# Math 311 – Methods of Complex Analysis
# Johns Hopkins University
# Course Syllabus

## Instructor

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Office hours: Online, by appointment.

## Course Modules

Your primary sources of information will be the textbook and videos posted in Canvas. Each week, we will have a live synchronous session in which we can answer questions and work through some examples. If we are small enough, I will poll the members of the class to find a preferred time.

A link to the online Zoom meeting room where our synchronous sessions take place will be posted in Canvas.

## Textbook

*Fundamental of Complex Analysis, Third Edition* E. B. Saff and A.D. Snider, Pearson Modern Classic, ISBN-13: 978-0-13-468948-7; ISBN-10: 0-13-468949-8.

## Learning Outcomes:

By the conclusion of this course, you are expected to have gained the ability to:

- Compute complex limits and complex derivatives of functions.
- Compute contour integrals of complex holomorphic function
  Apply the theory of Residues to applications in the natural sciences

## Homework

Each module will cover one chapter in the textbook and will run for two weeks. At the end of that two weeks (which will be a Sunday at 11:59 PM Eastern Time) your homework assignment for that chapter will be due. You are welcome to collaborate with your classmates on the homework, however each of you must write up and turn in your own homework assignment. You may not collaborate with people outside of our class.

You will be turning in your work by uploading a PDF to Canvas. Either write up your work in LaTeX or, if you are not going to do so, make absolutely sure that your written work is completely legible. Anything that is too difficult to read, too messy to decipher, scanned with not enough contrast, or otherwise unreadable will be ignored. I strongly recommend you use LaTeX. That is the way mathematicians communicate.

## Exams

There will be a take home Midterm Exam. It will be available to you at 12:01 AM on Monday. It will be due by 11:59 PM on Sunday. So you have two minutes shy of one week to complete the exam. We will not have a module that week, so you can focus on the

Midterm. As with the homework assignments, you are welcome to collaborate with your classmates. But all the work you turn in must be your own. You may not collaborate with anyone outside of our class.

As with the homework assignments, you will be turning these in as a PDF through Canvas. Use LaTeX or make absolutely sure it is super easy to read. I still recommend LaTeX.

There will be a take home Final Exam. It will be available to you at 12:01 AM on Monday It will be due by 11:59 PM on Friday. As with the homework assignments, you are welcome to collaborate with your classmates. But all the work you turn in must be your own. You may not collaborate with anyone outside of our class.

As with the homework assignments, you will be turning these in as a PDF through Canvas. Use LaTeX or make absolutely sure it is super easy to read. I still recommend LaTeX. Notice the pattern here?

**Grading**

Your final grade for the class will be given as a weighted average with the weights given as follows:

- Homework Assignments: 40%
- Synchronous Class Participation: 15%
- Midterm Exam: 20%
- Final exam: 25%

The letter grades are assigned as follows based on your final weighted average:

A: 90-100
B: 80 - 89
C: 70 - 79
D: 55 - 69
F: < 55

"+" and "-" will be determined at the end of the semester.

**Support**

There are many sources of help and support if you are having difficulty with the class, material or anything else. These include:

- office hours: Online, by appointment
- The Learning Den: http://www.advising.jhu.edu/
- Office of Academic Support: http://academicsupport.jhu.edu/- See the support page for more info

Please do not feel shy about asking for help, or just checking that you understand something correctly.

**Absences**

Part of your grade is your participation at the weekly synchronous sessions. So you should plan to be there.

**Special Aid**

Students with disabilities or other special needs who require classroom accommodations or other arrangements must make this known to me as soon as possible at the beginning of the semester and be registered with the disability coordinator in the Office of Academic Advising.

**Collaboration**

Collaboration on all the assignments and exams is allowed. However, each student must write up his/her solutions to the problems individually and in his/her own words - copying from another student's paper is prohibited. Writing proofs and clear mathematics is an essential part of your mathematical education. Failing to give it proper attention will significantly harm your performance on the exams and your overall grade for the class.

**Exam Integrity & Student Identity Verification**

This course may require the use of technology and/or software to ensure exam integrity and verify the identity of the student taking the exam. Additional information and directions will be provided in the course website.

**Students with Disabilities**

Students with documented disabilities or other special needs who require accommodation must register with the Office of Academic Advising. After that, remind the instructor of the specific needs at least one week prior to each exam; the instructor must be provided with the official letter stating all the needs from the Office of Academic Advising. (https://studentaffairs.jhu.edu/disabilities/)

**JHU Ethics Statement**

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

Report any violations you witness to the instructor. You may consult the associate dean of students and/or the chairman of the Ethics Board beforehand. Read the "Statement on Ethics" at the Ethics Board website for more information.