MATH 4220 Applied Complex Analysis
Fall 2017
Malott Hall 205  Tuesday & Thursday 11:40–12:55

Instructor: Professor Robert Strichartz

• Office: 563 Malott Hall

• Office Hours: Mon 10:30 – 11:30, Wed 10:30 – 11:30
  If the weather is nice, office hours may be held in the flower garden between the AD White
  House and the Big Red Barn.

• Email: str@math.cornell.edu

• Office Phone: 255-3509

TA: Zaoli Chen

• Office Hours: Tues 14:15 – 15:15 Malott 218,  Thur 14:00 – 15:00 Malott 218

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Interview: Please come for a short interview during the first week. There will be a sign-up
sheet at the first class.

Course description:
This is an introductory course in complex analysis, with an emphasis on computational and
applicable topics. (By contrast, Math 4180, which covers roughly the same material, has a
greater emphasis on proofs.) We will cover most of the book “Fundamentals of Complex
Analysis” by Saff and Snider. The only prerequisite is a course in multivariable calculus.

Grading and Exams:

• Class participation (25%)

• Written homework - weekly assignments due in class on Thursdays (25%)

• Midterm - in class October 11 (20%)

• Final exam, to be scheduled (30%)

“A Cornell student’s submission of work for academic credit indicates that the work is the
student’s own. All outside assistance should be acknowledged, and the student’s academic
position truthfully reported at all times” ... Cornell University Code of Academic Integrity.
**How the course will work:**

For each class there will be an assigned reading from the text and a set of discussion questions. You will do the reading and think about the questions before the class. Most of the class time will be devoted to discussing the questions. We will also discuss questions that you bring up, and may go over some homework problems. It is expected that everyone will participate in the discussion. Approximately 25% of your grade will be based on your enthusiastic participation.

The goal is to get each student to understand the material through a learning process that is messy, challenging, individualized, frightening, thrilling and ultimately transcendent.

**Homework:**

You are allowed to work together with other students on HW, provided you write up the solutions on your own. Please write the names of the students you worked with on the top of your HW paper.

<table>
<thead>
<tr>
<th></th>
<th>Due date</th>
<th>Problems</th>
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| HW1 | Aug 31  | sec 1.1 - 4,8,15,19  
sec 1.2 - 2, 5, 7(a), 7(g),17  
sec 1.3 - 3, 7(e), 9, 17  
sec 1.4 - 6(a), 10, 14  
sec 1.5 - 4(a), 6(a), 10  
sec 1.6 - 2, 3, 4 |
| HW2 | Sept 7  | sec 1.7 - 1, 2, 5(a), 5 (b)  
sec 2.1 - 4, 5, 10(a), 10 (b), 14  
sec 2.2 - 4, 14, 16  
sec 2.3 - 2, 4, 8, 14  
sec 2.4 - 6, 8, 12 |
| HW3 | Sept 14 | sec 2.5 - 1, 2, 4, 5, 6, 10, 12, 14, 18  
sec 2.7 - 2, 6, 10  
sec 3.1 - 1, 2, 10, 14, 16 |
| HW4 | Sept 21 | sec 3.3 - 4, 8, 12  
sec 3.5 - 2, 4, 6, 14  
sec 4.1 - 2, 8  
sec 4.2 - 6, 8, 16 |
| HW5 | Sept 28 | sec 4.3 - 4, 6, 12  
sec 4.4 - 10 c), 14, 16 |
| HW6 | Oct 5  | sec 4.5 - 2, 4, 8  
sec 4.6 - 2, 6, 8, 14  
sec 4.7 - 2, 6, 8  
sec 5.1 - 2, 8, 10, 16 |
| HW7 | Oct 19 | sec 5.2 - 4, 6, 16  
sec 5.3 - 4, 8, 12, 18  
sec 5.5 - 4, 6  
sec 5.6 - 2, 6, 12 |
| HW 8  | Oct 26 | sec 5.7 - 2, 6  
|       |        | sec 5.8 - 8, 10, 16  
|       |        | sec 6.1 - 3a, 4, 6  
|       |        | sec 6.2 - 2, 4, 8  |
| HW 9  | Nov 2  | sec 6.3 - 6, 10, 14  
|       |        | sec 6.4 - 4, 8, 10  
|       |        | sec 6.5 - 2, 4, 6  |
| HW 10 | Nov 9  | sec 6.6 - 4, 6, 12  
|       |        | sec 6.7 - 4, 6, 18  
|       |        | sec 7.1 - 6  
|       |        | sec 7.2 - 6, 8, 14  |
| HW 11 | Nov 16 | sec 7.3 - 2, 6, 8  
|       |        | sec 7.4 - 4, 14, 20  
|       |        | sec 7.5 - 4, 8  |
| HW 12 | Nov 30 | sec 8.1 - 6, 8, 10  
|       |        | sec 8.2 - 4, 6(a), 6(b)  
|       |        | sec 8.5 - 4  |