EE331 Spring 2009 Syllabus

Date	Lec	Topic	Reading	Homework Assigned	Practical Exercise
WEEK 1					
W 1/7	1	Review: Current, Voltage, Resistance Power, Passive Sign Convention	A4-17		
F 1/9	2	Ohm's Law, KCL, KVL, Measurement of Voltage, Current and Resistance	A30-43	PS1	PE1
WEEK 2					
M 1/12	3	Analysis of Series and Parallel Circuits; Voltage and Current Dividers	A43-52	PS2	
W 1/14	4	Voltage and Current Divider Problem Solving; General Resistance Combination	A43-52	PS3	PE2
F 1/16	5	Practical Sources and Meters; Node Voltages	A58-64 A82-83	PS4	PE3
WEEK 3					
Tu 1/20	6	Nodal Analysis (no supernoding)	A82-92	PS5	
W 1/21	7	Thevenin's Theorem	A139-145	PS6	PE4
F 1/23	8	Thevenin Analysis Applied to Maximum Power Transfer	A150-152	PS7	PE5
WEEK 4					
M 1/26	9	Op Amps: Open vs Closed-Loop; Principle of the Virtual Short; Inverting Amplifier	A176-183	PS8	
W 1/28	10	Op Amps: Summing Amplifier, Non-Inverting Amplifier, Buffer, Difference Amplifier	A183-188	PS9	PE6
F 1/30	11	Op Amp Problem Solving and Review	A176-188	PS10	PE7
WEEK 5					
M 2/2		**EXAM 1**: Lectures 1-11		Review	
W 2/4	12	Linear Motors	USNA 23-31		PE8
F 2/6	13	PM DC Motors: Construction, Operation, and Equivalent Circuit Model	USNA 33-50		(PE9)
WEEK 6					
M 2/9	14	PM DC Motor: Speed Control	USNA 50-57		
W 2/11	15	PM DC Motor: Problem Solving			PE9 or PE10
F 2/13	16	Capacitors and Inductors	A216-233		PE10 or Practice
WEEK 7					
M 2/16		**HOLIDAY**: President's Day			
W 2/18	17	RC and RL Transient Analysis	A254-265 A273-284		PE11 Exercise
F 2/20	18	Sinusoids, Phasors, Leading and Lagging, O-scopes, RMS Values	A370-384 A467-468		PE12
WEEK 8					
M 2/23		**Lab Practical Exam**			
W 2/25	19	AC Analysis: Phasors and Impedance	A385-395		PE13
F 2/27	20	AC Analysis: Dividers and Nodal	A414-417		PE14

WEEK 9					
M 3/2	21	AC Analysis: Thevenin	A426-430		
W 3/4		Review/Group Work			PE15
F 3/6	22	Single-Phase AC Power	A457-464 A470-477		PE16
WEEK 10					
M 3/9		**EXAM 2**: Lectures 12-21			
W 3/11	23	Complex Power and Power Factor	A470-480		PE17
F 3/13	24	Power Triangle and Power Factor Correction	A481-483		PE18
3/16 – 3/20: Spring Break					
WEEK 11					
M 3/23	25	Ideal Single-Phase Transformers	A573-580		
W 3/25	26	Power Distribution and Three-Phase AC	A573-580 A504-508		PE19
F 3/27	27	Three-Phase AC Analysis; Per-Phase Equivalent Circuits	A509-519		PE20
WEEK 12					
M 3/30	28	Three-Phase AC: Per-Phase Equivalent Circuit and Power Calculations	A519-525		
W 4/1	29	Three-Phase AC: Power Calculations			PE21
F 4/3	30	Synchronous Machines	USNA 66-81		
WEEK 13					
M 4/6	31	Synchronous Machines	USNA 81-102		
W 4/8		Review/Group Work			PE22
F 4/10		**EXAM 3**: Lectures 22-31			
WEEK 14					
M 4/13	32	Diodes and Half-Wave Rectifiers	Lec. 32 Notes		
W 4/15	33	Full-Wave Rectifiers and Capacitor Filtering	Lec. 33 Notes		PE23
F 4/17	34	Filtering Simplification	Lec. 34 Notes		PE24
WEEK 15					
M 4/20	35	Zener Diode Regulators	Lec. 35 Notes		
W 4/22	36	Power Supply Design	Lec. 36 Notes		PE25
F 4/24	37	Power Supply Design and Course Review			PE26
WEEK 16					
M 4/27		Guest Lecture Comp Day			
W 4/29		Reading Day Review (optional): 1530, RI-103			
TBA		**FINAL EXAM**			