ECEN 5713 System Theory
Spring 1997

Time: Tuesday/Thursday 2:00-3:15 PM

Place: Engineering South 302

Prerequisites: Graduate Standing

Text: *Modern Control Theory*, William L. Brogan
Prentice-Hall, 1991 (eewlb@ee.unlv.edu)

References: *Linear Systems*, Thomas Kailath
Prentice-Hall, 1980
Linear System Theory and Design, Chi-Tsong Chen
Sanders, 1984
Linear Systems, Ray DeCarlo
Prentice-Hall, 1989

Instructor: Professor Gary G. Yen
744-7743, gyen@master.ceat.okstate.edu
Engineering South 202
Office Hours: Tuesday/Thursday 3:30-5:00 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
- controllablity, observability, stability and control
- linearization and minimal realization
- state feedback and state estimation

Grading:
10 Weekly homework assignments	20%
1/21, 1/28, 2/4, 2/11, 2/25	
3/4, 3/18, 3/25, 4/8, 4/15	
Midterm Exam 1 (February 18)	20%
Midterm Exam 2 (April 1)	20%
Final Exam	40%

Note: All exams are open book and class notes. You may use any references that may desire during exams.