Math 158 Complex Variables Spring 2009
Course Information

BLOCK: I+, MW, 3:00 - 4:15 PM
INSTRUCTOR: Fulton B. Gonzalez
EMAIL: fulton.gonzalez.edu
OFFICE: Bromfield-Pearson 203
OFFICE HOURS: (Fall 2008) On leave - by appointment
PHONE: 7-2368

PREREQUISITES: Math 13 or 18, or consent.

TEXT: Ruel V. Churchill and James Ward Brown, *Complex Variables and Applications*, 8th edition, McGraw-Hill, 2008

COURSE DESCRIPTION:

This course is an introduction to the theory of complex numbers and complex-valued functions, a subject with wide-ranging applications and one which is fascinating in its own right, with many elegant and surprising results.

The student will learn the spirit of analytic function theory, including Cauchy's theorem and integral formula, Taylor and Laurent series, contour integration, the Maximum Principle, analytic continuation, harmonic functions, conformal mappings, and Möbius transformations. We will also explore some of the many applications of complex analysis, such as two-dimensional potential theory and possibly a bit of Fourier series.

The course will be taught rigorously, with plenty of theorem-proving, but also with many computational examples and practical calculus-style problems. It will be appropriate for mathematics, science, and engineering majors.

Course Requirements: There will be weekly problem sets, three midterm exams, and a final exam.