EE320 Fall 2009 Syllabus

Date	Lec	Topic	Reading	Homework Assigned	Solution
WEEK 1					
M 8/24	1	Course Introduction; Root-Mean-Square (RMS) Values	467-470	PS1	Solution
T 8/25	2	HR1: AC Analysis Review HR2: **Lab 1**: AC Measurements Multisim Tutorial	370-391 414-421	PS2	Solution
W 8/26	3	Single-Phase Power: Instantaneous and Real (Average) Power	457-464	PS3	Solution
WEEK 2					
M 8/31	4	Single-Phase Power: Reactive, Apparent, and Complex Power	470-480	PS4	Solution
T 9/1		**Lab 2:** Single-Phase Power			
W 9/2	5	Single-Phase Power: Power Factor Correction	481-483	PS5	Solution
WEEK 3					
M 9/7		**HOLIDAY**: Labor Day			
T 9/8 (M Sched)	6	Three-Phase: Sources and Loads	504-508	PS6	Solution
W 9/9	7	Three-Phase: Circuit Analysis	509-519	PS7	Solution
WEEK 4					
M 9/14	8	Three-Phase: Circuit Analysis	509-519	PS8	Solution
T 9/15		**Lab 3:** Power Factor Correction			
W 9/16	9	Three-Phase: Power Calculations	519-525	PS9	Solution
WEEK 5					
M 9/21	10	Three-Phase: Power Calculations	519-525	PS10	Solution
T 9/22		**Lab 4:** Three-Phase Circuits			
W 9/23	11	Problem-Solving Session Practice Problem Solutions			
WEEK 6					
M 9/28		**EXAM #1:** Lectures 1-11			
T 9/29	12	HR1: **Lab1-4 Exam** HR2: Transformers: Magnetism Concepts and Magnetic Equivalent Circuits	Handout		
W 9/30	13	Transformers: Ideal Transformers	573-580	PS11	Solution
WEEK 7					
M 10/5	14	Transformers: Inductance and Real Transformers	Notes	PS12	Solution
T 10/6		**Lab 5:** Magnetic Equivalent Circuits (Grades Due)			
W 10/7	15	Transformers: Real Transformer Problem Solving	Notes	PS13	Solution
R 10/8		MAPRs Due			
WEEK 8					
M 10/12		**Holiday**: Columbus Day			
T 10/13	16,17	Synchronous Machines: Structure, Principle of Operation, and Induced Voltages Synchronous Machines: Rotating Magnetic Field and Per-Phase Equivalent Circuit	SM Handout 1	PS14	Solution

W 10/14	18	Synchronous Machines: Torque Characteristic and Problem Solving	SM Handout 1	PS15	Solution
WEEK 9					
M 10/19		Synchronous machines problem solving worksheet			
T 10/20		**Lab 6:** Transformers			
W 10/21		Quiz: transformers and synchronous machines			
WEEK 10					
M 10/26		**Lab 7A:** Synchronous Machine #1			
T 10/27		**Lab 7B:** Synchronous Machine #2 and follow-up lab calculations			
W 10/28	19	Rectifiers: Half-Wave and Full-Wave Rectifier Review	Notes	PS16	Solution
WEEK 11					
M 11/2		**EXAM #2:** Lectures 12-18 **Practice Problem Solutions**			
T 11/3		**Lab 8:** Rectifiers			
W 11/4	20	Rectifiers: with Capacitor Filters and Various Loads	Notes	PS17	Solution
WEEK 12					
M 11/9	21	Rectifiers: with Linear Regulator	Notes	Prelab9	Solution
T 11/10		**Lab 9:** Rectifier with Linear Regulator 12-Week Grades Due			
W 11/11		**Holiday**: Veterans' day			
R 11/12		MAPRs Due			
F 11/13		Drop Course Deadline			
WEEK 13					
M 11/16	22	DC/DC Converter: Buck Chopper Operation and Ideal Waveforms	DC/DC Handout: Part 1	PS18	Solution
T 11/17	23	HR1: **Lab 5-9 Exam** HR2: DC/DC Converter: Critical Inductance, Minimum Capacitance, and Capacitor Selection	DC/DC Handout: Part 2	PS19 Due MON	Solution
W 11/18	24	DC/DC Converter: Inductor Design	DC/DC Handout: Part 3	PS20 Due TUE	
WEEK 14					
M 11/23	25	DC/DC Converter: MOSFET as a Switch, Switching Losses	DC/DC Handout: Part 4		
T 11/24		**Lab 10:** DC/DC Converter #1 (Inductor Winding)			
W 11/25 (early sched)	26	DC/DC Converter: MOSFET Gate Drivers	DC/DC Handout: Part 5	PS21	Solution
R 11/26-F 11/27		**Holiday**: Thanksgiving			
WEEK 15					
M 11/30	27	DC/DC Converter: MOSFET and Diode Selection; Heat Sink Design	DC/DC Handouts: Part 6 Part 7 Part 8	PS22	Solution

T 12/1		**Lab 11:** DC/DC Converter #2			
W 12/2	28	DC/DC Converter: PWM Implementation and Design Examples	DC/DC Handouts: Part 9 Part 10		
WEEK 16					
M 12/7		**EXAM #3:** Lectures 19-28 **Practice Problem Solutions**			
T 12/8		**Lab 12:** DC/DC Converter #3			
W 12/9		**Lab 12** cont.; Course Review			
F 12/11		Fall Term Ends			
WEEK 17 +					
M 12/14		**Review & Study Day**			
R 12/15- R 12/22		**Final Exam: Mon DEC 21, 2009 1330-1630** Location: TBD Coverage: Comprehensive **Practice Problem Solutions**			
TBD		**Grades Due**			