ECE 3510

A. Stolp

Tentative

01/07/07

Spring 2007 COURSE SCHEDULE

Week		Date	lect	Topics	Textbook
1	M	01/08	1	Introduction to Feedback Systems, Block diagrams	1.1
	W	01/10	2	Transfer functions and signals, The Laplace transform of signals	2.1
	H	01/11	3	The Laplace transform, Relationship between pole locations and signal shapes	2.1
	F	01/12	4	Inverse of Laplace transforms using partial fraction expansions	2.2
2	M	01/15		Martin Luther King Day	
	W	01/17	5	Inverse of Laplace transforms using partial fraction expansions	2.2
	H	01/18	6	Inverse of Laplace transforms, Properties of signals	2.3
	F	01/19	7	Transfer functions and interconnected systems, Feedback system	3.1
3	M	01/22	8	Stability, Effect of zeros	3.2
	W	01/24	9	Responses to step inputs	3.3
	H	01/25	10	Responses to sinusoidal inputs	3.4
	F	01/26	11	Effect of initial conditions	3.5
4	M	01/29	12	State-space representations	3.6
	W	01/31	13	Review	
	H	02/01		Exam 1	
	F	02/02	14	State-space representations	3.6
5	M	02/05	15	Electrical analogies of mechanical systems	Notes
	W	02/07	16	Electrical analogies of mechanical systems	Notes
	H	02/08	17	Electrical analogies of mechanical systems	Notes
	F	02/09	18	Stability and Performance of Control Systems	4.1
6	M	02/12	19	Control system characteristics	4.1
	W	02/14	20	Steady-state error and integral control	4.2
	H	02/15	21	Routh-Hurwitz stability test	4.3
	F	02/16	22	Routh-Hurwitz, Root-locus method	4.4
7	M	02/19		Presidents Day	
	W	02/21	23	Root-locus method	4.4
	H	02/22	24	Root-locus method	4.4
	F	02/23	25	Root-locus method	4.4
8	M	02/26	26	Feedback design for phase-locked loops	4.5
	W	02/28	27	Review	
	H	03/01		Exam 2	
	F	03/02	28	Feedback design for phase-locked loops	4.5
9	M	03/05	29	Frequency-Domain Analysis of Control Systems	5.1
	W	03/07	30	Bode Plots	5.1
	H	03/08	31	Bode Plots	5.1
	F	03/09	32	Bode Plots	5.1
10	M	03/12	33	Nyquist criterion of stability	5.2
	W	03/14	34	Nyquist criterion of stability	5.2
	H	03/15	35	Nyquist criterion of stability	5.2
	F	03/16	36	Gain and phase margins	5.3
	M	03/19		Spring Break	
	F	03/23			

11	M	03/26	37	Gain and phase margins	5.3
	W	03/28	38	Gain and phase margins	5.3
	H	03/29	39	Discrete-time Signals and Systems	6.1
	F	03/30	40	The z-transform	6.1
12	M	04/02	41	Properties of the z-transform	6.2
	W	04/04	42	Review	
	H	04/05		Exam 3	
	F	04/06	43	Inversion of z-transforms	6.3
13	M	04/09	44	Inversion of z-transforms	6.3
	W	04/11	45	Discrete-time systems	6.4
	H	04/12	46	Discrete-time systems	6.4
	F	04/13	47	Sampled-data systems	7.1
14	M	04/16	48	Continuous to discrete conversion	7.1
	W	04/18	49	Continuous to discrete conversion	7.1
	H	04/19	50	Discrete to continuous conversion	7.2
	F	04/20	51	Discrete to continuous conversion	7.2
15	M	04/23	52	Equivalent system	7.4
	T	04/24		Mechanical Engineering Design Day in the Union Ballroom	
	W	04/25	53	Discrete-time implementation of continuous-time transfer functions	7.4
	H	04/26	54	Reading Day	
16	H	05/03		Final Exam, 10:30 -12:30	

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