Mathematics 300 , Section 951
Introduction to Complex Variables
July - August 2021. On zoom.
Monday, 13-14, Tuesday, Wednesday, Thursday, 13-15.
Instructor: Zinovy Reichstein

Textbook: Saff and Snider, Fundamentals of Complex Analysis with Applications to Engineering, Science and Mathematics, third edition.

Course description: We will begin by discussing the complex numbers and functions of a complex variable, then proceed to develop differential and integral calculus in this setting. The resulting theory is beautiful and in many ways quite different from the "usual" calculus for functions of either one or several real variables. Complex analysis has many applications to science, engineering and other areas of mathematics. We will go over (most of) chapters 1-6 in the text, covering the following topics:

- complex numbers,
- complex derivatives and analytic functions,
- elementary functions,
- contour integration,
- Cauchy's theorem,
- Cauchy's Integral Formula,
- Taylor series,
- Laurent series, singularities and residues.

Registration: I am not authorized to register students into my classes. If you have any questions or concerns about registering for this class, please go to
`https://www.math.ubc.ca/Ugrad/ugradRegistration.shtml`
and fill out a web form there.

Homework: I plan to assign three problem sets during the term. Barring the unexpected, they will be due by 9pm on the following days:

Problem Set 1: Tuesday, July 14.

Problem Set 2: Saturday, July 24.

Problem Set 3: Saturday, August 7.

Late homework will not be accepted. A portion of each problem set will be marked. The lowest homework grade will be dropped. Students

are allowed to consult one another concerning homework problems, but solutions submitted for credit must be written by the student in his or her own words.

Quizzes: There will be three quizzes during the term on the following days.

Quiz 1: Thursday, July 15 (week 2).

Quiz 2: Thursday, July 29 (week 4).

Quiz 3: Thursday, August 12 (week 6).

There will be two sittings for each Quiz, one for Students in North America, starting at 1pm (Pacific Time), the other for students outside of North America, starting at 7:30pm (again, Pacific Time).

Final Exam: There will be a 2.5 hour final exam in this class some time during the final exam period, August 16-20. The specific date/time will be set by the central administration.

Marking scheme: I will compute the total term mark for each student in two ways,

Total 1 := Top two problem sets (5% each) + Quizzes 1, 2, 3 (20% each) + Final exam (30%), and

Total 2 := Top two problem sets (5% each) + Top two quizzes (20% each) + Final Exam (50%)

and use whichever one is higher.

Canvas: If you are registered for the class, see the Canvas page for details and updates.