ECE 4413 - Control System Engineering
Spring 1999

Usage1997-99 Catalog Data: **G4413 Introduction to Control System Engineering**. Prerequisite: 3793. Analysis and synthesis of control systems; control systems performance and applications. (F)

Prerequisite: ECE 3793

Textbook: Ogata. Modern Control Engineering, Prentice Hall. Ogata. Solving Control Engineering Problems with Mat Lab, Prentice Hall

References: None

Prerequisites by Topic:

1. Laplace transforms
2. Differential equations
3. State space methods

Topics:

1. Modeling
2. Basic control actions
3. Time domain & Frequency domain analysis
4. Root locus analysis
5. Nyquist diagrams and relative stability analysis
6. Controller design

Schedule: 2 Lectures per week 75 minutes per lecture

Computer:

1. Most homework requires usage of a computer to make bode diagrams, Nyquist diagrams, and root locus plots for various system.
2. Computers are used on homework for compensator design of lead, lag, and lead/lag filters.

Design Projects: Robot Design Project - Paper, Demonstration and Report, Teams

Laboratory Projects: None

Assessment Methods Used: Standard Course Evaluations

Contribution to Professional Component:

Engineering Science - 1 credit or 33%
Engineering Design - 2 credits or 67%

Program Objectives, Related Strategy, and Actions:
2iii, 3ii, 5ii

ABET 2000 Criterion 3 Contents:
a,b,c,k

Prepared by: John Fagan Date: June 11, 1999