

MAT 514: Analysis for Teachers II
Summer II 2024

Class Location: Physics P122 TuTh 1:30pm-4:55pm (with intermission)

Instructor: Dr. Ethan L Addison

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Official Description: This course is designed for teachers and prospective teachers of advanced placement calculus. Mathematical topics include the contents of an introductory course to functions in one complex variables, with special emphasis in gaining understanding in topics that are present in Calculus courses, with the ultimate goal of studying some applications of the Residue theorem. Analysis for Teachers I is not a prerequisite for this course. There will be a special emphasis on the way material is presented to students, by having discussions about how to lead presentations and how to provide them clearly written material.

Office Hours: See <http://www.math.stonybrook.edu/cards/addisonethan.html> to stay up to date, as these are subject to change. I have both Zoom and in-person hours, and feel free to schedule an appointment.

Grading Scheme: Your course grade will be computed based on the following combination of factors:

- Homework Assignments (40%)
- Presentation (30%)
- Final Exam (30%) — Thursday, August 15th

Brightspace: This will be our main resource for sharing information regarding grades, announcements, and course materials, so please check it regularly.

Homework: There will be four homework assignments throughout the session primarily sourced from the textbook involving calculations and guided proofs. These can be completed collaboratively, but collaborators should be clearly indicated on the submission.

Presentations: Each student will choose from a predetermined list of sections from the textbook in order to prepare a 30 minute lecture for the class. This is one of the most important parts of the course, since you will be able to practice your presentation skills and the clarity in which you expose mathematics problems.

Final Exam: There will be a two hour cumulative exam during the last class meeting which will resemble the homework assignments.

Textbook: *Visual Complex Analysis* by Needham. A pdf of this book is freely available online. It is famous for its detailed depictions of *why* certain ideas and results are true, even it does not always prove that they are indeed true. Intuition is often lacking in studying complex variables, so what Needham lacks in precision is made up for in clarity. An additional freely available text with a more traditional approach to the topic is *A First Course in Complex Analysis* by Beck-Marchesi-Pixton-Sabalka.

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html.

Student Accessibility Support Center: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact the Student Accessibility Support Center (SASC), ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the staff at the Student Accessibility Support Center (SASC). For procedures and information go to the following website:<http://www.stonybrook.edu/ehs/fire/disabilities>.

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.