SYLLABUS 110.607
Complex Analysis
Spring 2009

Instructor: Professor Mese
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Office hours: MW 9-10am or by appointment

Text: Greene & Krantz, Function Theory of One Complex Variable, AMS Grad Studies 40 2nd ed

Lectures: MW 1:30-2:45, Mattin Center 160

Course description: This is a first Graduate level course in Complex Analysis, i.e. holomorphic (= analytic) functions of one complex variable. It will cover most of Chapters 1 – 8 of Greene & Krantz: Cauchy integral formula, Cauchy estimates and Liouville theorem, meromorphic functions and residue calculus, zeros of holomorphic functions, maximum modulus principle, Schwarz Lemma, normal families and Montel's theorem, Riemann mapping theorem, harmonic and subharmonic functions, Poisson integral formula, Dirichlet problem and Perron process, Weierstrass factorization, Jensen's formula. If time permits, we will take a quick look at some interesting further topics: equilibrium measures, Loewner equation, Cauchy transform, Bergman and Szego kernels. Although the course is basically self-contained, a basic course in analysis such as 110.405 is assumed and Chapters 1-2 will be covered rapidly.

Homework: Weekly HW is assigned from the text.

Exams: There will be one mid-term and a final.