UConn's MATH 1131Q
Fall 2017 Syllabus

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: Passing score on the Calculus Readiness Test.

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.

BUYING THE BOOK AND WEBASSIGN ACCESS CODE: you can buy the bundled version of Calculus Early Transcendentals, Single Variable by James Stewart (8th Edition) either at the UConn Coop or online directly from the publisher. Both the text and the Webassign code are **required** for this course. The unbundled version of the book (that is, the book without a WebAssign access code) can be obtained in many places, but the cost of buying the unbundled text and the WebAssign code separately may be significantly **greater**. How can you decide which version of the text to buy?

- If you plan to take Math 1131 or Math 1131 and 1132 only, then you should purchase the single-variable version of the textbook.
- If you plan to take Math 1131, 1132 *and* 2110, then you should purchase the heavier book Calculus Early Transcendentals by Stewart (8th Edition) that has chapters on multivariable calculus in the table of contents.

IMPORTANT!
There are three ways to purchase the text and the WebAssign access code:

- Get the text and WebAssign access code **bundled together at a discount from the publisher** for either single variable (1131/1132) or multivariable (1131/1132/2110).
- Get the text and WebAssign access code bundled together at the UConn Co-op.
- Get the text separately from anywhere, and buy the WebAssign access code when you access your homework through HuskyCT.

We do not recommend using the third option above, because it is more expensive to buy the access code and the text book separately than bundled together. The option to buy the text and WebAssign access code bundled together lets you use that access code for the life of the edition of the textbook.

Graphing calculators: TI 82, 83, 84, 84 plus, 85 or 86 may be used. Models TI-89 and above **(including TI-Nspire)** are not permitted on the exams or quizzes.

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i>clicker Registration:

Clickers will be used in the lectures. You must register your i>clicker by visiting the link through the lecture section of your instructor in HuskyCT. You can buy the physical clickers at the UConn bookstore. **We do not use mobile apps for clickers.**

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Homework and WebAssign:

Homework: To access the homework you will have to go through Husky CT. In your account you will find a link to do your homework using WebAssign. There will be homework assignments for each section of the text. Each assignment will be made available on WebAssign several days 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 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.

Discussion and Worksheets

Discussion sections provide an opportunity to ask questions about content from lectures and WebAssign, and explore examples that provide different perspectives and more depth. There will be a worksheet corresponding to each section of the book that you will normally begin working on in discussion, then finish and turn in at the beginning of a later discussion section. You can access the worksheets at the **Learning Activities** tab at the top of this page. The worksheets are designed to reinforce and strengthen your knowledge and understanding, and provide practice with writing coherent, well-reasoned answers to questions. 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.

The **due dates** for the worksheets will be announced by your TA, who should be contacted if you have questions. The worksheets are due **in discussion section** and should generally be completed before arriving in discussion on the due date. Write your name on each page of the solution and staple the pages together before submitting them to your TA.

Quizzes

- There will be a quiz each week in your discussion class. These quizzes will be for 15 minutes.
- The quiz in the first week on precalculus. Each subsequent quiz will test the students on the material that was taught in the previous week.
- Quiz make-up policy: a student is allowed to make up a quiz only if there is personal/family/medical emergency with justification. 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.
  Opportunity to redo the quizzes
  In the first discussion section after each midterm, the students will have the option to resubmit solutions to the "block" of quizzes given before that midterm. Here are the guidelines on submission and grading of these quiz redos.

- In each quiz redo, a solution to every problem from that quiz block should be included, even those for which the student made no mistake.
- Each quiz redo will be graded for completeness only, so **providing solutions to all problems earns 100%**.
- A student who doesn't submit a quiz redo will still get a grade. It will be the average of quizzes in that block.

Exam information

There will be three midterm exams, all taken in discussion section and all will be **multiple choice.**

The final exam will be a mix of **multiple choice and free response questions.**

Grading

Homework (online)	WebAssign	8%
Quizzes (in discussion)	Discussion	20%
Worksheets (written)	Discussion	8%
Clicker responses	Lecture	4%
Exam 1: 2nd Discussion Meeting, Week 4	Discussion	12%
Exam 2: 2nd Discussion Meeting, Week 8	Discussion	12%
Exam 3: 2nd Discussion Meeting, Week 12	Discussion	12%
Final Exam	Common (2 hours)	24%

Makeup Policy: In general, you will not be allowed to make up any 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.

How to study for this course

1. Attend lecture and discussion class.

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2. Read the explanations and examples in the textbook.
3. Watch videos (mathresources.uconn.edu/math1131). Each video lasts 8-15 minutes and covers some of the difficult and/or critical concepts.
4. Do online homeworks and discussion quizzes. Remember to follow these tips! WebAssign Tips.pdf
5. Revisit Concept Questions (mathresources.uconn.edu/math1131).
6. Review with Flash Cards (mathresources.uconn.edu/math1131).

Tentative Outline for Math 1131 – Fall 2017

Week	Date	Section	Topic
1	8/28		Administrative Information
		2.1	The Tangent and Velocity Problems
		2.2	The Limit of a Function
		2.3	Calculating Limits Using the Limit Laws
2	9/4		Labor Day
		2.4	The Precise Definition of a Limit
		2.5	Continuity
		2.6	Limits at Infinity; Horizontal Asymptotes
3	9/11	2.7	Derivatives and Rates of Change
		2.8	The Derivative as a Function
		3.1	Derivatives of Polynomials and Exponential Functions
4	9/18		**Midterm 1 Practice Exam (Actual Exam in Discussion)**
		3.2	The Product and Quotient Rules
5	9/25	3.3	Derivatives of Trigonometric Functions
		3.4	The Chain Rule
		3.5	Implicit Differentiation

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Week	Date	Section	Topic
6	10/2	3.6	Derivatives of Logarithmic Functions
		3.8	Exponential Growth and Decay
7	10/9	3.9	Related Rates
		3.10	Linear Approximations and Differentials
		4.8	Newton's Method
8	10/16		**Midterm 2 Practice Exam (Actual Exam in Discussion)**
		4.1	Maximum and Minimum Values
9	10/23	4.2	Mean Value Theorem
		4.3	How Derivatives Affect the Shape of a Graph
		4.4	Indeterminate Forms and l'Hospital's Rule
10	10/30	4.7	Optimization Problems
		4.9	Antiderivatives
11	11/6	5.1	Areas and Distances
		5.2	The Definite Integral
		5.3	The Fundamental Theorem of Calculus
12	11/13		**Midterm 3 Practice Exam (Actual Exam in Discussion)**
		5.4	Indefinite Integrals and the Net Change Theorem
13	11/20	No class	Thanksgiving Break
14	11/27	5.5	The Substitution Rule
		6.1	Areas Between Curves

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Week	Date	Section	Topic
15	12/4	6.2	Volumes
			Review
16	12/11		**Finals Week**

Note: You can ignore the section numbers in the videos as they were created for a previous version of the text – the topics are still consistent. You can find more electronic resources such as flashcards and clicker questions under the Online Resources tab.

Section	Topic	Learning Activities
	Review	Algebra Worksheet.pdf
2.1	The Tangent and Velocity Problems	Video, Worksheet.pdf
2.2	The Limit of a Function	Video, Worksheet.pdf
2.3	Calculating Limits Using the Limit Laws	Video, Worksheet.pdf
	Labor Day	
2.4	The Precise Definition of a Limit	Video, Worksheet.pdf
2.5	Continuity	Video, Worksheet.pdf
2.6	Limits at Infinity; Horizontal Asymptotes	Video, Worksheet.pdf
2.7	Derivatives and Rates of Change	Video, Worksheet.pdf
2.8	The Derivative as a Function	Video, Worksheet.pdf
3.1	Derivatives of Polynomials and Exponential Functions	Worksheet.pdf
	Midterm 1 (Sections 2.1 to 3.1)	Practice Exam.pdf Solutions.pdf
3.2	The Product and Quotient Rules	Video, Worksheet.pdf
3.3	Derivatives of Trigonometric Functions	Video, Worksheet.pdf
3.4	The Chain Rule	Video, Worksheet.pdf

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Section	Topic	Learning Activities
3.5	Implicit Differentiation	Video, Worksheet.pdf
3.6	Derivatives of Logarithmic Functions	Worksheet.pdf
3.8	Exponential Growth and Decay	Worksheet.pdf
3.9	Related Rates	Worksheet.pdf
3.10	Linear Approximations and Differentials	Worksheet.pdf
4.8	Newton's Method	Worksheet.pdf
	Midterm 2 (Sections 3.2, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 3.10, 4.8)	Practice Exam.pdf and Solutions.pdf
4.1	Maximum and Minimum Values	Video, Worksheet.pdf
4.2	Mean Value Theorem	Video, Worksheet.pdf
4.3	How Derivatives Affect the Shape of a Graph	Video A, Video B, Worksheet.pdf
4.4	Indeterminate Forms and l'Hospital's Rule	Video, Worksheet.pdf
4.7	Optimization Problems	Video, Worksheet
4.9	Antiderivatives	Worksheet
5.1	Areas and Distances	Video (Worksheet combined with 5.2)
5.2	The Definite Integral	Video, Worksheet
5.3	The Fundamental Theorem of Calculus	Video, Worksheet
	Midterm 3	Practice Exam and Solutions
5.4	Indefinite Integrals and the Net Change Theorem	Worksheet
5.5	The Substitution Rule	Video, Worksheet
6.1	Areas Between Curves	Video, Worksheet

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Section	Topic	Learning Activities
6.2	Volumes	Video A, Video B, Worksheet
	Finals Week	Practice Exam and Solutions