Course Outline

Math 2255 Linear Algebra I

Instructor: Maria Grazia Viola
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Office Hours: Monday 12:00-2:00, Tuesday 2:00-3:30, Wednesday 12:00-2:00, or by appointment.

Lectures: Monday and Wednesday 4:00-5:30 in OA 1025.
Textbook: Linear algebra and its applications by D. Lay, S. Lay, and J. McDonald, sixth edition, e-textbook $ 69.99.

Course Outline:
Chapter 1: Linear systems, row reduction and echelon form, linear independence, linear transformations.
Chapter 2: Matrix operations, the inverse of a matrix, matrix factorization, subspaces, dimension and rank.
Chapter 3: Determinant, Cramer's rule.
Chapter 4: Vector spaces and subspaces, null spaces, bases, dimension of a vector space, change of basis.
Chapter 5 (if time allows it): Eigenvectors and eigenvalues, the characteristic polynomial, diagonalization, eigenvectors and linear transformations.

Grading System: The final grade will be determined by a midterm, a final exam, four quizzes, and the homework. The weight of each component is as it follows:

Homework 25%

Quizzes 10%

Midterm 30%

Final 40%

Exam Schedule: The midterm will be February 23, 2026.

Class Policies: Please turn off your phone while in class. Tests and the final exam must be taken on the date assigned and there will be no books, calculators, cell phones, or other aids allowed during the tests and final exam. Cell phones or other electronic devices are not allowed to be on your person during tests and final exams, per university policy.

Homework: I will give a list of homework problems weekly to work as practice. The homework will be collected every Wednesday. IF YOU WORK ALL THE ASSIGNED HOMEWORK PROBLEMS, YOU SHOULD DO WELL IN THE COURSE. WITHOUT PRACTING THE MATERIAL COVERED IN CLASS IT WILL BE VERY UNLIKELY THAT

No late homework will be accepted except with a well-documented valid university excuse. I will drop your homework grade when determining your final homework grade.

Calculator: A basic non-programmable calculator is allowed in the exams. The calculator should not have linear algebra capabilities.

Make-up policy: A make-up midterm will be given only with well documented valid university excuses (sickness, etc).

Accommodations: Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: http://studentaccessibility.lakeheadu.ca

This is a **general outline**. Any communication or change regarding this outline, the time and location of exams as well as other matters concerning the course will be announced in the lecture.