

**Ankara University
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Syllabus

Code and name of the course	MTH120 LINEAR ALGEBRA
Instructor(s)	Elif TAN
Level	Undergraduate
Course Duration	14 weeks
Course description	Systems of linear equations. Matrices. Solving linear systems. Determinant. Vector spaces. Spanning set and linear independency. Base and dimension. Linear transformations. Linear transformations and matrices. Inner product spaces. Diagonality. Characteristic equations, eigenvalues and eigenvectors and Jordan form.
Course aims & Objectives	<p>Understand the basic concepts of matrix algebra</p> <p>Solve systems of linear equations and compute inverse of a square matrix.</p> <p>Compute the determinant of a matrix.</p> <p>Understand the basic concept of vector spaces, basis, dimension, and linear transformations and compute the matrix representations of some linear transformations</p> <p>Compute eigenvalues and their corresponding eigenvectors. Determine if a matrix is diagonalizable, and if it is diagonalizable, show how to diagonalize it.</p> <p>Understand the basic concept of inner product spaces and use the Gram-Schmidt process to find an orthonormal basis.</p>
Language of Instruction	English
Prerequisites	-
Recommended Sources	<p>1) B. Kolman and D.R. Hill. Elementary Linear Algebra with Applications. Pearson I.E. (9th Edition)</p> <p>2) L.Spence,A. Insel, S. Friedberg. Elementary Linear Algebra A Matrix Approach. Pearson I.E. (2nd Edition)</p>
Course credit	3 credits
Laboratuvar	-
Others-1	-