HAMPDEN-SYDNEY COLLEGE

Math 140: Calculus for Business & Economics (3 credits)
Spring 2025

Instructor	Brian Lins
Email Address	blins@hsc.edu
Course Meeting Time	MWF 10:30 - 11:20am
Course Meeting Location	Pauley 100
Office Hours	Wednesdays 2:30 - 4pm, Thursdays 12:30-2pm. See the course website: `https://bclins.github.io`

Course Description

A study of differential calculus and its applications. Topics include differentiation of elementary functions and applications including constrained and unconstrained optimization in one and several variables. Prerequisite: Economics 101 and satisfactory performance on a departmental assessment. Students who have any credit at Hampden–Sydney for the study of calculus may not take this course.

Course Learning Objectives

- Learn to compute derivatives and understand their applications.
- Apply derivatives to solve constrained and unconstrained optimization problems.
- Use functions and derivatives in models, particularly in economics.

Required Materials

None. See the course website for links to the free textbook.

Attendance Policy

Attendance in this class is required. Repeated absences may result in a forced withdrawal from the course. You are responsible for any material you miss due to absence. Please let me know ahead of time if you know that you will not be able to attend class.

Grading Policy

The term grade will be based on the following factors.

Component	Proportion
Midterms	45%
Quizzes	30%
Final Exam	25%

In-Class Problems

There is a saying that, "you learn math by doing math." This is very true! During most class periods you will be asked to solve problems in-class. Any problems you do not complete during class become homework problems. I do not collect these problems however. Instead, you may consult your notes & completed classwork during the weekly quizzes.

Homework Quizzes

There will be homework assigned every week. These homework problems are due on Fridays, but I don't collect them. Instead, there will be a homework quiz on Friday that covers the homework. These quizzes will include problems that are similar to the ones on the homework. You are allowed to use your notes and your homework solutions during the quizzes, but no calculators. Your lowest quiz grade will be dropped from the final average.

Please let me know in advance if you will be missing class. If you let me know ahead of time that you will be missing class for a school sponsored event, then we can plan an alternative assignment. If you don't let me know until after the fact, then it will be too late. There are no make-up quizzes. That's why I drop your lowest quiz grade.

Exams

There will be three in-class midterm exams and a cumulative final. These exams will be announced in advance, and you will know exactly what concepts will be covered on each exam. Unlike the quizzes, you will not be able to use your notes or old homework assignments during the exams.

Course Schedule

The schedule below is tentative, and may be subject to change. Changes will be announced in class, and you are responsible for knowing about any changes even if you miss the class when they are announced.

Week	Topic
1	Functions & graphs
2	Linear functions
3	Systems of equations, Exponents
4	Polynomial functions & equations
5	Rational functions, **Midterm 1**
6	Exponential & logarithmic functions
7	The derivative
8	Differentiation rules
9	Product, quotient, & chain rule
10	**Midterm 2**
11	Optimization
12	Functions of two variables
13	Partial derivatives, **Midterm 3**
14	Constrained optimization

Late Work and Make-Up Assignment Policy

Please let me know in advance if you will be missing class. If you let me know ahead of time that you will be missing class for a school sponsored event, then we can plan an alternative assignment. If you don't let me know until after the fact, then it will be too late. There are no make-up quizzes. That's why I drop your lowest quiz grade.

Grading Scale

This course adheres to the grades and quality points described in the Academic Catalogue. Consult the Academic Catalogue for a detailed description.

Honor Code

Students are expected to abide by the Honor Code for all assignments unless a professor indicates otherwise. Students should consult the Academic Catalogue and The Key: The Hampden-Sydney College Student Handbook for the College's description of the Honor Code and what it identifies as infractions of the Honor Code.

Artificial Intelligence Policy

Artificial intelligence (AI) generators and large language models (LLMs) often rely on existing published materials, and copying or paraphrasing materials generated by AI without attribution is plagiarism. Professors may permit students to use AI generators or LLMs in a variety of ways in their own classes. Those students, however, must not assume that those policies transfer to other classes.

Accommodations

Hampden-Sydney College is committed to ensuring equitable access to its education programs for all students. Under the administration of Culture and Inclusion, the Office of Accessibility Services (OAS) coordinates reasonable accommodations for qualified students with disabilities. If you wish to seek accommodations for this class, please contact Dr. Melissa Wood, Director of Title IX, Access, and Inclusion, at 434-223-6061 or at `mwood@hsc.edu`. Additional information may be found here: `https://www.hsc.edu/academics/academic-services/disability-services`. Appropriate documentation of disability will be required. For students who have an accommodations letter from OAS, it is essential that you correspond with your professor as soon as possible to discuss your accommodation needs for the course so that appropriate arrangements may be made.