

Calculus I, Math-035, Summer 2023
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Course Goals : goals are for students to develop:

- A functional understanding of limits and its relationship to derivatives and integrals.
- A sound knowledge of the techniques of differentiation and integration and their application.

As a result, students completing this course will

- Gain meaningful information about a situation under study by using the core concepts of calculus, even when the necessary data for applying a formulae is unavailable
- Be able to explain why techniques work and how symbolic, numeric, verbal and graphic treatments tie together.
- Engage in the practices of finding patterns, making generalizations, forming conjectures, and proving results related to limits, derivatives and integrals.
- Develop a sense of the role that calculus plays in both society (as a common framework in which situations under study can be viewed and discussed) and history (as one of the fundamental tools of scientific study).
- Make significant progress on both standard and nonstandard problems in math as it is truly pursued is about finding ways to bring the tools one has developed to bear on new situations.

Particular Topics

- Functions, including domain and range, representations, notation and graphs
- Limits (Finding Limits, The Limit Laws, Limits involving Infinity)
- Continuity
- Derivatives (The Definition, Rates of Change, including Velocity, The Derivative Function, Rules for Derivatives, Implicit Differentiation, Linear Approximation and Differentials)
- Applications of the Derivative (Related Rates, Graphing, Optimization)
- Logarithmic and Exponential Functions (Inverse Functions, Exponential and logarithmic Functions and their derivatives, Inverse Trigonometric Functions and their derivatives)
- The Integral (Antiderivatives and the Definite and Indefinite Integral, The Definition of the Definite Integral with Elementary Applications, Basic Integration Techniques through Substitution, The Fundamental Theorem of Calculus).

Exams and Grading: 16% Homework, 18% for each of the three midterms, 30% final. **There will be no make-up exam** except in the case of a true emergency (death in family, extreme illness) in which case you need to talk to the instructor in advance to arrange the make up exam. Grading Scale: 90-92 (A-), 93-100(A), 80-82 (B-), 83-89 (B) 70-72 (C-), 73-79 (C), 60-69 (D), 0-59 (F).

Textbook, Calculus, Early Transcendentals, edition 3, by Briggs and Cochran, Pearson publishers. This book is available at bookstore. Having a hard copy of the text is **OPTIONAL**, but you will need an access code giving you access to MyMathLab, an online resource for our Homework and the electronic copy of the text.

ACADEMIC INTEGRITY

Students at Georgetown University are expected to maintain the highest standards of academic and personal integrity. Although most Georgetown students conduct themselves in accordance with these standards, occasionally, there are students who violate the code of conduct. Cheating harms the University community in many ways. For example, honest students are frustrated by the unfairness of cheating that goes undetected and students who cheat can skew the grading curve in a class, resulting in lower grades for students who worked hard and did their own work.

Academic dishonesty in any form is a serious offense, and students found in violation are subject to academic penalties that include, but are not limited to failure of the course, termination from the program, and revocation of degrees already conferred. All students are expected to fully adhere to the policies and procedures of [Georgetown's Honor System](#) and to take the Honor Code Pledge.

Honor Code Pledge

In pursuit of the high ideals and rigorous standards of academic life I commit myself to respect and to uphold the Georgetown University honor system:

- To be honest in every academic endeavor, and
- To conduct myself honorably, as a responsible member of the Georgetown community as we live and work together.

Plagiarism

Stealing someone else's work is a terminal offense in the workplace, and it will wreck your career in academia, too. Students are expected to work with integrity and honesty in all their assignments. The Georgetown University Honor System defines plagiarism as "the act of passing off as one's own the ideas or writings of another." More guidance is available through the [Gervase Programs](#). If you have any doubts about plagiarism, paraphrasing, and the need to credit, check out [Plagiarism.org](#).

All submissions must be your original work. Any submission suspected of plagiarism will be immediately referred to the Honor Council for investigation and possible adjudication. All students are expected to follow Georgetown's honor code unconditionally. If you have not done so, please read the honor code material located online at the [Honor Council website](#).

SUPPORT SERVICES

Georgetown recognizes that COVID-19 has a significant impact on everyone in the Georgetown community. Georgetown offers a variety of support services for students that can be accessed online and has put together [this newsletter](#) which aims to provide you with information about well-being resources and virtual meetings that can connect you with mental health professionals on and off campus during this time. Below are some resources available to you:

- [Academic Resource Center](#)
202-687-8354 | arc@georgetown.edu
- [Counseling and Psychiatric Services](#)
202-687-6985
- [Institutional Diversity, Equity & Affirmative Action \(IDEAA\)](#)
(202) 687-4798

Title IX Syllabus Statement (endorsed by Faculty Senate)

Georgetown University and its faculty are committed to supporting survivors and those impacted by sexual misconduct, which includes sexual assault, sexual harassment, relationship violence, and stalking. Georgetown requires faculty members, unless otherwise designated as confidential, to report all disclosures of sexual misconduct to the University Title IX Coordinator or a Deputy Title IX Coordinator. If you disclose an incident of sexual misconduct to a professor in or outside of the classroom (with the exception of disclosures in papers), that faculty member must report the incident to the Title IX Coordinator, or Deputy Title IX Coordinator. The coordinator will, in turn, reach out to the student to provide support, resources, and the option to meet. [Please note that the student is not required to meet with the Title IX coordinator.]. More information about reporting options and resources can be found on the Sexual Misconduct Website:

<https://sexualassault.georgetown.edu/resourcecenter>.

If you would prefer to speak to someone confidentially, Georgetown has a number of fully confidential professional resources that can provide support and assistance. These resources include:

Health Education Services for Sexual Assault Response and Prevention: confidential email sarp@georgetown.edu

Counseling and Psychiatric Services (CAPS): 202.687.6985 or after hours, call (833) 960-3006 to reach Fonemed, a telehealth service; individuals may ask for the on-call CAPS clinician

More information about reporting options and resources can be found on the [Sexual Misconduct Website](#).

(Above statement and TIX faculty resources found at: <https://sexualassault.georgetown.edu/get-help/guidance-for-faculty-and-staff-on-how-to-support-students/>)

Title IX Pregnancy Modifications and Adjustments

Georgetown University is committed to creating an accessible and inclusive environment for pregnant students. At any point throughout their pregnancy students may request adjustments/modifications based on general pregnancy needs or accommodations based on a pregnancy-related complication or medical need. Students may also request accommodations following labor and delivery based on a complication or medical need.

SCS students must complete the [Pregnancy Adjustment Request Form](#) (<https://titleix.georgetown.edu/title-ix-pregnancy/student-pregnancy/>) and submit it to the SCS Deputy Title IX Coordinator at titleixscs@georgetown.edu. Upon receiving the completed form, the Deputy Title IX Coordinator will schedule a meeting with the student to discuss the requested adjustments and implementation process.

More information about pregnancy modifications can be found on the [Title IX at Georgetown University Website](#).