

August 25, 2017.

**MATH 246A - Fall 2017 - Complex Analysis**

**MWRF 11:00 MS 6221:** (FIRST LECTURE Thursday Sept. 28).

**Office hours:** John Garnett: MWF 1:30 in MS 7941; Bjoern Bringmann, TBA, MS3915E.

**Texts:**

- 1) L. Ahlfors, Complex Analysis, 3rd. Edition, (0-07-000657-1) (required)
- 2) D. E. Marshall, Complex Analysis, Cambridge University Press, (to appear). (recommended)
- 3) E. M. Stein and R. Shakarchi, Complex Analysis, Princeton University Press, 2003 (0-691-11385-8) (recommended)
- 4) W. Rudin, Real and Complex Analysis, Third Editon, (0070542341) (recommended)

**Grades:** Homework 40%, final 40%, midterm 20%. There will be six homework assignments of about 15 problems each, and each student must present at least one solution correctly and clearly during Thursday recitation section.

**Exams:** Final Exam December 12, 3:00 - 6:00. No books, notes, or phones allowed at the midterm or final, but to each you may bring a 4 inch x 6 inch file card with writing on both sides.

**Prerequisites:** Rigorous advanced calculus: Mathematics 131AB. Properties of  $\mathbb{R}$ , least upper bounds, uniform convergence of sequences of continuous functions ( $\Rightarrow$  limit is continuous and Riemann integral of limit is limit of integrals), compact and connected sets in  $\mathbb{R}^n$ . Also, the ability to write a correct mathematical proof. Undergraduate complex analysis is not a required prerequisite, but understanding Sections III.1 and II.2 of Ahlfors will be assumed.

**Material:** Most of Chapters I - VI of Ahlfors, but Sections III.1, and II.2 will be assumed. Math 132H in Winter 2018 will cover many of the same theorems as 246A, but with a different book, different proofs and fewer hard exercises. Therefore students are not advised to follow 246A with 132BH, but to follow 246A with 246B. It is, however, permissible to take 246A after taking 132H.

**Homework Assignment 1, due Thursday October 12:** All from Ahlfors, 3rd. Edition: p. 6, #1. p. 9, #3, 4, 5. p. 11, #1, 4. p. 15, #2, 4. p. 16. #4, 5. p. 17. #2, 3, 5. p. 20. #1, 2, 4, 5.

J. Garnett