

Course Outline

Math 2255 Linear Algebra I

Instructor: Maria Grazia Viola

E-mail: mviola@lakeheadu.ca

Office Hours: Tuesday 1:00-2:30, Wednesday 2:00-3:20, Thursday 1:30-2:30, or by appointment.

Lectures: Tuesday and Thursday 10:00-11:30 in OA2019.

Textbook: Linear algebra and its applications by D. Lay, sixth edition.

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, complex eigenvalues.

Reading: You should read the material that will be covered in class before coming to class so that you know in advance which points are more obscure for you and you can ask questions in class.

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

Homework Grade 20%

Midterm 35%

Final 45%

Exam Schedule: The midterm will be October 28, 2021. The date of the final exam will be announced later in the semester.

Homework: I will give a list of homework problems weekly to work as practice. The homework will be collected every Thursday. No late homework will be accepted. IF YOU WORK ALL THE ASSIGNED HOMEWORK PROBLEMS, YOU SHOULD DO WELL IN THE COURSE. Moreover, I will drop the lowest homework grade when determining your final homework grade.

Calculator: A basic calculator will be allowed in the exams.

Class policies: You should attend both the lecture and the lab if you want to do well in the class. Cell phones should be turned off during class. Midterms and exams must be taken on the date assigned. During the exam you will be able to utilize a calculator and the statistical tables, but the use of books, cell phones, or other aids is prohibited.

A make-up midterm will be given only with a valid university excuses (incapacitating illness, death in the family, etc). Note that documentation may be required to justify your absence, as indicated at

<https://www.lakeheadu.ca/studentcentral/exams-grades/missed-exam-medical-personal>. A make-up midterm must be written within two weeks of the original date.

Accessibility Services: 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>

Plagiarism and academic misconduct: Exams and homework assignments must be independent work. In case of suspect academic misconduct the appropriate office will be informed and an official investigation will be initiated regarding the accident. Plagiarism is an extremely serious academic offense and carries penalties varying from failure in an assignment to expulsion from the university. See the Code under Policies - Student Related in the University Policies at www.lakeheadu.ca/faculty-and-staff/policies.

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 posted on D2L and announced in the lecture.