

Course Syllabus: APPM 4360/5360 Spring 2019

Methods in Applied Mathematics– Complex Variables and Applications

Instructor: M.J. Ablowitz: <mark.ablowitz@colorado.edu>; off. ECCR 255;

Office hours MWF 2–3PM or by appointment

Classroom: MWF Sect. 1: 12-1PM, ECCR 135; Sect 2: 1-2PM, ECCR 105

Homework help:

I. Rumanov: email: <igor.rumanov@colorado.edu>; off. ECCR 251; office hours: MWF 2-3PM or by appointment

A. Mora: email: <andres.mora@colorado.edu> office hours: Tuesdays 3-4:30PM, ECCR 244

E. Webb: email <emily.webb@colorado.edu> office hours: Thursdays 5-6PM, ECCR 244

Text: *Introduction and Applications of Complex Variables* by M.J. Ablowitz and A.S. Fokas, Cambridge University Press, second edition, 2003. Check Errata for typos/corrections on MJA website: <www.markablowitz.com>; the errata is a subsection under the Publications, Books Section.

- Generally, homework will be assigned biweekly
- Three exams (evening) will be held exam. Dates/rooms are below:
Exam #1 Tuesday Feb 19: 5:30–7:30PM, BESC 180;
Exam #2 Tuesday March 19; 5:30–7:30PM, BESC 180
Exam #3 Thursday April 25; 5:30–7:30PM, BESC 180
For each exam please bring two blue books
For each exam each student can bring a one page formula sheet 8.5x11inches in size; you can use both sides
- There is expected to be help sessions *the evening before each exam*: 6:30-8PM: Monday Feb 18, Monday March 18 and Wednesday April 24 in BESC 180
- A project will be required on a topic relevant to the course. The project will consist of

a written report and a talk of approximately 30 minutes plus 5 minutes for questions. The project will be due and scheduled during last week in the course: April 29-May 2.

Project Locations:

Monday April 29 AND Wednesday May 1: 5-10PM: ECCR: 257 (APPM Newton Conference Room)

Tuesday April 30 AND Thursday May 2: 5-10PM: ECCR 108

At a midpoint of the semester a one page description of the topic you propose to study will be required. The topic must be approved by instructor. Undergraduates will be able to work together in groups of three; graduate students can work in groups of two. More details will be provided at a later date.

- There will **not** be a final exam during finals week in this course.

Expected grade weighting: Exams: 55%; Exam #1:17%; Exam #2: 18%; Exam #3: 20 %; Homework: 25%; Project report and lecture: 20%

Approximate outline of topics and dates:

- Chapter 1: 1.1–1.3 2 weeks
- Chapter 2: 2.1–2.6 4 weeks
- Chapter 3: 3.1–3.3, 3.5 4 weeks
- Chapter 4: 4.1–4.6 4 weeks
- Miscellaneous topics: 1 week
- Project reports and presentations during last week of classes