MAT222
Linear Algebra
Spring 2024

Instructor:	Mehmet Cenkci
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Time:	Wednesday 13.30-15.20 & Thursday 13.30-15.20
Room:	Amfi 4 & Amfi 3

Course Description:
This is an undergraduate course in linear algebra for students of engineering. Linear algebra is the study of linear systems of equations, vector spaces, and linear transformations. Solving systems of linear equations is a basic tool of many mathematical procedures used for solving problems in science and engineering. In this class we will concentrate on the mathematical theory and methods of linear algebra.

Course Objectives:
- The student will become capable in solving linear equations, performing matrix algebra, calculating determinants, and finding eigenvalues and eigenvectors.
- The student will come to understand a matrix as a linear transformation relative to a basis of a vector space.
- The student will become comfortable with the Euclidean n-space and be exposed to vector spaces.

Suggested Textbooks:
1. H. Anton, C. Rorres, Elementary Linear Algebra, 9th Ed., John Wiley & Sons Inc., 2005.
2. T.S. Shores, Applied Linear Algebra and Matrix Analysis, Springer, 2007.
3. G. Strang, Introduction to Linear Algebra, Wellesley-Cambridge Press, 2003.
4. E. Kreyszig, Advanced Engineering Mathematics, 10th Ed., Wiley, 2011 (Sections 7 and 8).

Grading Policy:
- Midterm: One midterm is planning. It will be held in the midterm week, which is going to be determined by the faculty. Midterm grade is worth 30%.
- Homework assignments: Five homework assignments are planning during the semester. When solutions to all of them are delivered, the arithmetic mean of the top three grades will be assigned as homework grade worth 20%.
- Homework assignment delivery dates:
  First homework: March 6, 2024.
  Second homework: March 27, 2024.
  Third homework: April 24, 2024.
  Fourth homework: May 8, 2024.
  Fifth homework: May 22, 2024.
- Final (and makeup): Worth 50%

****Please Note****
All communication and sharing assignments, solutions to them, solutions to exams, will be via TEAMS. So, it is your responsibility to let your devices to have all the notifications from TEAMS.

Contents (More or less):

1. Systems of Linear Equations and Matrices
2. Determinants
3. Euclidean Vector Spaces
4. General Vector Spaces
5. Matrix Transformations
6. Eigenvalues and Eigenvectors

Attendance Policy:
Attendance is mandatory; those who enroll the course for the first time are expected to join at least half of the lectures during semester.

Academic Honesty:
Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Any academic fraud will be severely punished. According to the nature and the severity of the offense (which is, of course, evaluated by the instructor rather than the offender), there may be possible sanctions that include but are not limited to: (1) Assigning a grade of **zero** to the assignment; (2) Assigning a final grade of **zero** for the whole course; (3) Conducting to the disciplinary committee.