

EWHA WOMANS UNIVERSITY
DEPARTMENT OF MATHEMATICS

Linear Algebra I Syllabus (Spring 2021)

Professor: Yoonjin Lee**Text:** *Linear Algebra* by S. Friedberg et al (4th ed.), Pearson 2013**References:***Elementary Linear Algebra* by Larson and Edwards, Houghton Mifflin Company*Linear algebra with applications* by O. Bretscher, Prentice Hall*Linear algebra* by Jim Hefferon (A free linear algebra text in <http://joshua.smcvt.edu/linearalgebra/>)*Elementary Linear Algebra* by Ron Larson (7th ed.), Brooks/Cole Cengage Learning 2013**Course Description:**

We learn vector spaces, matrices, linear transformations, systems of linear equations, determinants and so forth. In detail, we learn the basic theory of vector spaces in Chapter 1, and linear transformations and their relationship to matrices in Chapter 2. In Chapter 3 we learn how to solve systems of linear equations by applying the vector space theory and linear transformations, and in Chapter 4 we study determinants. If time permits, we study eigenvalues and eigenvectors and Caley-Hamilton Theorem in Chapter 5.

Course Outline:

Chapter 1. Vector Spaces

Chapter 2. Linear Transformations and Matrices

Chapter 3. Elementary Matrix Operations and Systems of Linear Equations

Chapter 4. Determinants

Grading Scheme:

HW Assignments: 10%

Two Quizzes: 10% (= 5% + 5%)

One Computer Project: 10%

Midterm (April 14 (Wed.)): 35%

Final Exam (June 9 (Wed.)): 35%

Grades and policy:

- * You will be evaluated throughout the whole semester by means of one midterm exam, a comprehensive final exam, two maple projects and weekly homeworks.
- * *Attendance of class and TA session* is very important to complete the course, and it may be affected to your grade.
- * Make-up exams and make-up quizzes will not be given.
- * No late homeworks and projects will be accepted.

Class expectations:

Students are expected to attend all the lectures. You have to spend enough time for reviewing the material on a regular basis. The best way to learn the material is to spend enough time thinking about the homework problems virtually every day as our class progresses. In addition, you are encouraged to discuss the homework assignments with others, but you must write up your own solutions and turn them in individually.