

**University of Wisconsin - Madison**  
**Department of Electrical and Computer Engineering**

**ECE332 - Feedback Control Systems**  
**Fall 2007**

**Course Administration and Outline**

Instructors: Professor Ian Hiskens, 2554 Engineering Hall  
Phone: (608) 261-1096; Email: [hiskens@engr.wisc.edu](mailto:hiskens@engr.wisc.edu)  
Office hours: Tuesday 10:00-11:00am, Friday 1:00-2:00pm

Ashwin Ganesan (TA), B632 Engineering Hall  
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Discussion session: Monday 6:00-7:30pm, Room 3534 EH  
Office hours: Tuesday 2:00-4:00pm, Room B632 EH

Required text: R.C. Dorf and R.H. Bishop, *Modern Control Systems*, 11th Edition,  
Pearson Prentice Hall, 2008.

Web Site: <http://courses.engr.wisc.edu/ece/332/hiskens>

Software: The CAE supported package MATLAB will be useful. An introduction to this package is provided in Appendix A of the Dorf text.

Homework: Roughly bi-weekly problem sets will be assigned, due Wednesdays.

Exams: A mid-term exam will be held on the evening of Wednesday, October 24.  
*Please report conflicts early.*  
The final exam is set for Saturday, December 22, 10:05am.

Grading Policy: Homework 30%; Mid-term exam 25%; Final exam 45%.

Topics:

1. Overview and objectives of feedback control systems (Dorf, Chapter 1)
2. Mathematical representations of dynamical systems (Dorf, Chapter 2)
3. Introduction to feedback control of linear systems (Dorf, Chapter 4)
4. Characterizing performance of control systems (Dorf, Chapter 5)
5. Introduction to stability of linear systems (Dorf, Chapter 6)
6. Root locus methods (Dorf, Chapter 7)
7. Frequency response methods (Dorf, Chapter 8)
8. Classical design methods (Dorf, Chapter 10)