



ECEN 5713 Linear Systems

Spring 2001

Syllabus



- Time:** Tuesday/Thursday 9:00-10:15 AM
- Place:** Cordell 127
- Text:** *Lecture Notes* to be distributed via Web
- References:**
Modern Control Theory, 3rd edition, William L. Brogan
Prentice-Hall, 1991 (eewlb@ee.unlv.edu)
Linear Systems, Panos Antsaklis and Anthony Michel
McGraw-Hill, 1997 (antsaklis.1@nd.edu)
Linear System Theory and Design, Chi-Tsong Chen
Oxford, 1984 (ctchen@sbee.sunysb.edu)
Linear Systems, Thomas Kailath
Prentice-Hall, 1980
- Instructor:** Professor Gary G. Yen
<http://www.okstate.edu/elec-engr/faculty/yen>
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Office Hours: Tuesday/Thursday 10:30AM-2:00PM; 3:30PM-5:00 PM; or by appointment only
- Objectives:** To study the fundamental theory of finite-dimensional linear system with emphasis on the state-space representation and its solution. The topics include
- mathematical basis-
matrix theory, linear algebra, vector space
 - system representation-
input-out operator, geometric approach,
state space representation, transfer function algorithm
 - conversion of alternative representations
 - linear dynamical solution
 - controllability, observability, stability and control
 - linearization and minimal realization
 - state feedback and state estimation
- Grading:**
- | | |
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| 10 Weekly Homework Assignments | 20% |
| 1/25, 2/1, 2/8, 2/15, 3/8,
3/15, 3/29, 4/5, 4/24, 5/1 | |
| Midterm Exam 1 (March 1, 9:00-10:30 AM) | 25% |
| Midterm Exam 2 (April 17, 9:00-10:30 AM) | 25% |
| Final Exam (May 7, 8:30-10:20 AM) | 30% |
| A-85% above; B-76%-85%; C-66%-75%; D-65% below | |
- Note:** All exams are open notes, but close book.