ECEN 3413 Controls I
Spring 1998

Time: Tuesday/Thursday 10:30AM-11:45 AM

Place: Human Environmental Sciences (HES) 316

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,
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Engineering South 202
Office Hours: Tuesday/Thursday 2:00-5:00 PM
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	20%
1/20, 1/27, 2/3, 2/10, 2/26, 3/5, 3/17, 3/24, 4/14, 4/21	
Computer Design Project	10%
Midterm Exam 1 (February 19)	20%
Midterm Exam 2 (April 2)	20%
Final Exam (May 7)	30%

Note: All exams are open book and class notes.