

EE 501 Linear Systems Theory I

Fall 2012

Instructors:

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References:

- M.A. Callier, C.A. Desoer, **Linear Systems Theory**, Springer-Verlag, 1991,
- C.A. Desoer, **Notes for a Second Course on Linear Systems**, Van Nostrand Reinhold, 1970,
- P. D. Lax, **Linear Algebra**, Wiley, 2004,
- T. Kailath, **Linear Systems**, Prentice-Hall, 1980,
- S. Axler, **Linear Algebra Done Right**, Springer, 1997,
- G. Strang, **Linear Algebra and its Applications**, 3rd Ed. San Diego: Harcourt, Brace, Jovanovich Publishers, 1988.

Tentative Course Schedule:

Week	SUBJECT
1-2	Algebraic structures defined on sets: Fields and vector spaces
3	Properties of vector spaces, linear transformations on vector spaces
4	Matrix representations of linear transformations
5	<i>No classes (Kurban Bayramı)</i>
6	Normed 'vector' spaces, sequences and series in normed spaces
7	Inner product spaces, orthogonality (1 st Midterm)
8	Direct sum decompositions, projection theorem
9	Orthogonal projections
10	Systems of linear equations, Hermitian matrices
11	Fourier series representations
12	Characteristic and minimal polynomials (2 nd Midterm)
13	Block diagonal forms
14	Jordan canonical form
15	Introduction to functions of a matrix

Midterm Dates: November 07, 2012, Wednesday 17:30 (1st MT), December 12, 2012, Wednesday 17:30 (2nd MT)

Grading: MT1 %30, MT2 %30, Final %40

Final and NA Criteria: The students who fail to take both MT1 and MT2 without an official excuse will directly get the grade "NA".