Math 1131Q — Calculus I (Fall 2022)

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Instructors

Course Coordinator (Storrs): Erin Rizzie

Online course communication: Much of the communication for this course will occur online, via HuskyCT, email, and/or this page. Please monitor this page, course HuskyCT announcements, and your UConn email regularly for updates related to MATH 1131Q.

Time Zone: *All times* for due dates, online and in-person classes, office hours, Supplemental Instruction, and Q Center hours in this course are given in **US Eastern Time**.

Description: This course is an introduction to differential and integral calculus, which is the mathematical language used in any science concerned with dynamically changing quantities. The main topics it covers are limits, derivatives, integrals, the Fundamental Theorem of Calculus, and some basic applications of these ideas.

Prerequisites: A qualifying score of 22 on the mathematics placement exam (MPE). Students who fail to achieve this minimum score are required to spend time on the preparatory and learning modules before re-taking the MPE, or to register for a lower level Mathematics course. Not open for credit to students who have passed MATH 1132Q or 1152Q.

Face Coverings: To ensure a safe learning environment, masks/face coverings are recommended in classrooms and indoor spaces, regardless of vaccination status. That includes covering both the mouth and nose, not just the mouth. Please join us in encouraging your peers and instructors to wear face coverings properly at all times in the classroom.

Text:

The textbook for the course is *Calculus Early Transcendentals, Single Variable* by James Stewart (8th Edition), which is bundled with a *WebAssign* code for doing online homework. **You only need to buy ONE of the three textbook/WebAssign bundles listed at the bookstore, OR a 1-term Cengage Unlimited Subscription**; your choice will depend on what math classes you plan to take in the future. Below is a PDF detailing your different options for buying the textbook and WebAssign online homework access:

Math 1131 Textbook Purchasing Instructions .pdf

NOTE: the least expensive way to get WebAssign access for all courses (MATH 1131Q, 1132Q. 2110Q, and 2410Q) in the Calculus sequence is to purchase a $125, 1-term Cengage Unlimited subscription online, directly from WebAssign, at the start of the term. This will give you access to all four courses and corresponding eBooks whenever you take them, even after the 1-term subscription expires. The only downside to this is that you do not get any physical textbook(s) included with it, or any textbook to keep for reference when you are not actively enrolled in one of the above courses..

Calculators: The use of calculators is **NOT allowed** on quizzes or exams.

Course Objectives:

Successful completion of this course will require you to learn to:

1. Apply fundamental algebra skills to calculus problems.
2. Use common techniques to evaluate limits, and connect limits to derivatives.
3. Interpret derivatives as rates of change.
4. Combine ideas from algebra and trigonometry with knowledge of limits and derivatives to recognize features of the graph of a function.
5. Use derivatives to describe the features of a function and its graph, including maximum and minimum values and where they occur.
6. Identify applications of differential and integral calculus, and explain how calculus can be used in these applications.
7. Apply the Fundamental Theorem of Calculus and the substitution rule to evaluate definite and indefinite integrals.
8. Demonstrate how integrals are connected to the area under the graph of a function.

Discussion:

Discussion sessions will be offered during your scheduled Discussion Section time. Pending University guidance, these will be in person on the Storrs UConn campus. Active participation in these sessions is designed to help you with the course material, worksheets, and WebAssign homework. These sessions are also where you will take your Quizzes, so please plan to attend and participate regularly.

NOTE: During the COVID-19 pandemic, it is especially important for you to stay home if you are feeling ill. Please contact your TA and instructor ASAP via email if you need to miss a discussion section due to illness or other personal reasons.

WebAssign Online Homework:

Homework: You will have a WebAssign online homework assignment due for each covered section of the text. You will need to access WebAssign via the link in your HuskyCT lecture section. Each assignment will be made available on WebAssign before the section is covered in class. The due date for each assignment will be set by your instructor.

You will get five attempts for each question that is not multiple choice and fewer than five attempts for each multiple choice question; the exact number of attempts will depend on the number of choices. After each attempt, you will be told whether your answer is correct or not. If you are not able to get the correct answer after your initial attempts, we recommend that you seek help from your peers, your TA or instructor via office hours, the Q-Center, a tutor, or another student before attempting to answer the problem again.

Warning: When accessing your online homework, use **Firefox or Chrome as your browser**; there are problems that can occur if you use Internet Explorer or Safari. **Please use this WebAssign Tips .pdf document for help with accessing WebAssign and entering your answers correctly.**

Your lowest WebAssign score will be dropped from your grade at the end of the semester.

Worksheets

There will be a worksheet each week that provides an opportunity to reinforce your knowledge and understanding, and provide practice with writing coherent, well-reasoned answers to questions. You can access the worksheets at the **Learning Activities** tab at the top of this page.

Worksheets will not be collected for grading, but we urge you to do them and check your answers – then bring your questions to discussion, office hours, and/or the Q Center.

Quizzes

- **There will be a quiz each week**, aside from exam weeks, **in your Wednesday discussion class**. You will have 15 minutes for each quiz.
- The quiz in the first week is on precalculus. Each subsequent quiz will test students on material that was taught in the previous week.
- **The use of calculators IS NOT allowed on quizzes.**
- **Quiz make-up policy:** a student is allowed to make up a quiz only if there is a personal/family/medical emergency. You must contact your TA and lecture instructor ASAP if you know that you will miss a quiz. Athletes who travel on behalf of the university must provide a letter/email from their athletic advisor in order to be allowed to take a make-up quiz.
- **Summary quizzes:** During the week of each midterm exam, students will have the option to resubmit solutions to the “block” of quizzes given before that midterm (e.g., during week 4, you will resubmit solutions to quizzes 1, 2, and 3). Here are the guidelines on submission and grading of these summary quizzes.
  - In each summary quiz, a solution to every problem from that quiz block should be included, even those for which the student made no mistake.
  - Each summary quiz will be graded for completeness only, so **providing solutions to all problems earns 100%**.
  - Summary quizzes are not required; for a student who doesn’t submit a summary quiz, the student’s average score for that “block” will be used as the summary quiz score.
  - The due dates for summary quizzes will be announced by your TA, who should be contacted if you have questions.
- **We will drop your lowest quiz score from your final grade.**

Exam information

There will be three in-class Exams and a Final Exam. Exams 1-3 will be administered during your scheduled discussion section time on Wednesday of the 4th, 8th, and 12th weeks of the semester. Please put these dates in your calendar – you are expected to be in attendance.

The Final Exam will be during the week of December 12-18, during your scheduled Final Exam period; the exact date and time will be

scheduled by the University and will be shared under the Exam Info tab above once it is known.

Each of Exams 1-3 will primarily cover material from the 3-4 weeks prior to the exam; the Final Exam will be cumulative.

Grading

Online Homework	WebAssign	10%
Quizzes	Take in Discussion on Wednesdays	25%
Exam 1: Wednesday, Week 4	Discussion	15%
Exam 2: Wednesday, Week 8	Discussion	15%
Exam 3: Wednesday, Week 12	Discussion	15%
Final Exam: Week of December 12-18	See Student Admin for date, time, and location information	20%

****Honors Sections:** Check your HuskyCT discussion section for more information about your Honors work. *You will earn 0% for your Quiz grade if you do not complete at least 7 out of 10 Honors Worksheets* before their respective due dates. You may still be able to pass the course by earning high grades on WebAssign and Exams, but you will not be able to earn higher than a C or receive Honors credit.

Grading Scale:

Final Percentage	Letter Grade
93 -100	A
90.00-92.99	A-
87.00-89.99	B+
83.00-86.99	B
80.00-82.99	B-
77.00-79.99	C+
73.00-76.99	C
70.00-72.99	C-
67.00-69.99	D+
63.00-66.99	D
60.00-62.99	D-
<60	F

Makeup Policy: During the COVID-19 pandemic, it is especially important for you to stay home if you are feeling ill. Please contact your TA and instructor ASAP via email if you need to miss a discussion section due to illness or other personal reasons, and plan to attach to your email any work that is due that day. If you are missing a quiz or exam due to illness or other personal reasons, please include in your email your available times for a make-up quiz or exam over the next few days.

In case of a missed assignment, quiz, or exam please make every effort to contact your instructor as soon as you know you will miss

it, and no later than 24 hours after the missed assessment or due date.

Per University policy, all requests to reschedule or make up the Final Exam must be submitted to the Dean of Students for approval. Please note that vacations, previously purchased tickets or reservations, social events, misreading the exam schedule and over-sleeping are not viable excuses for missing a final exam. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office with any questions. Thank you in advance for your cooperation.

Academic Integrity/Misconduct

This course expects all students to act in accordance with the Guidelines for Academic Integrity at the University of Connecticut. In mathematics, this means that all work that you turn in should be written up independently by you, in your own words, and should represent your honest understanding of the material. On exams and quizzes, it should be noted in particular that this means you must not consult any sources or materials: neighbors' papers, calculators, and any notes, books, or electronic devices are off-limits. If you have questions about academic integrity or intellectual property, you should consult with your instructor. Additionally, consult UConn's guidelines for academic integrity.

The use of calculators, other outside resources, or collaboration with others are NOT allowed on quizzes and exams.

How to Succeed in this Course

1. Participate regularly for understanding, not just for credit.
2. Schedule your study time each week! You are expected to **spend a minimum of 16 hours per week** working for a 4-credit course.
3. Follow all the instructions provided in the learning modules on HuskyCT.
4. Read the explanations and examples in the textbook.
5. Do online homework, quizzes, and worksheets on time. Remember to follow these tips! WebAssign Tips.pdf .pdf
6. Check your understanding via Section Concept Guides (in HuskyCT modules).

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/.

Software/Technical Requirements (with Accessibility and Privacy Information):

The software/technical requirements for this course include:

- Computer with microphone, speaker, and camera for live video/audio interaction
- HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement, HuskyCT/ Blackboard Privacy Policy)
- ~~Adobe Acrobat Reader~~ (~~Adobe Reader Accessibility Statement~~, ~~Adobe Reader Privacy Policy~~)
- Google Apps (Google for Education Privacy Policy)
- WebAssign (privacy policy).
- Microsoft Office (free to UConn students through uconn.onthehub.com) (Microsoft Accessibility Statement, Microsoft Privacy Statement)
- Dedicated access to high-speed internet with a minimum speed of 1.5 Mbps (4 Mbps or higher is recommended).

NOTE: This course has NOT been designed for use with mobile devices.

Please see UConn's Keep Learning Page for more help using the online portions of your classes.

Minimum Technical Skills:

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Save files in commonly used word processing program formats.
- Copy and paste text, graphics or hyperlinks.
- Create and upload a PDF or JPG file showing your handwritten work.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the ~~Computer Technology Competencies~~ page for more information.

Note: This schedule is subject to change as needed according to content coverage and unforseen events.

You are expected to work through the course content for the sections listed below during the weeks listed.

Week	Dates	Section	Topic
1	8/29-9/2		**Wednesday: Quiz 1 (Algebra/Precalculus) during Discussion**
			Course Orientation; Algebra/Precalculus Review
		2.1	The Tangent and Velocity Problems
		2.2	The Limit of a Function
2	9/6-9/9		**Wednesday: Quiz 2 (2.1-2.2) during Discussion**
		2.3	Calculating Limits Using the Limit Laws
		2.5	Continuity
		2.6	Limits at Infinity; Horizontal Asymptotes
3	9/12-9/16		**Wednesday: Quiz 3 (2.3, 2.5-2.6) during Discussion**
		2.7	Derivatives and Rates of Change
		2.8	The Derivative as a Function
		2.4	The Precise Definition of a Limit
4	9/19-9/23	**Exam 1**	**Wednesday, September 21- Sections 2.1-2.3, 2.5-2.8**
		3.1	Derivatives of Polynomials and Exponential Functions
		3.2	The Product and Quotient Rules
5	9/26-9/30		**Wednesday: Quiz 4 (3.1-3.2) during Discussion**
		3.3	Derivatives of Trigonometric Functions
		3.4	The Chain Rule
		3.5	Implicit Differentiation
6	10/3-10/7		**Wednesday: Quiz 5 (3.3-3.5) during Discussion**
		3.6	Derivatives of Logarithmic Functions
		3.8	Exponential Growth and Decay
7	10/10-10/14		**Wednesday: Quiz 6 (3.6, 3.8) during Discussion**
		3.9	Related Rates
		3.10	Linear Approximations and Differentials
8	10/17-10/21	**Exam 2**	**Wednesday, October 19 – Sections 3.1-3.6, 3.8-3.10**
		4.1	Maximum and Minimum Values
		4.2	Mean Value Theorem
9	10/24-10/28		**Wednesday: Quiz 7 (4.1-4.2) during Discussion**

Week	Dates	Section	Topic
		4.3	How Derivatives Affect the Shape of a Graph
		4.4	Indeterminate Forms and l'Hospital's Rule
10	10/31-11/4		**Wednesday: Quiz 8 (4.3-4.4) during Discussion**
		4.7	Optimization Problems
		4.8	Newton's Method
11	11/7-11/11		**Wednesday: Quiz 9 (4.7-4.8) during Discussion**
		4.9	Antiderivatives
		5.1	Areas and Distances
		5.2	The Definite Integral
12	11/14-11/18	**Exam 3**	**Wednesday, November 16 – Sections 4.1-4.4, 4.7-4.9, 5.1**
		5.3	The Fundamental Theorem of Calculus
		5.4	Indefinite Integrals and the Net Change Theorem
Fall Break	**11/20-11/27**	**No Class**	**Fall Break**
13	11/28-12/2		**Wednesday: Quiz 10 (5.3-5.4) during Discussion**
		5.5	The Substitution Rule
		6.1	Areas Between Curves
14	12/5-12/9		**Wednesday: Quiz 11 (5.5, 6.1) during Discussion**
		6.2	Volumes
Finals Week	**December 12-18**	**Final Exam**	**Final Exam during University-scheduled time (TBA) – cumulative**