

Math 273

Calculus I

Class Policies

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Office Hours: MTW 1-2

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MW: 12:00-1:50, 7800 York Road 106

Th: 12:30-1:20, 7800 York Road 103

Section: 003

Prerequisites: MATH 119 or calculus course in high school or adequate score on Placement Test

Catalog Description: Functions, limits and continuity; differentiation of algebraic and trigonometric functions; mean value theorem; differentials; introduction to integration; applications.

Learning Objectives:

1. The student shall understand the notion of limit, including both intuitive and rigorous definitions. The student shall also be able to calculate limits as they appear in practice, including one-sided limits and limits at infinity. The student shall also understand the notion of continuity, and shall understand its relationship to limits.
2. The student shall understand the concept of the derivative, including both intuitive and rigorous definitions. The student shall be able to understand the significance of the derivative, including its applications to slopes and velocities. The student shall be able to compute the derivative, using the appropriate rules, including the product rule, the quotient rule and the chain rule. The student shall understand implicit differentiation, and the use of higher derivatives.
3. The student shall understand the applications of the derivative to related rates problems. The student shall also understand the geometric significance of both the first and the second derivative. The student shall also be able to solve applied problems involving maxima and minima, shall understand Newton's method, and shall be able to use the derivative as an aid in approximation.
4. The student shall understand the notion of the definite integral and the indefinite integral, as well as understand the differences between them. The student shall understand the role that Riemann sums play in the definition of the definite integral. The student shall understand the method of integration by substitution.

Academic Integrity: The nature of higher mathematics requires that students adhere to accepted standards of academic integrity. Violations of academic integrity include cheating, plagiarism, falsification and fabrication, complicity in academic dishonesty, personal misrepresentation and proxy, bribes, favors and threats. Cheating is a serious offense that will have grave consequences for your academic life.

Students who violate these standards will either fail the course outright or, at the instructor's discretion, may merely receive a zero on any assignment for which the student receives inappropriate assistance. Particularly serious violations of these standards will be referred to the administration for possible additional action.

Instructional Material: The primary required text is *Calculus, Early Transcendentals*, fifth edition, by Stewart. Also required is *Laboratory Explorations for Single-Variable Calculus using Mathematica*, second edition by Boules, Goodson, Kim and O'Leary.

Other Required Material: A graphing calculator is required.

Methods of Instruction: We shall use lectures, class discussion, group work, and laboratory work.

Attendance: Attendance is expected; you should only miss a class for a compelling reason. If you do miss a class, you are responsible for any material that you miss, including any homework assignments given in that class.

Homework: The only way to learn mathematics is by doing problems, problems, and more problems. In addition to the labs, homework will be assigned on a regular basis, and will form a substantial portion of your final grade. Expect to spend a substantial amount of time studying and working on homework. The general rule is two to three hours outside class for each hour inside; this translates to about 10-15 hours of homework and personal study per week.

Quizzes: Occasional unannounced quizzes may be given. For purposes of determining the final grade, they shall be treated as a homework assignment.

Computer Laboratory: There will be weekly computer based laboratory exercises. Laboratory assignments are due, unless otherwise specified, at the beginning of class one week after the assignment is given.

Although the computer room in Stephens 310 is available for student use, do not wait until the last minute to complete your assignments because computer resources are limited. Accordingly, you are encouraged not to fall behind in your lab work.

Laboratory assignments will be graded based on the following criteria:

- a. Content and accuracy (80%)
- b. Format and appearance (20%)

Each lab report shall be well written and conform to the usual rules for English composition. Merely listing the obtained answers is unacceptable. The report may be in the form of a *Mathematica* notebook.

Guidelines for Homework and Laboratory Reports:

- (1) Late work will not be accepted without a compelling reason.
- (2) Assignments are required to be neat, clean, and paper-clipped or stapled.
- (3) Assignments must include the author's name, and a brief description of the assignment.
- (4) Students are allowed to discuss homework problems with their classmates, however all work that is turned in must be the student's own work.

Any assignment that does not meet these criteria may receive a deduction in score, or more generally will simply be rejected.

Midterms: There shall be three midterm examinations, tentatively scheduled for September 28, October 23, and November 16. Attendance is expected. Make-up exams shall only be given for compelling reasons; all excuses are subject to verification.

Final Exam: The Final Exam is scheduled for **Wednesday, December 13 from 12:30 p.m.- 2:30 p.m.** The final exam will not be rescheduled. Attendance is expected; a make-up exam will not be given without an extremely compelling reason. The final exam shall be comprehensive.

Final Grade: Final grades shall be determined by the following method:

Midterms	30%	Final	30%
Labs	15%	Homework/Quizzes	25%

Note the weight of the final. A student who does not complete 70% of the laboratory assignments may not receive a grade of C or better.

The last day to withdraw from the course with a grade of "W" is November 8.

Help: If you have difficulty completing a homework assignment, do not hesitate to ask for help, either from your friends, or from me. You are welcome to stop by my office, for whatever reason, and at whatever time, even if there are no office hours scheduled then. If you wish, you may also simply send an e-mail message.

Web Page: My web page at <http://www.towson.edu/~moleary> has copies of all of the old exams that I have given while at Towson.