DEPARTMENT OF MATHEMATICAL AND COMPUTATIONAL SCIENCES UNIVERSITY OF TORONTO MISSISSAUGA

MAT382H5F LEC0101 Mathematics for Teachers Course Outline - Fall 2019

Class Location & Time Tue, 11:00 AM - 12:00 PM MN 3140

Fri, 11:00 AM - 01:00 PM MN 3140

InstructorMaria WesslenOffice LocationDH3048

Office Hours Tuesdays 3-4pm, Fri 1-3pm

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Course Web Site Quercus (https://q.utoronto.ca)

Teaching Assistant Pitocco Mike

Office LocationTBAOffice HoursTBATelephoneNone

E-mail Address mike.pitocco@mail.utoronto.ca

Course Description

The course discusses the Mathematics curriculum (K-12) from the following aspects: the strands of the curriculum and their place in the world of Mathematics, the nature of the proofs, applications of Mathematics, and the connection of Mathematics to other subjects. **Restricted to students in the CSC/MAT/STA major and specialist programs.**[36L, 12T]

Prerequisite: Minimum 60% in MAT134H5/MAT136H5/MAT134Y5/MAT135Y5/MAT137Y5/MAT157Y5/MAT233H5, minimum 60% in MAT102H5, MAT223H5/MAT240H5, and at least one additional MAT half-course at the 200+ level.

Exclusion: MAT329Y1, MATC82H3 (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.

Learning Outcomes

By the end of this course, students will be able to:

- Justify and defend their mathematical work on a range of topics
- Analyze mathematical work to assess the validity of the work; identify and correct mistakes
- Compare and analyze several different solutions to the same problem
- Communicate mathematical ideas in a variety of contexts, both orally and in writing
- Identify and illustrate connections between different topics in mathematics and other sciences; in particular topics studied at university and those taught in school
- Create and deliver a mathematics lesson and independently research a topic and/or problem

Textbooks and Other Materials

Textbook - Recommended:

Mathematics for Secondary School Teachers by Bremigan, Bremigan & Lorch. Published by MAA (Mathematical Association of America).

Calculators:

Calculators will **NOT** be allowed during Quizzes and the Final Exam. A simple calculator may be used while working on assignments. Students should also **bring a simple calculator to every lecture and tutorial** as they will occasionally be used.

Assessment and Deadlines

Type	Description	Due Date	Weight
Final Exam	2 hours	TBA	38%
Quiz	Quiz 1	2019-10-01	12%
Quiz	Quiz 2	2019-11-05	12%
Assignment	Assignments	On-going	12%
Other	In-class activities	On-going	8%
Presentations	Peer teaching presentation	On-going	8%
Other	Essay	2019-09-26	5%
Class Participation	Active participation in lectures and tutorials	On-going	5%
		Total	100%

More Details for Assessment and Deadlines

Written Assignments:

There will be 6 written assignments for this course and they will count towards 12% of your final grade. Assignments will be posted on Quercus and it is your responsibility to download/print them in time to complete them by the due date (see schedule below). Assignments should be given to the TA at the **beginning** of the tutorial, although some assignments may be submitted online (more information will be provided). **No assignment extensions will be given.** There will be no make-up assignments.

In-class activities:

There will be about 5 in-class active learning activities that will be worth a total of 8% of your grade. The dates of them will be announced at least a week in advance, so that you know when they will take place. There is no need to prepare in advance for these activities, other than to generally stay up to date with the material as we go through the course. Some of these activities will be group activities, and sometimes you will start discussing in groups during class to then write up your own finished work after class.

Peer teaching:

In parts of weeks 10, 11 and 12, peer teaching will replace most of the regular lectures. Each group will consist of 3-4 students and will prepare a 40-45 minute introduction to a topic. The peer teaching will be evaluated based both on the overall group effort as well as on individual student contributions. More details about the peer teaching will be given on a separate document (also found on Quercus).

Essay:

You will be asked to write a short essay (1-3 pages). There will be a deadline to submit the title of your essay and another deadline to submit a draft. You will then receive feedback on your essay before the final submission. Your essay grade will be based both on your draft and final version of your essay. More information can be found on a separate document (also found on Quercus). Normally, students will be required to submit their course assignments to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the Turnitin.com web site.

Participation marks:

The participation mark will be based on both lectures and tutorials, and will be computed as follows:

25% of the mark will be based on tutorial attendance and participation

15% of the mark will be based on lecture attendance

60% of the mark will be based on lecture participation (e.g. writing on the board, answering/asking questions, participating in discussions etc.)

Penalties for Lateness

No late assignments accepted. Submitting the presentation proposal late will result in a 5% reduction of the group's score.

Procedures and Rules

Missed Term Work

There will be no make-up quizzes. If you miss a quiz due to illness or other valid reason, you must provide written documentation such as a doctor's note written on the **Official UTM Verification of Illness or Injury** form (available on Quercus). This documentation should be given in person to Maria Wesslén within a week following the missed quiz. However, you must visit the doctor on the day of the quiz, or the following day at the latest. Otherwise your quiz mark will be recorded as zero. If valid documentation is provided, the weights will be shifted as follows:

One missed quiz: The other quiz will be worth 18% and the final exam 44%.

Two missed quizzes: The final exam will be worth 62%.

In case of serious illness or hardship that makes a student miss a large portion of term work, the student should contact the instructor as soon as possible to discuss whether and how special arrangements can be made. Students are required to contact the instructor if they miss more than two classes (lectures or tutorials) for any reason.

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

Tutorials:

Tutorials start 13th September (second week).

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