in complex variables (such as Math 407).

This course and its successor Math 618 form the basis for the Mathematics Department Qualifying Examination in Complex Analysis.

The course meets 3:00 P.M.–3:50 P.M. Monday, Wednesday, and Friday in ACAD 224.

Instructor: Dr. Harold P. Boas

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Office Hours: 1:30 P.M.–2:30 P.M. Monday, Wednesday, and Friday; and by appointment

Exams and Grades: The two major exams will be on Friday 7 October and Monday 21 November. Each counts for 20% of the course grade. The comprehensive final exam, scheduled by the Registrar for 10:30 A.M.–12:30 P.M., Tuesday 13 December, will count for 30% of the course grade. Homework will count for 30% of the course grade. Final letter grades will be assigned on the standard scale: you need an average of 90 for an A, 80 for a B, 70 for a C, 60 for a D.

About the instructor. Harold P. Boas was born and raised in Evanston, Illinois, the son of a physics professor at DePaul University and a mathematics professor at Northwestern University. In high school, he played on the national champion Evanston Township High School chess team. He earned bachelor's and master's degrees in applied mathematics from Harvard University in 1976, and a Ph.D. in mathematics from the Massachusetts Institute of Technology in 1980. Before coming to Texas A&M in 1984, he taught at Columbia University in New York City. He has published more than twenty research papers, mostly on the theory of functions of several complex variables. He is married to a nurse practitioner.