

Repetitio est mater studiorum
(*Repetition Is the Mother of Learning*)
Latin wisdom

Interest increases as a result of success,
and success is the outcome of hard work
Professor Yaroslav Tagamlizki

Eastern Connecticut State University
MAT 450-01, Complex Variables, Spring 2026

Instructor: Christian Yankov

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Time and Place: MWF 2:00-2:50 pm, Science 231.

Text: *Complex Analysis: A First Course with Applications*, 3rd edition, Zill, and Shanahan.

Office hours: MF: 8:00-9:00 am and 12:00-1:00 pm, W: 12:00-1:00 pm.

Prerequisites: MAT 340, or consent of instructor.

Course topics: Analytic functions, their differentiation and integration, Cauchy's integral theorem, power series, residues.

Goals and Objectives: There are several important outcomes to achieve by the end of this course:

- Understanding the structure of the field of complex numbers and its particular algebraic properties;
- Understanding the geometric representation of complex numbers as points in the complex plane and the geometric transformations corresponding to the algebraic operations;
- Understanding the rigorous definition of analyticity of complex-valued functions and their relationship with the differentiability of their real and imaginary parts (the Cauchy-Riemann equations), as well as harmonic functions;
- Understanding the fundamental properties of analytic functions: the Cauchy-Goursat theorem, Cauchy's Integral Formula, Morera's theorem, the Residue theorem and its applications etc;
- Understanding the properties of geometric transformations of the complex plane defined by analytic functions. Ability to construct conformal mappings between standard geometric regions;
- Further developing the ability to understand and construct abstract mathematical proofs, applying theoretical knowledge to particular problems.

Class format: Each class meeting will consist of a lecture and include related problem solving.

Attendance: It is expected that you be there on time for each and every class. If for some reason you should miss a class, then it is your responsibility to find out from a friend what has been covered and assigned and make it up.

Homework: After almost each class you will get a homework assignment. Some of it will be collected and graded, but all of it must be completed and should prepare you for the quizzes and exams. I cannot stress enough the importance of doing the homework. In addition to being part of your grade, it is a critical factor in building and reinforcing your knowledge, as well as helping you identify your weak points.

please, turn over

Quizzes: Quite often at the beginning of class time there will be a short quiz. This should keep you alert and following the material regularly, carefully, and closely.

Exams: There will be a midterm exam the date of which will be announced at least a week in advance.

Make-ups: There will be no make-ups for quizzes, since I will drop the lowest one. Make-ups for the midterm exam are strongly discouraged and might be allowed for truly exceptional reasons only, and with my prior permission.

Final Exam: There will be a cumulative final on **Monday, May 11, 2026, 2:00-4:00 pm.**

Evaluation: Your work in this course will be weighted as follows. The quizzes will account for 10% of your grade, the graded homework will account for 20%, the midterm exam will account for 30%, and the final exam will account for the remaining 40%.

Grades: The ranges for the grades are the following:

A-, A	90% and above	B-, B, B+	80% - 89%
C-, C, C+	70% - 79%	D, D+	60% - 69%

How to get help: You are encouraged to come see me during office hours, if you have difficulties with the subject matter.

Inclement weather: For cancellation of classes due to bad weather follow the messages on the university weather hot line at (860) 465-4444, or 1-800-578-1449, or visit the website

<https://www.easternct.edu/easternalert/>

Eastern uses also the local radio and TV station broadcasts to announce cancellations. If you are subscribed to Eastern Alert, you should also be notified via that channel.

Weather Closing Policy: In the event of a delayed opening of the University, any class that would have at least 45 minutes of meeting time remaining after the announced opening time will meet starting at the announced opening time. Any class meeting that would have fewer than 45 minutes of meeting time after the announced opening time will not meet. For example, if opening the campus is delayed until 10 a.m., classes running from 9:30-10:45 a.m. would meet from 10-10:45 a.m.

In the event of an early closing of the University, any class that would have at least 45 minutes of meeting time prior to the announced closing time will meet until the announced closing time. Any class meeting that would have fewer than 45 minutes of meeting time before the announced closing time will not meet. For example, if we were to close the University early at 3 p.m., classes running from 2-3:15 p.m. would meet from 2-3 p.m.

Students with disabilities: Eastern Connecticut State University is committed to following the requirements of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability (or think you may have a disability), and require adaptations or accommodations, or assistance evacuating a building in the case of an emergency, please contact the Office of AccessAbility Services (OAS) at 860-465-0189 to discuss your request further. Any student registered with the OAS should contact the instructor as soon as possible for assistance with classroom accommodations. Please note that accommodations are not retroactive, and must be communicated through a Letter of Accommodation which is drafted by the OAS.

Academic Misconduct: Students should read and understand Eastern's Academic Misconduct Policy, which can be found in the student handbook or at the following website:

<https://www.easternct.edu/academic-misconduct/index.html>

All violations will be handled under the procedures established in this policy.

Disclaimer: *The instructor reserves the right to make changes to this syllabus during the semester as necessary.*