UConn Math 1131Q – Calculus I
Spring 2016 Syllabus

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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 (8^{th} 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 from the publisher's special website 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 are recommended. Models TI-89 and above (including TI-Nspire) are not permitted on the exams or quizzes.

i>clicker Registration:

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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.

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 and will generally be two or three days after the material is covered in class. **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.

Useful tips on using WebAssign can be found here.pdf

Quizzes: There will be a quiz on most homework assignments. These quizzes will be timed assignments on WebAssign and will generally be due one day after the homework assignment. There may be additional quizzes in the discussion sections.

Grading:

Homework (online)	WebAssign	5%
Quizzes (online)	WebAssign	5%
Quizzes and Worksheets (in person)	Discussion	10%
Clicker responses	Lecture class	5%
Exam 1: (Tuesday February 23, 6-8 PM or 9-11 PM)	Common evening exam	20%
Exam 2: (Tuesday April 12, 6-8 PM or 9-11 PM)	Common evening exam	20%

Final Exam: (Date and Time TBA, 1-3 PM)	Common (2 hours)	35%

The **common midterm exams** will be held on Tuesday (2/23/2016 and 4/12/2016) 6-8 PM or 9-11 PM in rooms that will be listed here later. The dates and times are listed in PeopleSoft, but not the rooms.

How to study for this course

1. Attend lecture and discussion class.
2. Read the explanations and examples in the textbook.
3. Watch videos (mathresources.uconn.edu/math1131). Each video last 8-15 minutes and covers some of the difficult and/or critical concepts.
4. Do online homeworks and quizzes.
5. Revisit Concept Questions (mathresources.uconn.edu/math1131).
6. Review using Flash Cards (mathresources.uconn.edu/math1131).

Tentative Outline

Week	Date	Section	Topic	Learning Activities
1	1/18		Martin Luther King, Jr. Day	
			Administrative Information	
		2.1	The Tangent and Velocity Problems	Video, flash cards
		2.2	The Limit of a Function	Video, flash cards
		2.3	Calculating Limits Using the Limit Laws	Video, flash cards
2	1/25	2.4	The Precise Definition of a Limit	Video, flash
		2.5	Continuity	Video, flash cards
		2.6	Limits at Infinity; Horizontal Asymptotes	Video, flash cards
3	2/1	2.7	Derivatives and Rates of Change	Video, flash cards
		2.8	The Derivative as a Function	Video, flash cards
		3.1	Derivatives of Polynomials and	Video, flash cards
4	2/8	3.2	The Product and Quotient Rules	Video, flash cards

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Week	Date	Section	Topic	Learning Activities
		3.3	Derivatives of Trigonometric Functions	Video, flash cards
		3.4	The Chain Rule	Video, flash cards
5	2/15	3.5	Implicit Differentiation	Video, flash cards
		1.5	Inverse Functions and Logarithms	Video, flash cards
		3.6	Derivatives of Logarithmic Functions	Video, flash cards
6	2/22		**Midterm 1/Review**	Practice Exam
		3.8	Exponential Growth and Decay	Video, flash cards
7	2/29	3.9	Related Rates	Video, flash cards
		3.10	Linear Approximations and Differentials	Video, flash cards
		4.8	Newton's Method	Video, flash cards
8	3/7	4.1	Maximum and Minimum Values	Video, flash cards
		4.2	Mean Value Theorem	Video, flash cards
		4.3	How Derivatives Affect the Shape of a	Video, flash cards
9	3/14		Spring Break	
10	3/21	4.4	Indeterminate Forms and l'Hospital's	Video, flash cards
		4.7	Optimization Problems	Video, flash cards
11	3/28	4.9	Antiderivatives	Video, flash cards
		5.1	Areas and Distances	Video, flash
12	4/4	5.2	The Definite Integral	Video, flash cards
		5.3	The Fundamental Theorem of Calculus	Video, flash cards
13	4/11		**Midterm 2/Review**	Practice midterm
		5.4	Indefinite Integrals and the Net Change	Video, flash cards

Week	Date	Section	Topic	Learning Activities
14	4/18	5.5	The Substitution Rule	Video, flash cards
		6.1	Areas Between Curves	Video, flash cards
15	4/25	6.2	Volumes	Video, flash cards
			Review	
16	5/2		**Finals Week**	