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Math Courses

Math 1131Q — Calculus I (Spring 2021)

Course Coordinator (Storrs): Erin Rizzie

Online course delivery: All content delivery, participation, worksheet submission, quizzes, exams, office hours, Supplemental Instruction, and Q Center hours will be held online/remotely. Please see the corresponding sections below for more information and monitor this page, course HuskyCT announcements, and your UConn email regularly for updates related to the online delivery of MATH 1131Q.

Time Zone: *All times* for due dates, quizzes, exams, office hours, Supplemental Instruction, and Q Center hours in this course are given in **US Eastern Time**. If you are taking this course from a location outside of US Eastern time, please plan accordingly and contact your instructor to determine if there are any appropriate accommodations to be made.

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.

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**; 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 at the bookstore:

Math 1131 Textbook Purchasing Instructions .pdf

Calculators: The use of calculators is allowed on quizzes and exams, but no other outside resources or collaboration with others is permitted.

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. Understand derivatives as rates of change.
4. Combine ideas from algebra and trigonometry with knowledge of limits and derivatives to sketch 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.

Piazza Discussion Board:

You will be expected to have a free piazza.com account, where you will be expected to participate regularly in collaborations with your peers and in asking questions when you need guidance. Posting a substantive math question, or helping a peer with a question they posted, is one way to earn participation credit each week.

Please create a Piazza account using your **UConn email id.**

You should email your instructor and TA directly with questions about your individual grade, accommodations, or other private matters; all general course questions and math questions will be directed to Piazza

Discussion:

Discussion sessions will be offered during your scheduled Discussion Section time via Blackboard Collaborate (in HuskyCT) or WebEx. You will receive information from your instructor about how to access these sessions. Active participation in these sessions is designed to help you with the course material and will count toward your participation grade for the course.

Participation:

You are required to participate substantively in the learning community of your online class at least once per week. You are encouraged to participate more often that this, as needed to engage fully with the material. One week's participation score will be dropped, so that participating substantively at least once during each of 13 weeks of the semester will earn you full participation credit for the semester; any weeks without substantive participation (beyond the one dropped week) will lead to a proportionally lower participation grade for the semester.

Each week (Tuesday to Monday), you may choose one of these modes of participation:

- post a question in Piazza about a math topic that you are struggling with
- help a peer with their math question on Piazza
- ask a question in a discussion session about some math that you are struggling with
- help a peer with their math question in a discussion session
- make a discussion board video post (5 minutes or less) in HuskyCT demonstrating your solution to a problem from that week's worksheet (your instructor will give you more details about this)

Substantive participation means all of the following:

- the question asked is about the Calculus I topics covered that week
- the student asking the question explains what they have already tried in seeking an answer to their question
- the student asking the question poses a specific question about how to proceed toward a solution
- the student answering the question presents their ideas and supports the student who asked the question to revise their thinking toward a different solution
- OR, for a video post, the poster presents an earnest attempt at a full solution to a problem from the previous week's WebAssign or Worksheet assignment. The student must make an effort to apply a relevant idea from calculus, indicate a final answer (correct or incorrect), and include enough detail for another student in the class to follow their thinking. All video posts should be kept to a **maximum of 5 minutes.**

Getting Credit for Participation: You will find a Participation reflection in HuskyCT each week where you will report your participation method from the above options. **You must complete this reflection by the due date** (Monday night) to earn credit for participation each week. We recommend that you complete the reflection as soon as you participate during the week.

Homework and WebAssign:

Homework: You will have a WebAssign online homework assignments due for each covered section of the text. You will need to access WebAssign via the link in your HuskyCT discussion 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 via Piazza, 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.**

Worksheets

There will be a worksheet each week that provide 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, or via HuskyCT. Answers will be posted; **you are strongly encouraged to work through all problems** and get help in Discussion, Piazza, office hours, or the Q Center if you are having trouble getting to the listed answer.

Worksheets will **not be collected**. However, you are encouraged to complete each one by Tuesday of the following week. For example, you should plan to complete the Week 1 worksheet by Tuesday of Week 2.

Quizzes

- **There will be a quiz on Wednesday of each week**, aside from exam weeks, **administered online via HuskyCT during your scheduled discussion time**. You will receive more information from your instructor about how to access the quiz.

- Each quiz covers the material listed on the course calendar for the previous week. The first week's quiz covers Algebra and Precalculus.
- These quizzes are designed to take you about 15 minutes, but you will have a 30-minute window to take the quiz, in order to allow for any technical issues that could occur.
    - For this reason, you are expected to **stop working on the quiz after 15 minutes** and start working on scanning and uploading your solutions. If you continue to work after this time and cannot upload your quiz, then you will automatically submit a blank quiz and earn a score of 0.
- It is extremely important that you do not start the quiz if you are not ready to sit down and give dedicated time for the quiz.
- **Quiz Resubmits:** you will receive your graded quiz back by the Monday following the date of the quiz. If you do not earn a score of 10/10, then you may resubmit the quiz by Wednesday of the same week (one week after you originally took the quiz). **If (and ONLY IF) the resubmitted quiz is fully correct and complete, then your score will be adjusted to the average of your original score and 10/10.**
    - Note that you may resubmit a quiz even if you did not take it originally. This gives you the chance to raise your score significantly.
- **Your lowest quiz score will be dropped** from your final grade.

Exam information

There will be two multiple-choice midterm exams. They will be administered via HuskyCT during your scheduled discussion section time on Wednesday of the 6th and 11th weeks of the semester. Please put these dates in your calendar – you are expected to be in attendance.

The final exam is cumulative and will be a mix of multiple choice and free response questions. The exam will be during the week of May 3-8; 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.

Grading

Online Homework	WebAssign	15%
Quizzes	HuskyCT, Tuesdays	20%
Participation	Piazza/Discussion Sessions/Video Discussion Posts	15%
Exam 1: Wednesday, Week 6	HuskyCT	15%
Exam 2: Wednesday, Week 11	HuskyCT	15%
Final Exam	Common (2 hours)	20%

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: In general, you will not be allowed to make up an exam, quizzes, homework or worksheet. In circumstances where you have a medical, family or personal emergency which prevents you from submitting your work on time, or if you are an athlete traveling for University business, please contact your instructor to discuss whether an accommodation can be made.

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 exam.

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 is allowed on quizzes and exams, but no other outside resources or collaboration with others is permitted.

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 online 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, worksheets, discussion boards. 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).
- Piazza (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 with the transition to remote 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.

Help:

Technical and Academic Help provides a guide to technical and academic assistance.

This course is completely facilitated online using the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24×7 Course Support including access to live chat, phone, and support documents.

Student Responsibilities and Resources:

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
  - Academic Integrity
  - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

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Math 1131 Outline (Spring 2021)

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	1/19-1/24		Course Orientation; Algebra/Precalculus Review
		2.1	The Tangent and Velocity Problems
		2.2	The Limit of a Function
2	1/25-1/31	2.3	Calculating Limits Using the Limit Laws
		2.5	Continuity
		2.6	Limits at Infinity; Horizontal Asymptotes
3	2/1-2/7	2.4	The Precise Definition of a Limit
		2.7	Derivatives and Rates of Change
		2.8	The Derivative as a Function
4	2/8-2/14	3.1	Derivatives of Polynomials and Exponential Functions
		3.2	The Product and Quotient Rules
		3.3	Derivatives of Trigonometric Functions
5	2/15-2/21	3.4	The Chain Rule
		3.5	Implicit Differentiation
6	2/22-2/28	**Exam 1**	**Wednesday, February 24 – Sections 2.1-2.3, 2.5-2.8, 3.1-3.5**
		3.6	Derivatives of Logarithmic Functions
		3.8	Exponential Growth and Decay
7	3/1-3/7	3.9	Related Rates
		3.10	Linear Approximations and Differentials
8	3/8-3/14	4.1	Maximum and Minimum Values
		4.2	Mean Value Theorem
9	3/15-3/21	4.3	How Derivatives Affect the Shape of a Graph
		4.4	Indeterminate Forms and l'Hospital's Rule
10	3/22-3/28	4.7	Optimization Problems
		4.8	Newton's Method
11	3/29-4/4	**Exam 2**	**Wednesday, March 31 – Sections 3.6, 3.8-3.10, 4.1-4.4, 4.7-4.8**
		4.9	Antiderivatives
		5.1	Areas and Distances

Week	Dates	Section	Topic
12	4/5-4/11	5.2	The Definite Integral
		5.3	The Fundamental Theorem of Calculus
		5.4	Indefinite Integrals and the Net Change Theorem
Spring Break	**4/11-4/17**	**No Class**	**Spring Recess**
13	4/18-4/25	5.5	The Substitution Rule
		6.1	Areas Between Curves
14	4/26-4/28	6.2	Volumes
	4/29-4/30		University Reading Days: Final Exam Review
Finals Week	**5/3-5/8**		**Finals Week: Final Exam is Cumulative**

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