



# ECEN 3723 Systems I

## Fall 2001

### Syllabus



- Time:** Tuesday/Thursday 2:00-3:15 PM
- Place:** Classroom Building 207
- Prerequisite:** ENGSC 2613- Introduction to Electrical Science  
MATH 2613- Differential Equations
- Text:** *System Dynamics*  
Katsuhiko Ogata, Prentice-Hall, 1998
- References:** *Discrete-time and Continuous-time Linear Systems*  
Robert J. Mayhan, Addison-Wesley, 1984  
*Signals and Systems- an Introduction*  
Leslie Balmer, Prentice-Hall, 1991  
*Signals, Systems and Transforms*  
Charles L. Phillips and John M. Parr, Prentice-Hall, 1995
- Instructor:** Professor Gary G. Yen, Engineering South 404  
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Office Hours: Tuesday/Thursday 8:00AM-10:00AM;  
1:00PM-2:00 PM; 3:30-5:00PM or by appointment only
- Objectives:** To introduce some basic tools needed for signal and system analysis and design applicable to dynamic controls through mathematical derivations and computer simulations.  
The topics include
- signals and systems representation
  - *Laplace* transform
  - solving differential equations
  - *z* transform
  - solving difference equations
  - modeling of electrical systems
  - modeling of mechanical systems
  - time-domain analysis
  - frequency-domain analysis
  - state space model and its solution
- Grading:**
- |  |            |
|--|------------|
| 10 Weekly Homework Assignments                                 | <b>20%</b> |
| 8/30, 9/6, 9/13, 9/20, 10/9, 10/16, 10/23, 10/30, 11/15, 11/27 |            |
| Computer Simulation Project                                    | <b>10%</b> |
| Midterm Exam 1 (September 27, 2:00-3:30 PM)                    | <b>20%</b> |
| Midterm Exam 2 (November 6, 2:00-3:30 PM)                      | <b>20%</b> |
| Final Exam (December 11, 2:30-4:20 AM)                         | <b>30%</b> |
- A**-85% above; **B**-76%-85%; **C**-66%-75%; **D**-56%-65%; **F**-55% below
- Note:** All exams are open notes, but close book.