MAT135H1F - Calculus 1(A)

May - June 2015

Course Outline

Course Description

This is a first-year course introducing students to **differential calculus** and its **applications to the sciences**. The topics that are covered in this course include:

- a review of trigonometry, exponential and logarithmic funtions, inverse functions;
- limits, continuity;
- rules of differentiation, implicit differentiation, higher derivatives;
- derivatives of logarithmic, exponential and inverse trigonometric functions;
- L'Hôpital's rule, related rates, Mean Value Theorem;
- graphing/curve sketching, optimization problems, exponential growth and decay problems;
- antiderivatives.

In general, theorems will be stated precisely and mostly without proofs but with an indication of the mathematical ideas involved.

Textbook

It is recommended that the student acquire the following books:

- *Single Variable Calculus, Early Transcendentals - 7th edition* - by James Stewart (Publishers: Brooks/Cole)
- *Student Solutions Manual* - for the above text

The text will serve as an excellent reference, will provide many examples and good exercises. However, it *will not be required* for any graded submissions.

Website

All course information (other than marks), contact information and documentation will be posted on the official course website:

`http://www.tinyurl.com/mat135summer`

Lectures and Office Hours

Each MAT135H1F student must enrol in one of the following lecture sections. Each section meets for two three-hour lectures per week. **Lectures start on Tuesday, May 12, 2015.**

The last day to change lecture sections via ROSI is Monday, May 18, 2015. If you want to enrol in a lecture section or change your lecture section after the deadline, you must go to your college registrar to make a special request which may or may not be granted.

Lecture	Time	Location	Instructor
L0101	TR10-1	MP 202	**Daniel Soukup** (course coordinator) daniel.soukup@mail.utoronto.ca
L5101	TR6-9	GB 221	**Yuri Cher** ycher@math.toronto.edu

The instructors will have office hours as follows:

Time	Location	Instructor
R3-5	HU1028	**Daniel Soukup** (course coordinator)
W1-3	BA6283	**Yuri Cher**

Y. Cher's office hours start on the second week of classes, D. Soukup's on the first week of classes.

Tutorials

All MAT135H1F students must enrol in one of the tutorial sections below, because quizzes will be written in tutorials. **The last day to enrol in a tutorial on ROSI is May 15, 2015.**

Tutorial Section	Time	Location	TA
T0101	TR1	**BA 1200**	Brent Fraser
T0201	TR2	**BA 1200**	Valentine Chiche-Lapierre
T5101	TR5	**BA 1210**	Anup Dixit
T5102	TR5	**GB 304**	Ali Feizmohammadi

The duration of each tutorial is 50 minutes, starting 10 minutes past the hour and ending on the hour. Tutorials meet twice per week and will **start the week of May 18**. The purpose of the

tutorials is to give you a chance to ask questions, and to discuss and review the course material in more detail with your TA. You will see several problems in tutorials which will help you prepare for the term test and final exam.

You must remain in the same tutorial section for the duration of the course. Exceptions may be granted to students with a verifiable timetable conflict with another course. Such students, along with those who need to enrol in a MAT135H1F Tutorial after the deadline, must contact the course coordinator by email.

Math Aid Center

In addition to the regular office hours held by your instructors, there will be extra help available in the Math Aid Centre (SS1071) throughout the term. You will find a TA in the **MAC (SS1071) starting the second week of classes Tuesdays 3-5.**

Extra help will be available before the Term Test and Final examination.

Quizzes

You will write **five (5) short quizzes** in tutorials during the semester; the precise dates are given on the course schedule. Each quiz will take place in the **last 20-25 minutes of your tutorial**. The goal of each quiz will be to check that you are familiar with the basic notions and techniques covered in lectures and to help you prepare for the term test and final exam. As long as you keep up with the material from the lectures and solve practice problems from the textbook, the quizzes should be straightforward.

If you must miss a quiz for a legitimate reason (illness, family emergency, etc.) you should contact the course coordinator as soon as possible. If you can support your absence with valid documentation (see `http://www.illnessverification.utoronto.ca`) **within one week**, the weight of the missed quiz will be put towards your final exam mark. In any other cases, the quiz will receive a score of 0.

Term Test and Final Exam

The term test will be written **6-8pm on June 1 in EX100**. Students with schedule conflicts will have the chance to write an early sitting **4-6pm the same day in EX200**. If you have such a conflict (or a double conflict), you must contact the course coordinator at least **one week prior** to the date of the test to get permission to write during the early sitting (or to write a make-up test in case of a double conflict).

If you are unable to write the term test for an unforeseen but legitimate reason (again, such as illness, family emergency, etc.) you should contact the course coordinator as soon as possible, and **no more than two days after the test**. See below for details.

Please note that **you will not be permitted to use any aids on either the term test or the final exam** (such as a calculator, notes, etc.).

Marking Scheme

The marks will be distributed as follows:

- **Quizzes** - 20% (5 quiz, 4% each)
- **Term Test** - 35%
- **Final Exam** - 45%

Make Up Test and Marking

You should contact the course coordinator as soon as you learn that you cannot write the main sitting of the term test. Any student who misses the term test due to a legitimate reason (sudden illness, family emergency, etc.) and who provides appropriate documentation for his or her absence **within one week of the test** will be required to write a make-up test. For the appropriate forms, see `http://www.illnessverification.utoronto.ca`.

Information about the make-up test (date, time, location, format, etc.) will be posted on the MAT135H1F website closer to the date of the test.

The quizzes and term test will be marked by your TAs. You are free to use either a pen or a pencil for any submission. The TAs will be happy to take a second look at a submission if you feel they missed part of your solution or otherwise misunderstood you, but **any submission written in pencil will not be eligible for remarking.**

Academic Integrity

Please take a moment to visit the website below for information about academic integrity and misconduct. Look up what constitutes plagiarism, unauthorized collaboration, possession or use of unauthorized aids, etc. We consider it your responsibility as a University of Toronto student to be familiar with these guidelines. If you have any questions feel free to ask your instructor or TA.

`http://www.artsci.utoronto.ca/osai/students`

Administrative Questions

Any questions of an administrative nature not answered by this document should be directed to the course coordinator, Daniel Soukup. Please send an email **using your university email address and include "MAT135" in the subject line**.

Timetable

Lecture Date	Textbook Sections Covered	Additional Notes
Tues, May 12	Overview of preliminary material, logarithms and exponentials, trigonometric functions, inverse functions	Make sure to enrol in tutorials!
Thurs, May 14	2.1, 2.2, 2.3	Last day to enrol in a tutorial via ROSI: May 15.
Tues, May 19	2.5, 2.6	Tutorials start today.
Thurs, May 21	2.7, 2.8, 3.1	**Quiz 1** written in tutorials.
Tues, May 26	3.2, 3.3	
Thurs, May 28	3.4, 3.5, 3.6	**Quiz 2** written in tutorials.
Friday, May 29		Extra office hours in the morning.
Mon, June 1	**Term Test** Early sitting: 4-6pm - location EX200 **Regular sitting: 6-8pm - location EX100**	**Term test covers material up to and including 3.4.** Extra office hours in the morning.
Tues, June 2	3.7, 3.8	
Thurs, June 4	3.9, 4.1	**Quiz 3** today, term tests returned on lecture.
Mon, June 8	**Final day to drop the course.** You will have your midterm marks before this time.	
Tues, June 9	4.2, 4.3	
Thurs, June 11	4.4, 4.5	**Quiz 4** written in tutorials.
Tues, June 16	4.7, 4.9	
Thurs, June 18	Review	**Quiz 5** written in tutorials.
	Final Exam Date and location to be announced.	Extra office hours and MAC hours before the final exam.