

COURSE SCHEDULE UNTIL THE SECOND MIDTERM TEST

LECTURE 11 (Oct. 9)		
MATERIAL	BOOK	RECOMMENDED
Capacitive circuits	pp. 200-203	Exercise 5.5
Differential circuit equations	pp. 213-217	Example 5.8

LECTURE 12 (Oct. 14)		
MATERIAL	BOOK	RECOMMENDED
Natural response, stability	pp. 217-221	Example 5.9
Forced response	pp. 221-225	Exercise 5.13, WEX#6

LECTURE 13 (Oct. 16)		
MATERIAL	BOOK	RECOMMENDED
Amplitude and phase	pp. 235-238	Example 6.1
Complex numbers	pp. 238-244	Exercise 6.3, 6.4

- The student must develop a very good working knowledge of using complex numbers.

LECTURE 14 (Oct. 21)		
MATERIAL	BOOK	RECOMMENDED
The phasor concept	pp. 245-249	Example 6.4
Impedance and admittance	pp. 249-254	Exercise 6.6, 6.7
Generalization of memoryless analysis techniques	pp. 254-270	All examples in pp. 254-270

- It should be crystal clear that all the techniques used so far (elementary analysis, superposition, proportionality, Thevenin-Norton circuits, source conversion, node analysis, mesh analysis) applies with:
 1. Replace all independent sources by their phasors.
 2. Use voltage phasors in KLVs or node analysis.
 3. Use current phasors in KCLs or mesh analysis.
 4. Resistors and controlled sources relate voltage and/or current phasors.
 5. Use impedances for inductors and capacitors.
- For a complete problem you have to go into the phasor domain first, do the calculations there with complex numbers, finally convert the results back into time domain.

LECTURE 15 (Oct. 23)		
MATERIAL	BOOK	RECOMMENDED
Example for phasor-domain analysis		WEX#7
Resonance	pp. 271-280	Example 6.16
<ul style="list-style-type: none"> Apart from this material, we covered Q factors for Capacitors and Inductors, and series-to-parallel transformations a little more extensively than in the book. 		

LECTURE 16 (Oct. 28)		
MATERIAL	BOOK	RECOMMENDED
AC superposition	pp. 281-282	Exercise 6.19
Average and complex power	pp. 295-299, 308-310	Example 7.1
<ul style="list-style-type: none"> In the book phasors are redefined in terms of RMS values (rather than amplitudes) in the context of power calculations. We are not going to follow this change of terminology in the lectures. 		

LECTURE 17 (Oct. 30)		
MATERIAL	BOOK	RECOMMENDED
RMS values	pp. 299-301	Example 7.2, Exercise 7.2
Maximum power transfer	pp. 301-303	Example 7.3

LECTURE 18 (Nov. 6)		
MATERIAL	BOOK	RECOMMENDED
Mutual inductances and transformers	pp. 349-352, 360-368	Exercise 8.1, 8.6

LECTURE 19 (Nov. 11)		
MATERIAL	BOOK	RECOMMENDED
Examples for mutual inductances	pp. 349-352, 360-368	
Balanced 3-phase circuits	pp. 316-324	
<ul style="list-style-type: none"> No problems related to mutual inductances or balanced 3-phase circuits will be part of the second midterm test. Ideal transformers are part of the second midterm test. 		

LECTURE 20 (Nov. 13)
MIDTERM TEST #2