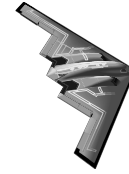# ECEN 3723 Systems I
Spring 2003
Syllabus

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

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

Modeling and Analysis of Dynamic Systems
Charles Close, Dean Frederick and Jonathan Newell,
John Wiley, 2002

Automatic Control Systems
Benjamin Kuo, Prentice-Hall, 1995

Instructor: Professor Gary G. Yen, Engineering South 404
http://www.okstate.edu/elec-engr/faculty/yen
405-744-7743, 405-744-9198 (fax), gyen@okstate.edu
Office Hours: Tuesday/Thursday 10:30AM-12:00PM;
3:30PM-5:00PM; or by appointment only

TA: TBD (weekly homework help session)

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, transfer functions
- *z* transform
- solving difference equations, transfer functions
- modeling of electrical systems
- modeling of mechanical systems
- modeling of fluid and thermal systems
- time-domain analysis
- frequency-domain analysis
- state space model and its solution
- block diagrams and feedback control systems

Grading:	10/11 Weekly Homework Assignments	**20%**
	Tentative schedule-	
	1/23, 1/30, 2/6, 2/13 (before the first midtem)	
	2/27, 3/6, 3/13, 3/27 (before the second midterm)	
	4/15, 4/22, 4/29	
	3/15-324 Spring Break	
	Midterm Exam 1 (February 27, 2:00-3:30PM)	**20%**
	Oral Presentation (March 27, 2003)	**10%**
	Midterm Exam 2 (April 10, 2:00-3:30PM)	**20%**
	Computer Simulation Project (May 2, 5:00PM)	**10%**
	Final Exam (May 8, 2:00-3:50PM)	**30%**

A-85% above; **B**-76%-85%; **C**-66%-75%; **D**-56%-65%; **F**-55% below
No makeup exams will be given.

Note:	All exams are open notes, but close book.
Drop and Add:	The instructor will follow University, College and Departmental guidelines for drops and adds. Consult the calss schedule book or Ms. Rea Maltsberger in Engineering South 202 for more information.
Attendance:	Students will be expected to attend class. Habitual failure to do so will result in a reduced grade. Class attendance is taken occasionally for reference.
	An incomplete grade will only be given when a student misses a portion of the semester because of illness or accident. All (I) grades must be completed within thirty days.
Academic Dishonesty:	Cheating on homework, quizzes or examinations, plagiarism and other forms of academic dishonesty are serious offenses and will subject the student to serious penalties.
	On the first instance of academic dishonesty, the student will receive a grade of zero for the assignment, quiz or examination, and a letter will be placed in the student's academic file. The second instance will result in a grade of "F" for the course.
Disability Impairment:	If any member of the class feels that he/she has a disability and needs special accommodations of any nature whatsoever, the instructor will work with you and the University Office of Disabled Student Services to provide reasonable accommodations to ensure that you have a fair opportunity to perform in this class. Please advise the instructor of such disability and the desired accommodations at some point before, during, or immediately after the first scheduled class period.
Class Website:	You are advised to check on class website at http://www.okstate.edu/elec-engr/faculty/yen/spring03.html

regularly for important information, such as handouts, homework assignments, schedule changes, old exams and etc.