



MATH 262: Intermediate Calculus

Fall Semester 2019

Instructor: Prof. Ming Mei

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➤ General Information

This is a multiple-sections course. The course coordinator is Dr. Rosalie Belanger-Rioux (rosalie.belanger-rioux@mcgill.ca)

Prerequisites: MATH 141, MATH 133 or equivalent. Good familiarity with differentiation and integration of a single variable function, basic operations on vectors (e.g. inner product, exterior product), expressing planes and lines in 3-space and finding eigenvalues and eigenvectors of a matrix is assumed.

Restrictions: This course is open only to students in the Faculty of Engineering, but not to students who are taking or have taken MATH 151, MATH 152, OR MATH 222..

Course Website: All important class announcements (for both sections), and other information will be periodically posted on the course website <http://www.math.mcgill.ca/~mei/teaching.html>

Textbook:

- Robert Adams, Christopher Essex: Calculus, several variables, 9th ed., Pearson.
- A previous edition is also fine.

Optional Course Materials: Here are some other textbook options you might want to look into:

- Multivariable Calculus, Early Transcendentals from Community Calculus, available for free online (or you can get it printed for cheap) at <http://communitycalculus.org>.
- Calculus: Concepts and Contexts, J. Stewart, Cengage Learning

Course Description:

- Series and power series, including Taylor's theorem (Adams, Chapter 9)
- Brief review of vector geometry (Adams, Chapter 10).
- Vector functions and curves (Adams, Chapter 11).
- Partial differentiation and differential calculus for vector valued functions (Adams, Chapter 12).
- Unconstrained and constrained extremal problems (Adams, Chapter 13).
- Multiple integrals including surface area and change of variables (Adams, Chapter 14).

Lecture Time and Location:

- Tuesday and Thursday, 16:05 – 17:25.
- The course starts on September 3, 2019, and ends on December 5, 2019.
- The classroom is ENGMC 206

Tutorials: There will be optional tutorials starting the second week of classes. The schedule, location, and names of the TAs will be announced on the website shortly. You may also use the Math Help Desk, which is open Monday-Friday from 12:00 to 5:00 PM, in Burn 911

➤ Grading

Evaluation policy: We will choose the maximum of (A) and (B).

(A) WebWork: 15%, Midterm: 15%, Final: 70%

(B) WebWork: 20%, Midterm: 30%, Final: 50%

Midterm: There will be one midterm exam so you can monitor your progress in the class. **It will be a 50-minute in-class exam on October 24, 2019.** If you are not satisfied with your grade on this exam, or if at any point in the semester you would like to adjust your approach to the class, the teaching staff (or staff from Teaching and Learning Services) will be happy to discuss with you different study strategies so you can succeed in this class.

Final Exam: This will be a three-hour exam during the final examination period. It will cover material from the entire course. The date will be posted when we know it. Absences to the Final Exam will be handled directly by your faculty, and your instructors have no influence over this.

Note: No calculators and no cell phones are permitted on the Midterm and Final Examination.

WebWork: These weekly assignments are online, and auto-graded. More details will appear on the website soon. You are very much encouraged to discuss the assignments with your fellow students and form study groups. We suggest you collaborate because it will help you learn, not so you can get answers from others. Before submitting online homework, make sure you can explain not only how you obtained your answer, but why and how what you did works. This is part of academic integrity. It is also the only way for you to prepare for exams, and to prepare for using this math in other contexts (courses, jobs, etc). Note that no late homework will be accepted under any circumstance. So start early! Word to the wise: WebWork only grades final answers, but the steps you took and how you justified them are just as important. We suggest you write out your complete assignment solutions in a notebook, you will thank yourself later when you want to review. You are also encouraged to come to office hours or tutorials to talk about justifying your work, since this will be an important part of how exams will be graded. The link for webwork is: http://msr02.math.mcgill.ca/webwork2/MATH262_FALL2019/

➤ Terms and rights

- In accord with McGill University Charter of Students of Rights, students in this course have the right to submit in English or in French any written work that is to be graded.
- In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.
- McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest/ for more information).