MAT 237Y - Advanced Calculus- 2015

Welcome to MAT 237, a course in advanced calculus! We wish you a rewarding learning experience! We hope that you will end up loving calculus as much as we do!

Objective

The goal of this course is to present the student with a basic knowledge of the theory of differential and integral calculus of functions of several variables. The course will emphasize both computation and theory. Our aim is that by the end of the course, each student should be comfortable constructing a clear, rigorous solution to a problem of moderate difficulty.

Expectations

We believe that a conceptual approach to understanding is the key aim of a university education. Our lectures and the evaluations will be based on this philosophy. We encourage students to focus on the following:

- Understanding the idea behind definitions, theorems, and proofs.
- Improving their problem solving skills in order to apply them to new problems.
- Provide clear, concise, and logical arguments in their solutions to problems.

Prerequisites

MAT137Y / MAT157Y / (MAT135H, MAT136H (90%)), MAT223H / MAT240H

Lectures

L0101	MWF9	SS 2102	D. Le	daniel.le@utoronto.ca
L0201	MWF2	MP 102	E. Mazzeo	emazzeo@math.toronto.edu
L5101	R6-9	MP 203	T. Holden	tholden@math.toronto.edu

E. Mazzeo is the course coordinator. You should contact him for administrative issues.

Textbook: “Advanced Calculus” by Gerald B. Folland, Publisher: Prentice Hall, Chapters 1-5.

Big List O'Problems

We will be providing a Big List O'Problems, sorted by section and difficulty level. These are questions specifically tailored to the learning objectives of our course. In addition to this, we guarantee that at least 25% of the problems which appear on the tests will be at most slight modifications of questions from this list.

We encourage students to work together in solving these questions. A student who solves most of the questions (up to the moderate level of difficulty) will be in an excellent position to do well in the course. We should remark that The Big List is BIG. In fact, it is too big to make memorization of the solutions a viable strategy for success.

Please Note:

The Big List O' Problems don't have written solutions. Unfortunately we don't have the resources it would require to write solutions to these problems. Solve them on a weekly basis, and make use of the many contact hours with your TA's and instructors to receive assistance in solving these problems.

Office Hours

Students are encouraged to come to office hours for, small group or one on one, assistance in understanding the course material. Office hours are also a good opportunity to ask questions on material that was covered earlier in the course. The TAs and instructors will be holding office hours throughout the term. The schedule will be posted on the course homepage.

Website

The website for the course is available at
www.math.toronto.edu/courses/mat237y1/20159/index.html

We will use blackboard only for you to be able to check your grades.

Tutorials

Tutorials are an essential part of our course. Tutorials will serve as a forum for students to make progress on problem solving. In particular, students should use this time to get assistance from their teaching assistants to solving problems from the The Big List. Tutorials will start in the 2nd week of classes.

Term Tests

There will be four term tests, two in the first half of the course, and two in the second half of the course. Each test will be worth 15% of your final mark.

Test Dates:

Test 1	Week #5	Friday, October 16th, 4-6 pm.
Test 2	Week #10	Friday, November 20th, 4-6 pm.
Test 3	Week #3	Friday, January 29th, 4-6 pm.

Test 4	Week #9	Friday, March 11th, 4-6 pm.

The alternate sitting for students with a documented and justifiable reason will take place on the same day from 2-4 pm.

N.B: In order to take this course, you must be available to take the term tests.

There will be no make-up tests. If you have a documented, legitimate reason for missing the test, the weight of the term test will be transferred to your final exam. Students with course conflicts for both the early sitting and regular sitting, must inform the course coordinator of the conflict by no later than the end of the 2nd week of classes.

Evaluation Scheme

The grading scheme will be as follows:

Term Tests	60% (4 of them, best 3 of four worth 17% each, worst of four is worth 9%*)
Final Exam	40%

*Must write all four tests. Otherwise, each test written is worth 15%.

Missing Term Tests

Tests that are missed due to legitimate extenuating circumstances, such as illness must be supported by appropriate documentation. Please visit www.illnessverification.utoronto.ca for more details. The appropriate UofT medical certificate should be submitted to the course coordinator within three working (3) days of the date of the test. Missing a test without the proper supported documentation will result in a grade of zero (0).

Schedule

We will try to keep to this schedule. But it might change.

Fall Term

Week	Dates	Sections
Week 1	Sept. 14th-	1.1, 1.2
Week 2	Sept. 21st-	1.3
Week 3	Sept. 28th-	1.4,1.5
Week 4	Oct. 5th-	1.5, 1.6
Week 5 (**Term Test #1**)	Oct. 12Th-**Oct. 16th**	1.7, 1.8
Week 6	Oct. 19Th	2.1
Week 7	Oct. 26th-	2.2, 2.3
Week 8	Nov. 2nd-	2.4, 2.5

Week 9	Nov. 9th-	2.6, 2.7
Week 10 (**Term Test #2**)	Nov. 16Th-**Nov. 20th**	2.7
Week 11	Nov. 23rd	2.8
Week 12	Nov. 30th-	2.9, 2.10

Spring Term

Week	**Dates**	**Sections**
Week 1	Jan. 11th-	3.1
Week 2	Jan. 18th-	3.2, 3.3
Week 3 (**Term Test #3**)	Jan. 25Th-**Jan.29th**	4.1
Week 4	Feb. 1St	4.2
Week 5	Feb. 8th-	4.3
Week 6	Feb. 15th-	Reading Week
Week 7	Feb. 22nd-	3.4, 4.4
Week 8	Feb. 29th-	5.4, 5.1
Week 9 **(Term Test #4)**	Mar. 7Th-**Mar. 11th**	5.2, 5.8
Week 10	Mar. 14Th	5.3
Week 11	Mar. 21st-	5.5
Week 12	Mar. 28th-	5.7
Week 13	Apr. 4th-	Review.

E-mail policy

1. Please address your professor appropriately. 2. You must use your utoronto.ca email account. 3. Please include **"237"** in the **subject** of your e-mail. 4. Questions about how to solve math questions should be asked in person during contact hours. 5. Please read the syllabus and homepage to see if your administrative question has been answered there. 6. Please don't expect a reply on weekends, or an immediate reply on weekdays.

Academic Integrity:

Students are responsible for being familiar with all aspects of academic integrity. Please visit the website www.artsci.utoronto.ca/osai for more information.

Accessibility:

If you have a learning need requiring an accommodation the University of Toronto recommends that students immediately register at Accessibility Services at http://www.accessibility.utoronto.ca/index.htm. As the instructors of this course, you are also invited to communicate with us at any time about your learning needs. Confidentiality of learning needs is respectfully and strictly maintained.