

Mathematics 1071: Vectors and Matrices

Fall 2014

Instructor: Rachael Sundell

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Lectures: Monday, Wednesday, Friday, 11:30am-12:30pm, RB3026

Lab: Thursday, 2:30pm - 4:30pm, RB1021

Office Hour: Mondays at 2:30pm-3:30pm or by appointment, RB2006

Textbook: *Elementary Linear Algebra*, 2nd Canadian Edition, by Stewart Venit, Wayne Bishop, and Jason Brown

Course Content: This course will cover the following material: Cartesian coordinates; vectors in two and three dimensions; the dot product and components of vectors; the cross product; equations of lines and planes; vector spaces; linear independence, bases and spanning sets; subspaces; matrices; addition and scalar multiplication of matrices; matrix multiplication; the transpose of a matrix; invertible matrices; systems of linear equations and row reduction; and determinants, including Cramer's rule.

Lab: The first half of the lab time will be used to give more in depth examples of the material covered in class. As well we will do problems similar to those given in the homework. There will be a short break (15 minutes), then the second half of the lab will be used as tutorial time for students to work on the homework and ask questions. Assignments will also be handed back during the lab.

Grading Scheme:

Assignments	10%
Midterm 1 (Friday, October 17 th)	20%
Midterm 2 (Friday, November 21 st)	20%
Final Examination	50%

NOTE: If one of the midterm marks is lower than the final examination, the weight of that midterm will be moved to the final examination.

Assignments: There will be a total of 6 assignments given approximately every two weeks. The lowest assignment grade will be dropped. All assignments should include a cover page with the following information: course number, assignment number, student name and ID. Assignments should be dropped off in the assignment boxes on the second floor of the Ryan building before 24:00 midnight of the due date. Solutions will be available on the library reserves the day after the assignment is due. **Late assignments will not be accepted.** Students are encouraged to work together to understand the concepts in each assignment, but individual assignments must be submitted and copying is not

allowed.

Midterm and Final Exam: There will be two midterm examinations on Friday, October 17th and Friday, November 21st. Midterms and the final examination will be closed book, but students are allowed to bring one sheet of 8½x11 paper (both sides) of personal study notes and a nonprogrammable calculator. If a midterm is missed, there will be no makeup test. If a valid excuse is given (e.g., doctors note), then the weight of the midterm will be moved to the final examination.

Important Dates: Please note the following important dates:

September	8 th	: First day of class
September	19 th	: Final date to register
October	13 th	: Thanksgiving - University Closed
November	4 th	: Final date for withdrawal
December	1 st	: Final day of class
December	4 th	: First day of exams
December	17 th	: Final day of exams

Tutoring: At the Student Success Centre (SC 0008), every student has 5 free hours of tutoring every academic year. The Lakehead University Mathematics Assistance Centre (LUMAC) provides free tutoring throughout the academic year (for hours visit <http://math.lakeheadu.ca/lumac/>).