Math 135: Calculus I (4 cr.) Spring 2014
Threlfall Sections 10–12

Class Time/Location: Lecture: Tuesday and Thursday, 1:40–3:00 PM, PH-115 (Busch)
Recitation: Section 10: Monday, 1:55–2:50 PM, LSH-B112 (Livingston)
Section 11: Monday, 3:35–4:30 PM, LSH-B112 (Livingston)
Section 12: Monday, 5:15–6:10 PM, LSH-B105 (Livingston)

Lecturer: Shawn Threlfall
E-mail: sjt39@math.rutgers.edu
Office Hours: Tuesday and Friday, 10:00–11:00 AM, HH-B7 (College Ave. Campus)

Texts: (1) *Calculus*, Sixth Edition (Special Edition: Chapters 1–5) by Smith, Strauss, and Toda (required)
(2) *Student's Solution and Survival Manual* for text by Smith (optional, but highly recommended)

Calculator: A graphing calculator such as the TI-83/84 or equivalent is required.

Math 135 Website: **www.math.rutgers.edu/courses/135/135-s14**
You should navigate this webpage for general information about the course and specifics on using the Webwork system. Practice exams will also be posted here; they will appear as the exam dates near.

Synopsis:
This class is a standard one-semester Calculus I course for students not pursuing studies in math, physics, chemistry, engineering, statistics, or computer science (such students should take Math 151 instead). We will cover a brief review of precalculus followed by limits, derivatives, applications of derivatives, curve sketching, maxima and minima problems, antiderivatives, and an introduction to integration.

Grading:
Your course grade will be determined from Webwork assignments, recitation quizzes, two 80-minute exams, and one 3-hour final examination. Each will carry the following number of points toward your grade:

WEBWORK ASSIGNMENTS	75 pts.	EXAM 1	100 pts.
QUIZZES	75 pts.	EXAM 2	100 pts.
		FINAL EXAM	250 pts.

The final course grade you receive will be based upon the number of points you earn out of the above 600 total possible points.

Recitation:
Once per week, you will meet for recitation. All recitations for this course will be conducted by the teaching assistant. During recitation, the majority of class time will be spent going over homework problems associated with the material covered in lecture (see Recitation Schedule on the back of the next page). You will also have a 10-15 minute quiz in each recitation on the material covered that day.

Quizzes/Exams:
All quizzes and exams in this course will be closed-notes and closed-book. Furthermore, **a calculator will not be permitted for use**. Please keep this is mind when studying and completing homework problems.

You **must** take all quizzes and exams on the dates they are scheduled (see Lecture Schedule on the next page for exam dates). Missing a quiz or exam for reasons inexcusable by university policy will result in a grade of **zero**. There are **NO** make-up quizzes or exams given in this course.

Homework:
Specific homework problems from the text will be given to help you fully understand and digest the material presented in lecture (see Assigned Homework Problems on the last page). Textbook homework will not be collected or graded; however, completing these assignments is essential for successful completion of this course. I suggest you work all assigned problems as best as you can and only ask for assistance (or consult the solutions manual) when necessary. Doing so will help you prepare for quiz and exam questions.

Webwork:
Online assignments will be given throughout the term using the Webwork system. The Webwork website for Math 135 is given here: **http://webwork.rutgers.edu/webwork2**
Click the link "Threlfall10-11-12S14" on the bottom of the left-hand side to bring you to the login page.

If you are registered for the course, your initial login username AND password are your 9-digit RUID number with no hyphens or spaces. After logging in, you may change your password if you wish; however, your username will always be your RUID number.

It is your responsibility to familiarize yourself with the Webwork system and complete each assignment before its given due date. No make-up Webwork assignments will be given under any circumstances.

Extra Credit/Additional Work:
Extra credit and/or additional work or assignments are **NOT** given in this course. Poor performance on exams cannot be made up! Please keep this in mind.

Extra Help:
For students who want extra help, there will be calculus help sessions every Tuesday, starting February 4th, from 1:30–3:00 PM in ARC-328 (on Busch Campus). There will be no help session here on April 15th or May 6th. The Rutgers student learning centers also offer services to help students with Calculus I material. Their website is given here: **http://lrc.rutgers.edu**

Other Comments/Suggestions:
In Math 135, it is important to adequately prepare for each topic. When necessary, review pertinent material from algebra and/or precalculus that may still be unclear to you. This is very important since Calculus I utilizes algebra and precalculus concepts significantly. If you are confused about a particular topic, ask questions! Remember, I am always here to assist in your understanding of the material.

Good luck! ☺

Lecture Schedule:

DATE		SECTION(S)	TOPIC(S)
1/21	T	1.2, 1.3	Preliminaries, Lines in the Plane
1/23	Th	1.4	Functions, Graphs
1/28	T	2.1, 2.2	Limit of a Function, Algebraic Computation of Limits
1/30	Th	2.2	Algebraic Computation of Limits (continued)
2/4	T	2.3	Continuity
2/6	Th	2.4	Exponential Functions, Logarithmic Functions
2/11	T	3.1	Introduction to the Derivative: Tangents
2/13	Th	3.2, 3.3	Techniques of Differentiation, Derivatives of Trig, Exp, and Log Functions
2/18	T	3.4	Rates of Change: Modeling Rectilinear Motion
2/20	Th	3.5	Chain Rule
2/25	T		*Review for Exam 1*
2/27	**Th**		**EXAM 1** (covers sections 1.2–1.4, 2.1–2.4, and 3.1–3.5)
3/4	T	3.6	Implicit Differentiation, Logarithmic Differentiation
3/6	Th	3.7	Related Rates and Applications
3/11	T	3.8	Linear Approximation, Differentials, Error in Measurement
3/13	Th	4.1, 4.2	Extreme Values, Mean Value Theorem
3/18	T		NO LECTURE: Spring Break
3/20	Th		NO LECTURE: Spring Break
3/25	T	4.3	Using Derivatives to Sketch the Graph of a Function
3/27	Th	4.4	Curve Sketching with Asymptotes: Limits Involving Infinity
4/1	T	4.5	l'Hôpital's Rule
4/3	Th	4.6	Optimization in the Physical Sciences and Engineering
4/8	T		*Review for Exam 2*
4/10	**Th**		**EXAM 2** (covers sections 3.6–3.8 and 4.1–4.6)
4/15	T	4.7	Optimization in Business and Economics
4/17	Th	5.1	Antidifferentiation
4/22	T	5.2, 5.3	Areas, Riemann Sums, Definite Integrals
4/24	Th	5.4	Fundamental Theorem of Calculus
4/29	T	5.5	*u*-Substitution
5/1	Th		*Review for Final Exam*

Final Exam:

The final exam for this course will be given on **Thursday, May 8th** from **4–7 PM**. The specific location will be provided at a later date. The final exam is CUMULATIVE and will cover ALL material from the course.

Recitation Schedule:

DATE	DAY	SECTIONS COVERED
1/27	Monday	1.2, 1.3, 1.4
2/3	Monday	2.1, 2.2
2/10	Monday	2.3, 2.4
2/17	Monday	3.1, 3.2, 3.3
2/24	Monday	3.4, 3.5
3/3	Monday	Review Exam 1
3/10	Monday	3.6, 3.7
3/17	Monday	NO RECITATION: Spring Break
3/24	Monday	3.8, 4.1, 4.2
3/31	Monday	4.3, 4.4
4/7	Monday	4.5, 4.6
4/14	Monday	Review Exam 2
4/21	Monday	4.7, 5.1
4/28	Monday	5.2, 5.3
5/5	Monday	5.4, 5.5

The table above lists the sections of the textbook that will be covered during each recitation. This is in regard to the homework problems that will be addressed and the material that will be covered on the quiz.

Assigned Homework Problems:

SECTION	PROBLEMS*
1.2	2, 4, 10, 24, 28, 36
1.3	2, 12, 13, 20, 40, 42, 45
1.4	10, 14, 21, 24, 25b, 29, 37, 38, 48, 51
2.1	1, 2, 3, 4, 5, 6, 12, 28, 45
2.2	6, 8, 12, 14, 16, 18, 22, 23, 26, 38, 39, 41, 49, 54, 55
2.3	16, 21, 25, 30, 35, 39, 43, 44, 45, 46, 54
2.4	6, 7, 10, 12, 31, 32, 35, 36, 44, 47, 49, 50
3.1	6, 8, 10, 12, 14, 22, 23, 24, 26, 33, 32, 38, 41, 42, 43
3.2	8, 9, 12, 15, 18, 24, 29, 36, 41
3.3	1, 4, 11, 17, 18, 29, 37, 41, 52
3.4	3, 5, 7, 12, 13, 16, 19, 22, 34, 39, 48, 49, 53
3.5	6, 8, 12, 21, 24, 31, 34, 38, 42, 46, 47, 48
3.6	1, 4, 5, 7, 8, 9, 11, 14, 26, 27, 31, 35, 36, 38, 51, 52
3.7	8, 14, 21, 23, 26, 28, 29, 30, 31, 35, 36, 37, 38, 39, 40, 41, 47, 53
3.8	3, 4, 8, 13, 19, 20, 23, 25, 28, 29, 31, 33, 35, 40, 42, 44, 45
4.1	4, 5, 7, 11, 12, 17, 19, 25, 27, 29, 32, 36, 42, 50, 52, 54
4.2	7, 10, 21, 22, 27, 30
4.3	5, 6, 11, 12, 14, 17, 19, 22, 24, 25, 27, 30, 34, 36, 39, 40, 42, 45
4.4	10, 11, 12, 15, 20, 23, 27, 29, 30, 33, 36, 38, 40, 42, 47, 48
4.5	1, 3, 4, 6, 7, 11, 12, 13, 16, 17, 21, 23, 27, 28, 35, 38, 39
4.6	9, 23, 27, 28, 34, 35, 39, 41, 42
4.7	6, 13, 14, 15, 16, 18, 20, 21, 25, 26, 28, 33, 38
5.1	7, 8, 9, 10, 11, 17, 23, 26, 40, 41, 43, 44, 46
5.2	4, 8, 11, 17, 25, 28
5.3	3, 4, 6, 35, 38, 44, 45, 46
5.4	2, 7, 10, 14, 17, 23, 29, 32, 33, 35, 40, 45, 51
5.5	1, 3, 6, 9, 10, 13, 15, 16, 21, 27, 30, 40, 44, 49, 51

All the assigned homework problems are from the course textbook *Calculus*, Sixth Edition (Special Edition: Chapters 1–5) by Smith, Strauss, and Toda.

*_Note_: This list of problems is specific to our course and may slightly differ from other sections of Math 135. Use this list of problems to ensure you are working on the correct homework for our course.