

Calendar – Summer - 2012

ES205 Analysis and Design of Engineering Systems

Class	Day	Date	Topics	Reading	HW	Due
01	M	4 Jun	Introduction, Modeling, Springs	Chapter 1	Le01/HW1	
02	M	4 Jun	Dampers and Standard Model Forms	2.1, 2.2	Le02/HW2	
03	T	5	Gears & Standard Model Forms	Chapter 3	Le03/HW2	HW1
04	T	5	Mechanical Systems Problems, Gears	2.4	Le04/HW2	
05	R	7	Mechanical Systems Problems, Levers	2.3	Le05/HW3	
06	R	7	RLC Circuits and Op-Amps (Review)	4.1	Le06/HW3	HW2
07	M	11	Electrical Systems	4.2	Le07/HW3	
08	M	11	DC Motors, Armature-Controlled	4.3	Le08/HW3	
09	T	12	DC Motors, Field-Controlled	4.3	Le09/HW4	
10	T	12	Review Problems			HW3
11	R	14	Exam 1 (Le 1-10)			
12	R	14	Laplace Solns. to 1 st - and 2 nd -Order Systems	Chapter 7	Le12/HW4	
13	R	14	Laplace Solns. to 1 st - and 2 nd -Order Systems	Chapter 7	Le13/HW4	
14	T	19	Solving DEs with Matlab	Chapter 8	Le 14/HW5	
15	T	19	Performance Specifications	7.5	Le15/HW5	HW4
16	T	19	Tank Draining Problems	Chapter 5	Le16/HW5	
17	R	21	Tank Draining Problems	5.3	Le17/HW6	
18	R	21	Convection, Conduction, and Radiation	6.1, 6.2	Le18/HW6	HW5
19	M	25	Thermal Capacitance and Lumped Parameters	6.3, 6.4	Le19/HW6	
20	M	25	Introduction to Frequency Response	10.1, 10.2	Le20/HW7	
21	T	26	Frequency Response	10.3	Le21/HW7	HW6
22	T	26	Review Problems			
23	R	28	Exam 2 (Le 12-22)			
24	R	28	Frequency Response Sketching	10.4	Le24/HW7	
25	M	2 Jul	Frequency Response Sketching		Le25/HW8	HW7

Class	Day	Date	Topics	Reading	HW	Due
26	M	2	Frequency Response		Le26/HW8	
27	R	5	Feedback Controls	11.1, 11.2, 11.3	Le27/HW8	
28	R	5	Feedback Controls	TBD		HW8

Lab Schedule (Tentative – There may be adjustments as the quarter progresses.)

Lab 1	Module: Block Diagrams and Simulation Diagrams Module: Simulink Tutorial	Lab1 Worksheet
Lab 2	Module: Introduction to Model Characteristics Module: Matlab Tutorial	Lab2 Worksheet
Lab 3	Module: Team Rating Exercise Lab: 2 nd Order Response Characteristics	Lab 3 Worksheet
Lab 4	Module: Guidelines for Technical Writing Lab: Time Domain System Identification	
Lab 5	Lab: Tank-Draining Experiment Module: Team Citizenship Ratings	Lab 4 Report
Lab 6	Module: Log-Incomplete Response Lab: Thermocouple Parameter Identification	Lab6 Worksheet
Lab 7	Module: Preparing and Giving Technical Talks Lab: Frequency Response using Matlab	Lab5 Report Lab7 Worksheet
Lab 8	Lab: Mass-Spring System Frequency Response	Lab8 Worksheet
Lab 9	Technical Talks Team Citizenship Ratings, Course Evaluations	Technical Talk
