

MATH 1552 Syllabus

Integral Calculus, 4 credits

Fall 2026

Instructor Information

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General Course Information

Description

Course Number and Title: MATH 1552, Integral Calculus

Prerequisites: MATH 1551, Differential Calculus, or equivalent

Integral Calculus: Definite and indefinite integrals, techniques of integration, improper integrals, infinite series, applications.

Course Learning Outcomes

- Students will understand the geometric concept of a definite integral and learn how to approximate the integral using Riemann sums.
- Students will be able to evaluate indefinite and definite integrals algebraically using various integration techniques, including substitution, integration by parts, trigonometric substitution, trigonometric identities, and partial fractions.
- The idea of convergence will be applied to improper integrals and infinite series.
- Given an infinite series, students can analyze the function to determine if the series converges by applying an appropriate convergence test (divergence, comparison, integral, ratio or root).
- Taylor series will be constructed for various functions and will be applied to numerical approximation problems and definite integrals.
- Students will understand the proper usage of mathematical notation in relation to the above topics.

Required Course Materials

Textbook: Thomas, *Calculus: Early Transcendentals*, 15th ed. We will discuss topics in chapters 5, 6, 7, 8, and 10. Purchasing the textbook is *optional*.

WebWork is a required online homework system. It is embedded into our Canvas course and is free of charge.

Grading Policy:

The final grade will be determined using the following weightings:

Homework*:	10% or 15%
Midterm Exams**:	72%
Final Exam**:	13%
Lecture attendance*:	0% or 5%
Studio attendance:	up to 2% extra

*Students have an option to count lecture attendance towards the final grade.

Opt-in: Attendance counts 5% and homework counts 10%.

Opt-out: Attendance does not count and homework counts 15%. Additional homework assignments will be required.

**The final exam counts a minimum of 13% and can also be used for grade improvement on the midterms as described in the additional course policies found on Canvas.

*Letter grades will be determined based on the following intervals. **You are guaranteed a minimum of the following scale, but do not expect any deviation:***

A: 90% and higher, B: [80%, 90%), C: [70%, 80%), D: [60%, 70%), F: [0%, 60%).

Description of Graded Components

SYLLABUS QUIZ: Students need to take and pass the syllabus quiz with a 100% score before any assignments will be unlocked on Canvas. The quiz will not count in the overall class average, but it must be completed in order to access course materials and submit homework assignments.

LECTURE ATTENDANCE: Students who regularly attend lectures will have the option to count attendance as a portion of the overall final grade. Please see the additional class policies on Canvas for more details on this option and how to opt-in.

HOMEWORK: Online homework on WebWork will be assigned throughout the term and is required for all students. If students opt-out of attending lecture, then additional homework assignments will be required. Please see the additional class policies on Canvas for more details.

MIDTERM EXAMS: We will have four in-person tests this semester. Tests will be 60 minutes long and administered during our common testing block on Friday evenings from 5:00-6:15 pm. More details about exams can be found on the additional policies page on Canvas.

FINAL EXAM: The in-person final exam will cover all course materials and will be standardized by the department. The final exam is *mandatory*, but it can also be used for grade improvement. The final will have two sections, one section on integration and one section on infinite series. Please see more details about the weighting of the final exam in the additional course policies posted on Canvas.

***Please note:** items on the syllabus and course schedule are subject to change. Any changes to the syllabus and/or course schedule will be relayed to the students in class and on Canvas.*

Course Policies

Attendance and/or Participation

You are expected to come prepared and actively participate in the class sessions. In the event of an

absence, you are responsible for all missed materials, assignments, and any additional announcements or schedule changes given in class, even if such materials are not posted on Canvas.

Seating in our classrooms is limited. As space must be guaranteed for all registered students, please do not attend a lecture or studio section for which you are not registered. The instructors and TAs reserve the right to remove unregistered students from their classrooms. Students must attend the section for which they have officially registered to earn lecture and/or studio participation points.

Examinations will be administered in-person and on-campus only. Any requests for flexibility in the exam dates or modes will be denied. Exam make-ups will also be in-person and will only be provided for *excused* absences, and not for personal travel. **No exceptions will be made to the in-person examination policy, so please be sure you will be present on campus for those dates.**

Regrades

All regrade requests must be submitted in writing via Gradescope within one week after graded papers have been released. Please be sure to check the solutions first as regrades are only accepted when there is a grading error. Misuse of this policy may result in further grade deductions and/or referral to the Dean of Students. Additional policy details are available on Canvas.

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.

Zero-tolerance cell phone policy: On all course examinations, the instructors will have a zero-tolerance policy regarding cell phones, ear buds/headphones, and other similar communication devices. No student will be allowed to have a cell phone or other electronic equipment at their desk, on their person, or in the vicinity of their workspace during exams. Should an exam proctor catch a student with a phone, it will be considered as academic misconduct, whether or not the phone was in use at the time, and the exam score will be a "0."

Please note: if a student is found responsible for academic misconduct and assigned a grade of "0" on a midterm exam per the Office of Student Integrity, then that "0" test grade must count in the final average and ***cannot be replaced*** by the final exam.

Core IMPACTS

This is a Core IMPACTS course that is part of the Mathematics area.

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How do I measure the world?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will apply mathematical and computational knowledge to interpret, evaluate, and communicate quantitative information using verbal, numerical, graphical, or symbolic forms.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

Information Literacy

- Inquiry and Analysis
- Problem-Solving

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.