MATH 4317 Syllabus

Analysis I, Section CU, 3 credit hours

Fall 2026

Instructor Information

Instructor: Dr. Plamen Iliev

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General Course Information

Description

The course provides a rigorous introduction to mathematical analysis. Key concepts include:

- countability and uncountability,
- supremum and infimum,
- continuity and uniform continuity,
- compactness and connectedness,
- Cauchy sequences, convergence, and uniform convergence,
- power series and Fourier series.

Course Learning Outcomes

- Master the completeness of the real line, understand suprema and infima, and distinguish between countable and uncountable sets.
- Understand basic point-set topology, including open and closed sets, compactness and connectedness.
- Apply criteria to test convergence of sequences in Euclidean spaces and compute limits.
- Test sequences or series of functions for pointwise and uniform convergence.
- Analyze continuity and uniform continuity of functions.

Required Course Materials

The Elements of Real Analysis, by Robert G. Bartle, 2nd Edition, ISBN: 978-0-471-05464-1.

Grading Policy

Grades will be based on homework and exams, weighted as follows:

- homework assignments, 10%
- two midterm exams, 50%
- a comprehensive final exam, 40%.

Grades will be computed by the usual distribution:

Score	Letter Grade
90%–100%	A
80%–89%	B
70%–79%	C
60%–69%	D
0%–59%	F

Assignments

- Weekly homework assignments
- Midterm 1, Monday, October 12, during class
- Midterm 2, Monday, November 16, during class
- The time and date of the Final exam will be posted by the Registrar's Office in the Final Exam Matrix for Fall 2026.

Description of Graded Components

The graded components consist of homework assignments, midterm exams and a final exam.

- Homework will be assigned weekly and submitted via Gradescope. A proper subset of each assignment will be graded. You may consult with each other on the homework assignments, but you must write up and submit your own work by the due date. Late homework will not be accepted.
- All exams (the two midterm exams and the final exam) will be in-person. Notes, books, calculators, laptops, cell phones, etc. may not be used during the exams.

Course Policies

Attendance and Participation

Students are encouraged but not required to attend lectures. Lectures will not be recorded.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.