

University of Illinois at Chicago
Department of Mechanical and Industrial Engineering
ME 312 - Dynamic Systems and Control

Instructor: Professor Sabri Cetinkunt
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Textbook: Modeling of Dynamic Systems, Ogata, K.

Additional Recommended Textbooks:

Modern Control Systems, Dorf, R., Addison-Wesley, 1988.

Prerequisite: Math 220, ME 308.

Grading: Exam 1 : 15%
Exam 2 : 15%
Final : 30%
Homework: 40%

Remarks: No late homework accepted. Class uses MATLAB extensively. MATLAB is available in ME Undergraduate CAD lab (ERF 1014) and in all PCs in SEL 2249.

Course Outline

Topic	Chapter	# Lectures
Introduction to dynamic systems	Ch. 1	1
Review of Differential Equations	Notes	3
Laplace transforms, partial fraction expansions	Notes	6
Mathematical modeling, linearization	Ch. 2	6
Mathematical modeling, nonlinear models and simulation	Notes	6
Block diagram model representation		3
Modeling of electro-mechanical systems	Notes	3
Modeling of thermal systems	Notes	3
Root locus method	Ch. 4	6
Frequency response methods	Ch. 5	6
2 Exams		2

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