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Math Courses

Math 1131Q — Calculus I (Fall 2020)

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.

Live Problem-Solving Sessions:

Live problem-solving sessions will be offered throughout the week by your instructor's TAs via Blackboard Collaborate (in HuskyCT) or WebEx. You will receive information from your instructor about when these are and how to access them. You are not required to attend, but active participation in these sessions 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 12 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 (Monday to Sunday), you may choose one of these modes of participation:

- post a question on Piazza about a math topic that you are struggling with
- help a peer with their math question on Piazza
- ask a question in a live problem-solving session about some math that you are struggling with
- help a peer with their math question in a live problem-solving 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.**

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 Piazza, your TA, your instructor, 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.**

Discussion and 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. The majority of the grade for these worksheets will be based on completion of the exercises, and parts of exercises on each worksheet will be graded in detail for correctness.

Worksheets will be **collected online via HuskyCT**. Please note that the upload function works best with PDF documents. You should use a scanner or image-to-PDF scanner application such as Tiny Scanner, Cam Scanner, Notes, or Dropbox to convert your worksheets to PDF files for uploading within the HuskyCT learning Modules associated with each week.

The **due dates** for the worksheets will be listed in HuskyCT; please post in Piazza or contact your TA or instructor if you have any questions.

Quizzes

- **There will be a quiz on Tuesday of each week**, aside from exam weeks, **administered online via HuskyCT**. You will receive more information from your instructor about how to access the quiz.
- The first week's quiz will be given on Thursday instead of Tuesday to give you more time to study as the semester begins.

- Each quiz covers the material listed on the course calendar for the previous week.
- 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.
- The quiz in the first week is on precalculus. Each subsequent quiz will test students on material that was taught in the previous week.
- 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. The system warns you that you are about to start a quiz and only when you say yes it begins to administer the quiz. Please don't ask to reset the quiz with an excuse that you did not realize what you were doing. This will not be honored as a request to reset the quiz.
- **Quiz make-up policy:** a student is allowed to make up a quiz only if there is a personal/family/medical emergency with documentation. You must contact your 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.
- **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 Tuesday 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.**
- **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 on Tuesday 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.

Grading

Online Homework	WebAssign	10%
Quizzes*	HuskyCT, Tuesdays	20%
Worksheets (written)	Upload via HuskyCT	15%
Participation	Piazza/Problem-Solving Sessions/Video Discussion Posts	15%
Exam 1: Tuesday, Week 6	HuskyCT	10%
Exam 2: Tuesday, Week 11	HuskyCT	10%
Final Exam	Common (2 hours)	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 8 out of 11 Honors Worksheets* before their respective due dates.

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, a proof in the form of doctors' note excusing you from work (because of medical emergency), or an email from your parent (about family/personal emergency) will need to be provided. If you are an athlete who will miss class time, quizzes, homework, worksheets or exams, you will need to ask your athletic advisor to send an email to your instructor and TA stating the circumstances for the absence.

In case of a missed exam please 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 (Fall 2020)

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

Week	Dates	Section	Topic
1	8/31-9/6		Course Orientation
		2.1	The Tangent and Velocity Problems
		2.2	The Limit of a Function
		2.3	Calculating Limits Using the Limit Laws
2	9/8-9/13	2.4	The Precise Definition of a Limit
		2.5	Continuity
		2.6	Limits at Infinity; Horizontal Asymptotes
3	9/14-9/20	2.7	Derivatives and Rates of Change
		2.8	The Derivative as a Function
		3.1	Derivatives of Polynomials and Exponential Functions
4	9/21-9/27	3.2	The Product and Quotient Rules
		3.3	Derivatives of Trigonometric Functions
5	9/28-10/4	3.4	The Chain Rule
		3.5	Implicit Differentiation
6	10/5-10/11	**Exam 1**	**Tuesday, October 6 – Sections 2.1-2.3, 2.5-2.8, 3.1-3.5**
		3.6	Derivatives of Logarithmic Functions
7	10/12-10/18	3.8	Exponential Growth and Decay
		3.9	Related Rates
		3.10	Linear Approximations and Differentials
8	10/19-10/25	4.1	Maximum and Minimum Values
		4.2	Mean Value Theorem
9	10/26-11/1	4.3	How Derivatives Affect the Shape of a Graph
		4.4	Indeterminate Forms and l'Hospital's Rule
10	11/2-11/8	4.7	Optimization Problems
		4.8	Newton's Method
		4.9	Antiderivatives
11	11/9-11/15	**Exam 2**	**Tuesday, November 10 – Sections 3.6, 3.8-3.10, 4.1-4.4, 4.7-4.9**
		5.1	Areas and Distances
		5.2	The Definite Integral
12	11/16-11/22	5.3	The Fundamental Theorem of Calculus

Week	Dates	Section	Topic
		5.4	Indefinite Integrals and the Net Change Theorem
		5.5	The Substitution Rule
Fall Break	**11/23-11/29**	**No Class**	**Thanksgiving Recess**
13	11/30-12/6	6.1	Areas Between Curves
		6.2	Volumes
14	12/7-12/13		University Reading Week: Final Exam Review
Finals Week	**12/14-12/20**		**Finals Week: Final Exam is Cumulative**

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