EE320 Fall 2008 Syllabus

Date	Lec	Topic	Reading	Homework Assigned	Solution
WEEK 1					
W 8/20	1	Course Introduction; Root-Mean-Square (RMS) Values	467-470	PS1	Solution
R 8/21	2	HR1: AC Analysis Review HR2: **Lab 1**: AC Measurements	370-391 414-421	PS2	Solution
WEEK 2					
M 8/25	3	Single-Phase Power: Instantaneous and Real (Average) Power	457-464	PS3	Solution
W 8/27	4	Single-Phase Power: Reactive, Apparent, and Complex Power	470-480	PS4	Solution
R 8/28		**Lab 2:** Single-Phase Power			
WEEK 3					
M 9/1		**HOLIDAY**: Labor Day			
W 9/3	5	Single-Phase Power: Power Factor Correction	481-483	PS5	Solution
R 9/4		**Lab 3:** Power Factor Correction			
WEEK 4					
M 9/8	6	Three-Phase: Sources and Loads	504-508	PS6	Solution
W 9/10	7	Three-Phase: Circuit Analysis	509-519	PS7	Solution
R 9/11		**Lab 4:** Three-Phase Circuits			
WEEK 5					
M 9/15	8	Three-Phase: Circuit Analysis	509-519	PS8	Solution
W 9/17	9	Three-Phase: Power Calculations	519-525	PS9	Solution
R 9/18		**Lab 5:** Three-Phase Power			
WEEK 6					
M 9/22	10	Three-Phase: Power Calculations	519-525	PS10 Cancelled (turn in Lab 5)	Solution Cancelled
W 9/24	11	Problem-Solving Session Practice Problem Solutions			
R 9/25		**EXAM #1:** Lectures 1-11			
WEEK 7					
M 9/29	12	Transformers: Magnetism Concepts and Magnetic Equivalent Circuits	Handout	PS11	Solution
T 9/30		6-Week Grades Due			
W 10/1	13	Transformers: Ideal Transformers	573-580	PS12	Solution
R 10/2		**Lab 6:** Magnetic Equivalent Circuits			
WEEK 8					
M 10/6	14	Transformers: Inductance and Real Transformers	Notes	PS13	Solution
W 10/8	15	Transformers: Real Transformer Problem Solving	Notes	PS14	Solution
R 10/9		**Lab 7:** Transformers #2			
WEEK 9					
M 10/13		**Holiday**: Columbus Day			
W 10/15	16	Synchronous Machines: Structure, Principle of Operation, and Induced Voltages	SM Handout 1		
R 10/16	17	Synchronous Machines: Rotating Magnetic Field and Per-Phase Equivalent Circuit		PS15	Solution

WEEK 10					
M 10/20	18	Synchronous Machines: Torque Characteristic and Problem Solving		PS16	Solution
W 10/22		**Lab 8A:** Synchronous Machine #1			
R 10/23		**Lab 8B:** Synchronous Machine #2			
WEEK 11					
M 10/27	19	Rectifiers: Half-Wave and Full-Wave Rectifier Review	Notes	PS17	Solution
W 10/29		**Lab 9:** Rectifiers			
R 10/30		**Practice Problem Solutions** **EXAM #2:** Lectures 12-18			
WEEK 12					
M 11/3	20	Rectifiers: with Capacitor Filters and Various Loads	Notes	PS18	Solution
T 11/4		12-Week Grades Due			
W 11/5	21	Rectifiers: with Linear Regulator	Notes	Prelab10	Solution
R 11/6		**Lab 10:** Rectifier with Linear Regulator			
WEEK 13					
M 11/10	22	DC/DC Converter: Buck Chopper Operation and Ideal Waveforms	DC/DC Handout: Part 1	PS19	Solution
T 11/11		**Holiday**: Veterans' day			
W 11/12	23	DC/DC Converter: Critical Inductance, Minimum Capacitance, and Capacitor Selection	DC/DC Handout: Part 1 & 2	PS20	Solution
R 11/13	24	HR1: DC/DC Converter: Inductor Design HR2: **Lab 11:** DC/DC Converter #1 (Inductor Winding)	DC/DC Handout: Part 3		
WEEK 14					
M 11/17	25	DC/DC Converter: MOSFET as a Switch, Switching Losses	DC/DC Handout: Part 4		
W 11/19	26	DC/DC Converter: MOSFET Gate Drivers	DC/DC Handout: Part 5	PS21 DUE M11/24	Solution
R 11/20	27	DC/DC Converter: MOSFET and Diode Selection; Heat Sink Design	DC/DC Handout: Part 6-8	PS22 DUE W11/26	Solution
WEEK 15					
M 11/24		**Lab 12:** DC/DC Converter #2			
W 11/26		**Lab 12B:** DC/DC Converter #3			
R 11/27-F 11/28		**Holiday**: Thanksgiving			
WEEK 16					
M 12/1	28	DC/DC Converter: PWM Implementation and Design Examples	DC/DC Handout: Part 9-10		
W 12/3	29	DC/DC Converter: Design Examples	DC/DC Handout: Part 10		

R 12/4		**Practice Problem Solutions** **EXAM #3:** Lectures 19-28 Exam #3 solutions			
WEEK 17					
M 12/8		**Lab 12B:** continued; Course Review			
T 12/9		**Fall Term Ends**			
W 12/10		**Review & Study Day**			
R 12/11- R 12/18		**Practice Problem Solutions** **Final Exam** TUES DEC 16, 2008 1330-1630 Location: Rickover 126 Coverage: Comprehensive			
M 12/22		**Grades Due**			