

First Tentative Meeting January 17, 2012

**Instructor:**

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**Textbook :**

Feedback Control of Dynamic Systems, Sixth Edition by Gene F. Franklin, J. David Powell, Abbas Emami-Naeini

**Software:**

MATLAB & Simulink

**Class Schedule:**

TR: 11:00-12:15 A.M., Workman 117

**Office Hours:**

M,W, F: 10:00-11:00 A.M, TR: 9:00-10:00 A.M.

**Prerequisites**

Courses in and/or knowledge of Laplace transform, Complex numbers, Linear algebra, and ODE.

**Course Overview:**

The objective of the course is to develop an understanding of concepts and terminology associated with feedback control systems, modeling and simulation of dynamic systems, and system response and stability.

**Grading:**

- Homework: 20%
- Participation: 20%
- Two exams: 20%
- Mid-term project: Demonstration (10%), Report (10%) (Assigned individually)
- Final project: Proposal, Presentation (10%), Report (10%) (Assigned to teams of 1 – 2 members)

**Note:** Each student will have to demonstrate the project to get full credit. A 20% deduction applies to late homework, demonstrations, and reports.

**Topics:**

- Overview of Feedback Control
- Dynamic Models
- Dynamic Response
- A First Analysis of Feedback
- The Root-Locus Design Method
- The Frequency-Response Design Method
- State Space Design