Mathematics 1071: Vectors and Matrices
Fall 2012

Instructor: Mrs. Kewei Yuan
            kyuan@lakeheadu.ca
Lectures: Tuesday and Thursday
            1:00 pm-2:30 pm
            BB2006
Lab: Monday, 08:30 am-10:30 am, RB1021
Office Hour: Wednesday 10:00 am-11:00 am, RB2006

Textbook: **Elementary Linear Algebra (Second Edition)** by Stewart Venit, Wayne Bishop and Jason Brown
Course Content: In this one term course, we will cover the core material, with extra attention on the basics. Students in such a course will learn the basic linear algebra such as Cartesian coordinates; vectors in two and three dimensions; the dot product and components of vectors; the cross product; equations of lines and planes; complex numbers; vector spaces over the real and complex number systems; 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. The course will cover the below content from chapters 1 to chapter 6 of the textbook.
  Chapter 1 Geometry of R^2 and R^3, section 1.1-1.3
  Chapter 2 Euclidean m-space and Linear Equations, section 2.1-2.3
  Chapter 3 Matrices, section 3.1-3.3
  Chapter 4 Determinants, section 4.1-4.4
  Chapter 5 Independence and Basis in R^m, section 5.1-5.3
  Chapter 6 Vector space section 6.1, 6.2, and 6.5
Lab: Laboratory time will be used to help student to develop problem solving skills and to introduce the assigned problems and work short practice problems. Laboratory time will also be used to answer the questions related to the assignment. *Students in this course should also need to register and enroll in the lab*.
Assignments: Bi-weekly assignments will be given out on every other Thursday's lecture and will be normally due in 12 days. All assignments should have a cover page with information including: course number, assignment number, student name and student ID. The assignment should be dropped off to the assignment box near the office of the Math Department which is on the second floor of the Ryan Building before 24:00 midnight of the due day. *Late assignments will not be accepted*. The solutions to the assignments will be given after the due day.
Exams: Midterm test (will be set up as during the class time) and final exam will be closed book. *No calculators are allowed during the exams*. The regulation of examinations and related matters is described on University Calendar.
Course Grade: Assignments 20%
                Midterm 30%
                Final Exam 50%