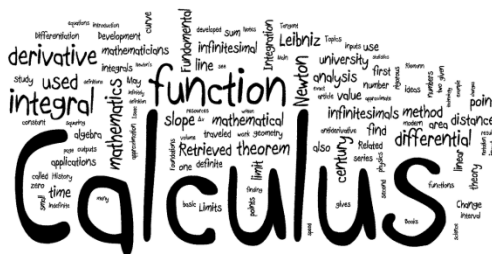# <u>MATA31H3</u> – Calculus I for Mathematical Sciences - **Winter 2014**

Instructor: Olga Chilina

Office: IC346

Office hour: Wednesdays 9:00 – 10:00 am

Email: olgac@utstat.toronto.edu

Webpage: http://www.utstat.toronto.edu/~olgac/mata31_Winter_2014/

Lecture time and location:

LEC01: Wednesday   8:00 – 9:00 am   in   IC220

        Friday   8:00 – 10:00 am   in   SW143

Course Objective

In this course we shall discuss basic techniques of Calculus: elementary functions including exponential, logarithm and trigonometric functions; limits and continuity; differentiation; L'Hospital's rule; applications of derivatives; Riemann sums and integration; techniques of integration; improper integrals, applications of integration.

Content, emphasis, etc. of the course is defined by means of the lecture material - not only the texts. It is important to attend all lectures. Important announcements, problem sets, additional examples, and other course info will be posted on either the course web homepage or the blackboard. Check those regularly.

Tutorials

Tutorials begin January 13 (second week of classes). Tutorial rooms can be found here:

http://www.utsc.utoronto.ca/~registrar/scheduling/timetable

Problem assignments will be posted on the course web site. They are due at tutorials, for discussion only.

Text:

Single Variable Calculus: *Early Transcendentals* 7/E, by James Stewart. The textbook may be purchased at the University of Toronto Bookstore (also available in the UTSC bookstore).

<div align="center">

Evaluation

</div>

- Tutorials (based on weekly quizzes): 20%- quizzes will be held during tutorials and will last approximately 10-15 minutes. They will cover material from the previous week of lectures.
- Term Test: 35% -a two-hour test on a date to be announced.
- Exam: 45% -a three-hour final exam.

<div align="center">

Quizzes

</div>

Quizzes will be given in tutorial. Your TA will record your mark for each quiz. So be sure to attend the correct tutorial, and to know your TA's name. **There are no make-up quizzes!** In case of legitimate absences, you should provide supporting documents within one week of the missed quiz and then the related quiz will be forgiven and the tutorial grade will be based on the remaining quizzes. If no supporting documents are provided, then that quiz will be given zero credit.

<div align="center">

Midterm Test/Final Exam

</div>

The date and time of the term test are: TBA (most likely in the week 8). It will be written in class - check the course web page or blackboard later for the exact date. **Programmable calculators are not permitted on the test and exam**. **You must bring your student identification to the term test as well as the final exam.** The final exam will cover *all* the material covered in the course. The date and time for the final exam will be announced later.

<div align="center">

Missed Tests

</div>

There are **no make-up tests**. Should you miss the term test due to illness, you must submit to your lecturer within one week, completed by yourself and your doctor, **the 'U of T Student Medical Certificate'.** The test's weight will then be shifted to the final exam. **If this documentation is not received, your test mark will be zero.**

<div align="center">

Academic Offences

</div>

Academic offences are unacceptable, and harm everyone. Cheating and plagiarism are taken very seriously at the University of Toronto. Academic offences are treated as a threat to the integrity of the institution as a whole and the penalties can be quite severe.

<div align="center">

Accessibility Needs

</div>

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Service as soon as possible. Inquiries are confidential. The UTSC AccessAbility staff (located in S302) are available by appointments to assess specific needs, provide referrals and arrange appropriate accommodations. You can contact them at (416) 287-7560 or ability@utsc.utoronto.ca

Tentative Lecture Outline (subject to change)

Textbook (*Single Variable Calculus*: *Early Transcendentals* 7/E, by James Stewart) chapter references are in parentheses.

Week 1 (Jan. 6-10): Introduction to course, review of high school math: Functions and Models (1.1 -1.6)

Week 2 (Jan. 13-17): Limits and Derivatives (2.1 – 2.4)

Week 3 (Jan. 20-24): Limits and Derivatives (2.5 – 2.8)

Week 4 (Jan. 27-31): Differentiation Rules (3.1- 3.3**)**

Week 5 (Feb. 3-7): Differentiation Rules (3.4- 3.6)

Week 6 (Feb. 10-14): Application of Differentiation (4.1- 4.4)

Week 7 (Feb. 17-21): **Reading Week – No Classes**

Week 8 (Feb. 24-28): Wednesday: Review for the midterm; Friday: Midterm (tentative)

Week 9 (Mar. 3-7): Integrals (5.1 -5.3)

Week 10 (Mar. 10-14): Integrals (5.4 -5.5**)**

Week 11 (Mar. 17-21): Techniques of Integration (7.1- 7.3)

Week 12 (Mar. 24-28): Techniques of Integration (7.4- 7.5, 7.8)

Week 13 (Mar. 31-Apr. 4): Application of Integration (areas, and volumes) (6.1-6.3)