

Course Syllabus

667 MATH 223 - 02
Calculus I
Dr. Goutziers
Spring 2019

Room: Fitzelle Hall 251
Time: MWF 02:00 pm – 02:50 pm
R 02:30 pm – 03:20 pm
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Office Hours: M 10:00 am W 01:00 pm
R 01:00 pm F 03:00 pm
Textbook: Calculus Early Transcendentals

- *Author:* James Stewart
- *Edition:* Eighth
- *Publisher:* Cengage Learning
- *Copyright:* 2016
- *ISBN:* 1285741552

Symbolic Software: Maple

College Catalog Description:

MATH 223 Calculus I 4 s.h. Math 223 and 224 constitute the first two-thirds of the standard 12-credit calculus sequence, 223-224-276. Topics include functions and their graphs, limits, differentiation, integration, derivatives and integrals of the elementary functions, polar coordinates, parametric equations, infinite series. (*LA, M3*)

Prerequisite: 4 or more units high school math, or Math 105 “C” or better.

Course Goals and Objectives:

Math 223 provides an introduction to the properties of functions of one variable. The goals of the course are to understand the fundamentals of differential calculus and the basics of integral calculus with respect to representations and operations, limits, derivatives, the chain rule, implicit differentiation, the location of extrema, definite and indefinite integrals, the fundamental theorem of calculus, and the substitution rule. Historic references are made when appropriate.

To achieve the goals, students will, upon completion of the homework assignments, quizzes and exams:

- 1) use a problem-solving approach to investigate and understand the mathematical content;
- 2) demonstrate an understanding of the principles and techniques of applying mathematics to other disciplines and to real world problems;
- 3) understand and apply numerical computational and estimation techniques and extend them to algebraic expressions;
- 4) use mathematical modeling to solve problems from fields such as natural sciences, social sciences, business and engineering;
- 5) use computer software and/or graphical calculators to explore and solve mathematical problems.

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Student Learning Outcomes:

Mathematics General Education Attribute (M3): Students will demonstrate the ability to:

- Interpret and draw inferences from mathematical models such as formulas, graphs, tables and schematics;
- Represent mathematical information symbolically, visually, numerically and verbally;
- Employ quantitative methods such as, arithmetic, algebra, geometry, or statistics to solve problems;
- Estimate and check mathematical results for reasonableness; and, Recognize the limits of mathematical and statistical methods.

Course content:

Mathematical modeling; limits and continuity; derivatives, definition and rules for differentiation; related rates; linear approximations and differentials; hyperbolic functions; the mean value theorem; l’Hospital’s rule; Newton's method; curve sketching, extrema and inflection points, applications of differentiation; definite and indefinite integrals, the fundamental theorem of calculus, the substitution rule, applications of integration.

Methods of Evaluation and Grading Policies:

There will be three tests and three quizzes during the course of the semester. Quiz dates are: February 7, March 14, and April 11. Test dates are: February 21, March 28, and April 26. Section coverage will be published on my website at least four days in advance. A comprehensive final exam is scheduled for Friday, May 3, 02:00 pm - 04:30 pm, in Fitzelle Hall 251. Quizzes may be completed in groups of at most three students, tests and final exams are an individual responsibility. Homework will be assigned daily and is due at the beginning of the next class meeting. A cover sheet indicating the course, the student’s name, and the assignment number, needs to be stapled to each submitted homework. Homework assignments and coversheets are published on my website and updated daily. Homework grades depend on the percentage of assignments submitted.

00 - 49%	no homework credit
50 - 79%	half homework credit
80 - 100%	full homework credit

Submitted homework does not have to be perfect, but should show “reasonable attempt”. Course grades are computed according to the following:

Tests:	40%	90 - 100 A	77 - 79 B-	64 - 66 D+
Quizzes:	20%	87 - 89 A-	74 - 76 C+	60 - 63 D
Final Exam:	20%	84 - 86 B+	70 - 73 C	57 - 59 D-
Homework:	20%	80 - 83 B	67 - 69 C-	0 - 56 E

Attendance Policy:

It is the student's obligation to take the quizzes, tests and the final exam at the scheduled times.

Make-up Test/Quiz Policy:

Make-ups will not be given. If a student misses a test/quiz, her/his grade for that test/quiz will be considered equal to her/his grade on the final exam.

Cell Phone Policy:

Cell phone use during examinations is strictly prohibited. Phones need to be off and stowed.

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ADA (American with Disabilities Act) Statement:

Students Diagnosed with a Disability—All individuals who are diagnosed with a disability are protected under the Americans with Disabilities Act, and Section 504 of the Rehabilitation Act of 1973. As such, you may be entitled to certain accommodations within this class. If you are diagnosed with a disability, please make an appointment to meet with Accessibility Resources, 133 Milne Library, ext. 2137. All students with the necessary supporting documentation will be provided appropriate accommodations as determined by the Accessibility Resources Office. It is entirely your responsibility to contact Accessibility Resources and concurrently supply me with your accommodation plan, which will inform me exactly what accommodations you are entitled to. You will only receive accommodations once you provide me with an Accessibility Resources accommodation plan. Any previously recorded grades will not be changed.

Emergency Evacuation/Shelter-in-Place Procedures:

In the event of an emergency evacuation (i.e., fire or other emergency), classes meeting in this building are directed to reassemble in the IRC Lobby so that all persons can be accounted for. Complete details of the College's emergency evacuation, shelter-in-place and other emergency procedures can be found at <http://www.oneonta.edu/security>.