August 22, 2008

MATH 246B - Fall 2008 - Complex Analysis

Time and Place: MS 6221, MWF 11:00, starting Sept. 26.

Office hours: John Garnett MWF 1:30 in MS 7941.

Texts:

1) L. Ahlfors, Complex Analysis, 3rd. Edition, (0-07-000657-1) (required)

2) D. Sarason, Complex Function Theory, American Mathematical Society, 2007. (0-8218-4428-8) (recommended).

Grades: Homework 50%, final 50%.

Prerequisites: 246A or instructor's permission.

Material: Pages 162-282 of of Ahlfors, plus additional topics.

Work: There will be four homework assignments of 10 - 20 problems and a three-hour comprehensive closed book final examination. You are encouraged to work together on the homework problems, but you must write up your solutions separately.

Homework Assignment 1, due Friday, October 10: All from Ahlfors, 3rd. Edition.

p. 166: #1, 2. p. 171, #1, 2, 3, 4, 5, 6, 7, 8.

Notes: Math 246B is a standard second-quarter graduate course on basic material. Experience shows that students who have taken 246B fare better on the Analysis Qualifying Exam.

In Math 246C, Winter 2009, I will cover some topics from *Harmonic Measure*, by Garnett and Marshall, (Cambridge University Press, 2008, in paperback) instead of following the Ahlfors book *Conformal Invariants, Topics in Geometric Function Theory* as previously announced.

Tentatively, Math 285G, Spring 2009, will discuss potential theory and harmonic measure in the quite different case of $\mathbb{R}^n, n \geq 3$, using ideas from Geometric Measure Theory, Harmonic Analysis and PDE, as in the recent book *Harmonic Measure, Geometric and Analytic Points of View*, by Capogna, Kenig and Lanzani, (American Mathematical Society, 2005).

J. Garnett