ECEN 5713 Linear System  
Spring 2000

Time:  
Tuesday/Thursday 9:00-10:15 AM

Place:  
Cordell 128

Text:  
*Linear Systems*, Panos Antsaklis and Anthony Michel  
McGraw-Hill, 1997 (antsaklis.1@nd.edu)

References:  
*Modern Control Theory*, 3rd edition, William L. Brogan  
Prentice-Hall, 1991 (eewlb@ee.unlv.edu)  
*Linear System Theory and Design*, Chi-Tsong Chen  
Oxford, 1984 (ctchen@sbee.sunysb.edu)  
*Linear Systems*, Thomas Kailath  
Prentice-Hall, 1980  
*Linear Systems*, Ray DeCarlo  
Prentice-Hall, 1989

Instructor:  
Professor Gary G. Yen,  
http://www.okstate.edu/elec-engr/faculty/yen  
405-744-7743, gyen@master.ceat.okstate.edu  
Engineering South 202D  
Office Hours: Tuesday/Thursday 10:30 AM-12:00 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:  
10 Weekly Homework Assignments  20%  
1/20, 1/27, 2/3, 2/10, 2/17,  
3/9, 3/23, 4/13, 4/20, 4/27  
Midterm Exam 1 (March 2)  25%  
Midterm Exam 2 (April 6)  25%  
Final Exam (May 2, 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.