University of Connecticut UCONN

Calculus for Business and Economics -- MAT1071Q

Dr. Schwendner
Section 802
Fall 2026
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COURSE:
Calculus for Business and Economics, 3 credits, T/Th, 11-12[15]pm, Rm 139. Office hours: T/Th 8-9[30]am, Rm 139

OVERVIEW:
Welcome! This course provides an introduction to calculus designed especially for students majoring in business, economics, and the life and social sciences. No prior knowledge of calculus is required; however, a strong foundation in advanced algebra is essential for success. Although calculus can be challenging, you can succeed through consistent practice, active participation, a willingness to ask questions, and an openness to learning new ideas.

Throughout the course, we will explore how calculus is used to solve real-world problems, especially those connected to business, economics, and applied fields. Topics will include:

- Limits
- Derivatives and integrals of common functions, including polynomial, exponential, and logarithmic functions
- Optimization, including finding maximum and minimum values
- Related rates, including how one changing quantity affects another
- Applications of integration

Don't worry if some of these topics sound unfamiliar right now. We will build the tools, skills, and understanding you need step by step.

TEXTBOOK: *OpenStax Calculus Volume 1: UConn Custom Business Calculus Edition. Available through this link:* https://www2.math.uconn.edu/ClassHomePages/Math1071/Textbook2

LEARNING OBJECTIVES:
By the end of the semester, students should be able to:

1. Use mathematical models to represent various business and economics related functions, including cost, revenue, profit, supply, and demand.
2. Understand and work with exponential and logarithmic expressions, especially as related to interest and other exponential growth problems.
3. Understand the idea of a limit and limits at infinity. Evaluate various types of limits and define concepts like asymptotes, continuity, and derivatives in terms of limits.
4. Understand the derivative as the instantaneous rate of change and also the slope of the tangent line to a curve. Use the tangent line to approximate functions.
5. Evaluate the derivative of functions using standard derivative rules.
6. Understand elasticity of demand.
7. Use the first and second derivative of a function, as well as its properties like domain, asymptotes, and symmetry, to understand the overall shape of a function and draw its graph.
8. Setup and solve optimization and related rates problems in various business contexts, using derivatives.
9. Evaluate both indefinite and definite integrals, using basic antiderivative rules, including substitution. This includes developing an understanding of the Fundamental Theorem of Calculus.
10. Use integrals/antiderivatives to solve problems, like finding cost from marginal cost, net change from a rate of change, or the area under or between curves.

PREREQUISITES:
Recommended preparation includes MATH 1010, MATH 1011, or the equivalent, as well as MATH 1070. This course is not open to students who have passed MATH 1110.

Success in this course requires a strong working knowledge of algebra. Students are expected to enter with proficiency in intermediate and advanced algebra, including concepts typically covered in high school, as these skills will be used extensively throughout the semester.

What to Expect and How to Succeed
Much of your learning in this course will take place *outside the classroom*. You should plan to spend *at least 10 hours per week* reviewing and practicing the material. This includes reading the textbook, reviewing lecture slides and notes, watching recorded lectures (if available), working through sample problems, and completing homework assignments.

Mathematics is learned best by **first understanding the underlying concepts** and then **applying those ideas to solve problems**. During class, we will focus primarily on explanations, demonstrations, discussions, and developing problem-solving strategies. Because of the pace of the course, there will be limited time during lectures for extensive in-class practice. As a result, it is essential that you consistently practice problems on your own outside of class to reinforce what you have learned.

You are expected to attend every class and actively participate. If you miss a class, it is your responsibility to obtain the notes, review the material covered, and stay current with assignments and announcements.

Students should recognize that a *college course moves at a significantly faster pace than a typical high school class*. In high school, a subject is often taught over the course of an entire academic year—approximately nine months. In contrast, a college semester lasts only about 13 to 15 weeks, yet it frequently covers the same amount of material, and often more, at a greater depth. As a result, *each week of a college course may be equivalent to two or three weeks of instruction in a high school setting*. Missing even a single class can mean falling behind on a substantial amount of content. To succeed, students should expect to keep up with assignments, review material regularly, and devote consistent time outside of class to studying and practicing course concepts. *This fast pace can be challenging, especially for students adjusting to college-level expectations. Strong time management, organization, consistent effort, and a proactive mindset are all essential for success. Most importantly, stay engaged, ask questions, and seek help early when needed. Learning calculus is a process, and support is available throughout the course to help you succeed*.

HOMEWORK:
This is required work to be *done outside of class*. We will devote little time discussing homework problems during lecture. Online homework is required and graded. Access to online homework *will only be through the learning management system HuskyCT*. Homeworks will not be extended.

WORKSHEETS:
A total of 10 worksheets are required and will be graded. Additional worksheets are available but optional and not graded. All worksheets can be accessed on **HuskyCT**. Worksheets will not be extended. **Late/sloppy submissions will not be accepted** and will receive a grade of zero.

For each *required worksheet*, you must:
1. Print a hard copy of the worksheet.*****
2. Complete all assigned problems directly on the printed worksheet and clearly write your full name on the first page.
3. Bring the completed worksheet to class on the designated Thursday due date.
4. Submit the hard-copy worksheet with your completed solutions to me in person at the beginning of class.

All work must be neat, organized, and legible. Illegible or excessively sloppy submissions may not be accepted for credit.

*If you do not have access to a printer, you may use the printers available in the University Library.

Worksheets are intended to help you prepare for exams. They may and may not resemble actual exam problems. Graded worksheets will be evaluated based on **correctness, completeness, and clarity**. **Sloppy work will not be accepted.**

TUTORING:
Math tutors (free) are available through the Q-Center. Q-Center tutors will not do Worksheet problems.

STUDENT/OFFICE HOURS:
T/Th 8-9^{30}am, Rm 139A

ARTIFICIAL INTELLIGENCE TOOLS: While AI tools may be used to assist with homework, students are strongly cautioned that ChatGPT does give incorrect answers or flawed reasoning. Reliance on AI tools undermines your learning. By doing the hard work of hands-on practice and the analytical reasoning required to solve problems, you will develop the critical skills required to understand coursework, succeed in class, and grow as an educated learner.

CALCULATORS:
A graphing calculator is required (TI 82, 83, 84, 84+, 85). Calculators that can perform **s**ymbolic operations or store symbolic formulas (such as HP 28, 48, TI-92, 98) **are not allowed**, even if all programs are erased.

EXAMS/GRADING:
3 exams (see plan for exact dates) and comprehensive final exam. Exams are closed book. Use of cellphones is prohibited during all exams/quizzes. Exam problems will test your understanding of the principles, process, and concepts, rather than repeating what you see in class. There will be new problems on all exams. There will be **no make-ups, no re-takes, no re-grades, etc.** You are responsible for taking all exams on the scheduled date. Missed exams will be scored as a 0. Extra credit is **not** given (Per Storrs Math policy).

Your final grade will be determined as follows:

Test	*Value*	*Target*
Online Homeworks	20%	Continuous
Required 10 Worksheets	25%	Due on various Thursdays
Your **3** exams	35%	See plan
Comprehensive final*	20%	Week of 12/15

FINAL EXAM:
In accordance with UConn policy, students **are required to be available for their final exam** and/or complete any assessment during the time stated. If you have a conflict with this time you must obtain official permission to schedule a make-up exam with the Dean of Students. If permission is granted, the Dean of Students will notify the instructor. Please note that vacations, previously purchased tickets, or reservations, graduations, social events, misreading the assessment schedule, and oversleeping are not viable reasons for rescheduling a final.

***Note**: A grade of 40 or below on the final exam will be an automatic failure in this course. A grade above 40 does not guarantee a passing grade in the class.

TOKENS

Each student is given two tokens that may be used to retake any graded assignment with an original score below a B–. Tokens may be used for exams, quizzes, or other graded assignments, but they cannot be used for the final exam. To use a token, you must email me no later than two days after the graded assignment or exam has been returned to the class and indicate that you would like to use one of your tokens for a retake. Requests submitted after the two-day window will not be accepted. All retakes will be administered during office hours, which are T/Th, 7:30 AM to 9:30 AM. Please plan accordingly.

MISSING EXAMS POLICY

If you miss an exam, you may use one of your tokens to request a makeup exam. However, you must email me before the exam begins and provide the reason for your absence (for example, oversleeping is not considered a valid excuse). Do not email me after the exam has already taken place. After-the-fact explanations or excuses will not be accepted or considered. Approval for a makeup exam and the use of a token is entirely at my discretion. If approved, the makeup exam will be administered during my office hours.

ACADEMIC INTEGRITY STATEMENT/POLICY:

Academic integrity is a fundamental value at the University of Connecticut. At its core, academic honesty is essential to all educational institutions and rests on the principles of respecting and acknowledging the ideas, efforts, and work of others. This course upholds the Guidelines for Academic Integrity at UConn, and all students are expected to act in accordance with them. Given the importance of intellectual property in this field, academic honesty will be addressed not only as a policy but also as an integral topic of discussion. If you have any questions regarding academic integrity or intellectual property, please speak with your instructor and review the University's official guidelines.

Academic misconduct includes, but is not limited to:

- Giving or receiving unauthorized assistance on assignments, exams, quizzes, or projects—whether in person or online.
- Presenting the ideas, words, or calculations of another as your own.
- Submitting work done by someone else for academic credit.
- Using unauthorized resources (e.g., calculators with preloaded programs, external apps, or tools like ChatGPT) during assessments.
- Submitting the same or substantially similar work in multiple courses without explicit approval from **all involved instructors.**

All students are responsible for understanding and adhering to the UConn Student Code, particularly the section on *Academic Integrity in Undergraduate Education and Research*, which is especially relevant to this course (MAT 1071Q). By submitting work through HuskyCT using your NetID and password, you affirm that the work is your own and completed without unauthorized assistance.

Students are expected to uphold the highest standards of academic integrity on all quizzes and examinations. Any form of cheating is strictly prohibited. This includes, but is not limited to, using cell phones, smartwatches, earbuds, AI tools, unauthorized notes or websites; copying another student's work; allowing another student to copy your work; or communicating with anyone during an assessment.

During all in-class examinations, electronic devices must be turned off and placed in the designated tray at the front of the classroom. Any student found engaging in academic dishonesty will receive a failing grade for the course and will be referred to the university for further disciplinary action in accordance with university academic-integrity policies.

IN SUMMARY

Your academic journey is about more than grades—it's about cultivating skills, habits, and values that will serve you well throughout your career. Maintaining integrity in your work is not only an ethical obligation but a sign of respect for your peers, your instructors, and yourself. If you're ever unsure about what's

allowed, ask first—your instructor is here to help.

STUDENT COURSE CONDUCT:
To respect everyone's right to a productive learning environment, you do not want to distract yourself or your classmates. Please refrain from disruptive activities during lecture and discussion section. This includes browsing the internet. Please turn *off* all personal electronic gadgets, including smartphones, before entering a classroom (except calculators and, for lectures, clickers). You may not use a laptop during class unless you show me that you can take notes electronically on advanced math in real time. On a positive note, do feel free to ask questions!

COPYRIGHT LAWS:
My lectures, notes, handouts, and displays are protected by state common law and federal copyright law. They are my own original expressions, and I've recorded them prior or during me lecture to ensure that I obtain copyright protection. Students are authorized to take notes in my class; however, this authorization extends only to making one set of notes for your own personal use and no other use. I will inform you as to whether you are authorized to record my lectures at the beginning of each semester. If you are so authorized to record my lectures, you may not copy this recording or any other material, provide copies of either to anyone else or make a commercial use of them without prior permission from me.

MATHEMATICA AND WOLFRAM ALPHA PRO:
These tools are available at no charge to UConn students. They are useful for solving technical problems, obtaining step-by-step solutions, and much more. To get access, go to wolfram.com/siteinfo and enter your UConn email. Learn how to use Mathematica at wolfram.com/wolfram-u/

POLICY AGAINST DISCRIMINATION, HARASSMENT AND RELATED INTERPERSONAL VIOLENCE:
The University is committed to maintaining an environment free of discrimination or discriminatory harassment directed toward any person or group within its community – students, employees, or visitors. Academic and professional excellence can flourish only when each member of our community is assured an atmosphere of mutual respect. All members of the University community are responsible for the maintenance of an academic and work environment in which people are free to learn and work without fear of discrimination or discriminatory harassment. In addition, inappropriate amorous relationships can undermine the University's mission when those in positions of authority abuse or appear to abuse their authority. To that end, and in accordance with federal and state law, the University prohibits discrimination and discriminatory harassment, as well as inappropriate amorous relationships, and such behavior will be met with appropriate disciplinary action, up to and including dismissal from the University. Additionally, to protect the campus community, all non-confidential University employees (including faculty) are required to report sexual assaults, intimate partner violence, and/or stalking involving a student that they witness or are told about to the Office of Institutional Equity (OIE). Please be aware that while the information you provide remains private, it will not be confidential and will be shared with university officials who can help.

An exception to this reporting exists if students disclose information as a part of coursework submitted to an instructor in connection with a course assignment. Even in the absence of such obligation, all Employees are encouraged to contact OIE if they become aware of information that suggests a safety risk to the University community or any member thereof. The University takes all reports with the utmost seriousness. More information, including resources and reporting options, is available at equity.uconn.edu and titleix.uconn.edu.

STUDENTS WITH DISABILITIES:
The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately so that we can discuss options. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020, or http://csd.uconn.edu/.

SEXUAL ASSAULT REPORTING POLICY:
To protect the campus community, all non-confidential University employees (including faculty) are required to report assaults they witness or are told about to the Office of Diversity & Equity under the Sexual Assault Response Policy. The University takes all reports with the utmost seriousness. Please be aware that while the information you provide remains private, it will not be confidential and will be shared with university officials who can help. More information is available at sexualviolence.uconn.edu.

STATEMENT ON ABSENCES FROM CLASS DUE TO RELIGIOUS OBSERVANCES AND EXTRA-CURRICULAR ACTIVITIES:
Faculty and instructors are strongly encouraged to make reasonable accommodations in response to student requests to complete work missed by absence resulting from religious observances or participation in extra-curricular activities that enrich their experience, support their scholarly development, and benefit the university community. Examples include sports when on in scholarly presentations, performing arts, and intercollegiate sports, when the participation is at the request of, or coordinated by, a university official. Such accommodations should be made in ways that do not dilute or preclude the requirements or learning outcomes for the course. Students anticipating such a conflict should inform their instructor in writing within the first three weeks of the semester, and prior to the anticipated absence, and should take the initiative to work out with the instructor a schedule for making up missed work. For conflicts with final examinations, students should contact the Office of the Dean of Students.

CoursePlan/Calendar- MAT1071Q Fall 2026

Week	TUESDAY	THURSDAY	WHAT'S DUE ON THURSDAYs	THURSDAY Due Date
1	***9/1*** Intro and 1.1 Exponents	***9/3*** 1.2 Fcn Rev: Part A	*Worksheet 1: Syllabus*	9/3
2	***9/8*** 1.3 Fcn Rev Part B	***9/10*** 1.4: Basic Classes of Functions (lines)	*Worksheet 2: 1.1-1.4* Online HW 1.1-1.3	9/10
3	***9/15*** 1.5: Polynomial and Rational Functions	***9/17*** 1.6: Mathematical Models, 1.7: Exponential Fcns	*Worksheet 3: 1.5 and 1.6* , Online HW 1.4 - 1.5 Online HW 1.6	9/17
4	***9/22*** 1.8 Logarithms, 2.1: Calculus Preview	***9/24*** **Exam 1: Chapter 1.1-1.8**	Online HW 1.7 and 1.8	9/24
5	***9/29*** 2.2: Intro to Limits	***10/1*** 2.2/2.3: Limit Laws	*Worksheet 5: 2.1 and 2.2* , Online HW 2.1 and 2.2	10/1
6	***10/6*** 2.4: Continuity 3.1: Defining the Derivative	***10/8*** 3.2: Derivative as a Functions	*Worksheet 6: 2.3 and 2.4* , Online HW 2.3 and 2.4	10/8
7	***10/13*** 3.3: Differentiation Rules, 3.4: Derivatives as Rates of Change	***10/15*** 3.4: Derivatives as Rates of Change, 3.6: The Chain Rule	*Worksheet 7: 3.1 and 3.2* , Online HW 3.1 and 3.2	10/15
8	***10/20*** 3.6: The Chain Rule 3.9: Derivatives of Exponential and Log Fcns	***10/22*** **Exam 2: Chapter 2 and 3**	Online HW 3.3 and 3.4, Online HW 3.6 and 3.9	10/22
9	***10/27*** 4.1: Elasticity of Demand, 4.2: Linear Approximations	***10/29*** 4.3 Part A: Abs Extrema	Nothing Due!	
10	***11/3*** 4.3 Part B: Local Max / Min 4.5 Part A: Derivatives and Shape of Graph	***11/5*** 4.5 Part B:Derivatives and Shape of Graph	*Worksheet 9: 4.1 and 4.2* Online HW 4.1 and 4.2	11/5
11	***11/10*** 4.6 Limits at Infinity and Asymptotes	***11/12*** 4.7: Optimization	*Worksheet 10: 4.3 and 4.5* , Online HW 4.3 and 4.5	11/12
12	***11/17*** 4.7: Optimization	***11/19*** **Exam 3: Ch 3&4.1-4.7**	Nothing Due!	
13	***12/1*** 4.8: Antiderivatives	***12/3*** 5.1 Approximating 5.2 Definite Integral / Areas	*Worksheet 12: 4.7 and 4.8* , Online HW 4.7 and 4.8	12/3
14	***12/8*** 5.3: The Fundamental Thm of Calculus	***12/10*** 5.5: Substitution	*Worksheet 13: 5.1- 5.3,* Online HW 5.1 - 5.3	12/10
15	**Final exam (Wk of 12/15)**			

Required worksheets to be handed-in in class (no exceptions)

WorkSheet Calendar: Math 1071Q Fall 2026

Worksheet Number and Focus		Due	Grading Focus
1	Syllabus	9/3	Completion.
2	1.1-1.4	9/10	Correctness.
3	1.5 and 1.6	9/17	Correctness.
4	1.7 and 1.8	NOT DUE	Not graded.
5	2.1 and 2.2	10/1	Correctness.
6	2.3 and 2.4	10/1	Correctness.
7	3.1 and 3.2	10/15	Correctness.
8	3.3 and 3.4, 3.6, 3.9	NOT DUE	Not graded.
9	4.1 and 4.2	11/5	Correctness.
10	4.3 and 4.5	11/12	Correctness.
11	4.6	NOT DUE	Not graded.
12	4.7 and 4.8	12/3	Correctness.
13	5.1- 5.3	12/10	Correctness.
14	5.5	NOT DUE	Not graded.