DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES UNIVERSITY OF TORONTO MISSISSAUGA

MAT132H5F LEC0101 Differential Calculus for Life Sciences Course Outline - Fall 2019

Class Location & Time Mon, 01:00 PM - 03:00 PM DV 2080

Wed, 12:00 PM - 01:00 PM DV 2080

Fri, 04:00 PM - 06:00 PM ZZ TBA

InstructorShay FuchsOffice LocationDH3046

Office Hours Tuesday and Thursday 11:30am-12:30pm.

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Course Web Site https://q.utoronto.ca

Co-Instructor Ali Mousavidehshikh

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Co-Instructor Marina Tvalavadze

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Office Hours Thursday 2:10-3:00pm.

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Course Description

Review of functions and their graphs, trigonometry, exponentials and logarithms. Limits and continuity of functions of a single variable. Derivatives and differentiation techniques. Applications of differentiation, including extreme values, related rates and optimization. Life science applications are emphasized. [40L, 12T]

Prerequisite: Minimum 70% in Grade 12 Advanced Functions (MHF4U) Highly Recommended: Minimum 70% in Grade 12

Calculus and Vectors (MCV4U)

Exclusion: MAT135H5, MAT133Y5, MAT134Y5, MAT135Y5, MAT137Y5, MAT133Y1, MAT135Y1, MAT135H1,

MAT137Y1, MAT157Y1, MAT157Y5, MATA29H3, MATA30H3, MATA31H3, MATA32H3 (SCI)

Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

- **Textbook:** Thomas' Calculus Early Transcendentals, Single Variable, Fourteenth Edition, by Hass, Heil and Weir (ISBN: 978-0-13-443941-9).
- iClicker: i>clicker+ student remote (ISBN 978-1-4986-0305-8).
- Calculator: Calculators will not be allowed during term tests and exams. You may use a non-graphic and non-programmable calculator when working on the Online Quizzes.

Assessment and Deadlines

Type	Description	Due Date	Weight
Quiz	Pre-Class Online Quizzes (best 9 out of 11)	On-going	4%
Quiz	Post-Class Online Quizzes (best 10 out of 12)	On-going	4%
Class Participation	In-Class iClicker Questions (85% participation required for full mark)	On-going	4%
Class Participation	Tutorial Attendance and Participation (9 sessions required for full mark)	On-going	3%
Term Test		2019-10-04	20%
Term Test		2019-11-08	20%
Final Exam		TBA	45%
		Total	l 100%

More Details for Assessment and Deadlines

• Pre-Class Quizzes.

The course will be delivered through an active learning approach. Prior to each week, students are required to **read** the relevant sections from the textbook, watch videos, and complete an online quiz on Quercus, **by Sunday**, **at midnight** (see the course schedule). The pre-class quizzes count as **4%** of the overall course mark. There are 11 pre-class quizzes in total, but only the best 9 will count toward the final course mark.

• Post-Class Quizzes.

The post-class quizzes are to be completed one week after the material was discussed in class (for instance, on Week 8, you

should complete a post-class quiz on Week 7's material). The post-class quizzes will be completed online, on Quercus, and will have an automatically graded portion, and a manually graded portion (which will be graded by your teaching assistant). The deadline to submit a post-class quiz is **Friday**, **at midnight** (except on **test weeks**, when the deadline is **Friday**, **at 2pm**).

The post-class quizzes count as 4% of the overall course mark. There are 12 post-class quizzes in total, but only the best 10 will count toward the final course mark.

• iClicker Questions.

In lectures, instructors will pose multiple-choice questions, and collect responses via iClickers. Each student must bring his/her remote to each lecture, and use it in class. iClicker questions will be marked **for participation only** (and **not** for correctness) and will count as **4%** of the overall course mark. You must respond to at least 85% of the questions to receive a full mark.

Term Tests.

There will be **two** term tests, on the following **Fridays**, **from 4-6pm**:

- **Term Test 1**: October 4, 2019. - **Term Test 2**: November 8, 2019.

Each term test will be 1 hour and 50 minutes long and counts as 20% of the course mark. More details, including room assignments, will be given later.

• Final Exam.

The final exam in the course will take place during the examination period in December 2019, and will be 2 hours long. It will cover all the material presented in lectures, tutorials and in the homework assignments.

Penalties for Lateness

All pre- and post-class quizzes must be submitted on time, before the deadline Late submissions are not allowed.

Procedures and Rules

Missed Term Work

Missing a Term Test.

If you cannot show up for a term test because of illness or any other special reason, you should report your absence on ACORN and submit your documentation in person to **Marc De Benedetti**, the assistant coordinator, no later than**one week** after the day of the test (for medical notes, you must use the official UTM **Verification of Student Illness or Injury form**, which can be downloaded from the course website).

There will be **no make-up tests**. If you miss a term test, its weight will be transferred to the final exam.

Missed Final Exam

Students who cannot write a final examination due to illness or other serious causes must file an<u>online petition</u> within 72 hours of the missed examination. Original supporting documentation must also be submitted to the Office of the Registrar within 72 hours of the missed exam. Late petitions will NOT be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of \$70 is required for each examination approved.

Academic Integrity

Honesty and fairness are fundamental to the University of Toronto's mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone elses work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information

Duration: 2 hours Aids Permitted: None

Additional Information

• Prerequisites.

The prerequisite for the course is a minimum grade of 70% in Grade 12 Advanced Functions (MHF4U). Students who do not have this prerequisite are allowed to take the course 'at their own risk', and are expected to learn certain relevant high

school topics independently. There is no need to fill out and/or submit a request for a waiver.

• Tutorials.

There will be several tutorial groups in the course. Each student must be registered in one of the tutorial sections on ACORN, and attend it regularly every week. Details regarding the day, time and location of your tutorial are available online, at https://student.utm.utoronto.ca/timetable/index.php?session=20199&course=MAT132. In tutorials, you will have the opportunity to work on problems and get help and guidance from your TA. Occasionally, the TA will review some of the material discussed in the lectures, and will present solutions to exercises. Tutorials begin on the week of September 9 (Week 1).

The last day to change tutorial sections on ACORN is September 18, 2019. Note that you **must attend and participate** in at least **9 tutorial sessions** (out of 11) in order to receive the full 3% tutorial participation mark.

• Course website.

You can access the MAT132 course website through Quercus (https://q.utoronto.ca/). After logging in, click on 'MAT132H5 F LEC0101' to enter the website.

Note that this is the course website for **all students in the course**, registered in any of the lecture sections. Online quizzes, messages, handouts and other important information will be posted on the website, so you must check it regularly. You will also be able to complete your pre- and post-class quizzes and see your marks online.

Additional Documents.

Please make sure to read the following documents carefully, available on the course website:

- Week-by-Week course schedule Contains the topics to be covered each week, quiz and test schedule, and important dates
- iClicker Registration Information Detailed instructions on how to purchase and register your iClicker remote.
- Active Learning in MAT132H5 Details regarding the active learning approach, and the way the course is structured.

• E-mail Policy.

E-mails must originate from a **utoronto.ca** address and contain the course code **MAT132** in the subject line. You must include your **full name**, **student number**, and **lecture section** in your e-mail.

GOOD LUCK!

Last Date to drop course from Academic Record and GPA is November 7, 2019.