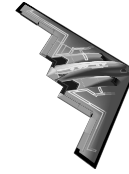


ECEN 3723 Systems I

Fall 2002

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@ceat.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 Weekly Homework Assignments **20%**
Tentative schedule-
8/29, 9/5, 9/12, 9/19 (before the first midtem)
10/10, 10/17, 10/24, 10/31 (before the second midterm)
11/19, 11/26
10/5-10/9 Spring Break; 11/28-11/29 University Holidays
Midterm Exam 1 (October 1, 2:00-3:30PM) **20%**
Midterm Exam 2 (November 12, 2:00-3:30PM) **20%**
Computer Simulation Project (December 5, 5:00PM) **10%**
Final Exam (December 10, 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/fall02.html> regularly for important information, such as handouts, homework assignments, schedule changes, old exams and etc.