

King Fahd University of Petroleum & Minerals
 Department of Electrical Engineering
 EE-204 Fundamentals of Electric Circuits

Tentative Schedule: 2010-2011 Second Semester (102)

INSTRUCTORS	OFFICE	Sec	PHONE	E-MAIL	OFFICE HOURS
Dr. Oualid Hammi	59/0012-5	3	7394	ohammi@kfupm.edu.sa	SMW @ 9:30 am – 10:30 am or by appointment

Text: *FUNDAMENTALS OF ELECTRIC CIRCUIT ANALYSIS*, Clayton Paul, Wiley & Sons. Inc., 2001

Wk	Date	Topics	Text	Laboratory/Tutorial
1	12 Feb.	Voltage, Current, Power, KCL, KVL	1.2 – 1.6	No Meeting
2	19 Feb.	Conservation of power, Series & Parallel Connection of Elements, Ohm's Law	1.7 – 1.8, 2.1 – 2.2	No Meeting
3	26 Feb.	Single loop and single node-pair circuits Resistors in Series and in Parallel, Voltage and Current Division	2.3 – 2.5	Exp #1: Resistors and Ohm's Law
4	5 March	Direct Method, Source Transformation	2.6, 2.7	Exp #2: Kirchhoff's Laws
5	12 March	Principle of Superposition, Review	3.1	Problem Session # 1
<i>Major Exam I*, Wednesday, 16 March 2011 @ 6:30 pm – 8:30 pm Building 59 – Room 1009</i>				
6	19 March	Thevenin Theorem, Norton Theorem, Maximum Power Transfer	3.2 – 3.4	Exp #3 (a): Computer Simulation of DC Circuits
7	26 March	Node Voltage Method, System of Equations	3.5	Exp #3 (b): Experimental Part
8	2 April	Mesh Current Method, System of Equations	3.6	Exp #4: Current & Voltage Divider
<i>Midterm Break, 9 April – 13 April</i>				
9	16 April	Capacitors, Inductors, Series and Parallel Connections	5.1 – 5.2	Exp#5: Superposition, Thevenin & Norton Theorems
10	23 April	Sinusoidal Source, Complex Numbers, review	6.1 – 6.2	Problem Session # 2
<i>Major Exam II *, Wednesday, 27 April 2011 @ 6:30 pm – 8:30 pm Building 59 – Room 1009</i>				
11	30 April	Frequency Domain Analysis	6.3 – 6.5	No Meeting
12	7 May	Power Concepts, Power Factor	6.6; 6.6.1; 6.6.2	Exp #6: Frequency Domain Analysis
13	14 May	Superposition of Average power	6.6.4	Exp #7: Max. Power Transfer
14	21 May	Maximum power transfer, RMS Values	6.6.3; 6.6.5	Exp #8: Average and RMS Values
15	28 May	Commercial Power Distribution, Three Phase Circuits, Star-Delta Connections, review	6.9; 6.9.1; 6.9.2	Final Lab Exam

Grade Distribution:

Class Work (Quizzes and Homework Assignments)	Major I*	Major II*	Laboratory	Final Exam
15 % (10%+5%)	15 %	15 %	20 %	35 %

* Location of major exams will be reserved and posted by the each section instructor.

** Extra handout may be used if needed.

Note: All exams are coordinated.

Course Outcomes

Upon the successful completion of this course, you should be able to

1. apply knowledge of mathematics, science, and engineering to the analysis and design of electric circuits
2. identify, formulate, and solve engineering problems in the area of circuits.
3. use the techniques, skills, and modern programming tools such as PSPICE, necessary for engineering practice.
4. function within multi-disciplinary teams
5. design a system, components or process to meet desired needs within realistic constraints

Important Points to Remember

1. **Practice Problems:** Practice problems are to be solved completely by the students. Solutions will be posted on **WebCT**.
2. **Problem Sessions:** All problem sessions will be held during the lab periods.
3. **Lab. Makeup:** No lab makeups are allowed without an official excuse from students affairs.
4. **Attendance:** According to the university regulations, any student who exceeds 20% of the scheduled class meeting without an official excuse will receive a grade of DN in the course.
5. **Official excuses:** All official excuses must be submitted to the instructor no later than one week after the date of the excuse. The instructor has the right to reject late excuses.

Practice Problems

	Problems
1	1.3-1, 1.8-21, 1.4-5, 1.5-5, 1.6-2, 1.6-6, 1.7-2
2	2.2-5, 2.2-7, 2.3-2, 2.3-8, 2.4-31, 2.4-10, 2.5-7, 2.5-11
3	2.6-4, 2.7-3, 3.1-2, 3.1-4, 3.2-2, 3.2-4, 3.2-6, 3.2-12
4	3.3-2, 3.3-4, 3.3-6, 3.3-121
5	3.5-2, 3.5-7, 3.6-2, 3.6-7
6	5.1-3, 5.1-6, 5.1-8, 5.2-3, 5.2-6, 5.2-8, 5.4-2
7	6.1-1, 6.2-2, 6.2-5
8	6.3-4, 6.3-7, 6.4-4, 6.4-7, 6.4-12
9	6.4-16, 6.4-17, 6.5-1, 6.5-4, 6.5-8
10	6.6-1, 6.6-5, 6.6-14, 6.6-17, 6.6-21, 6.9-4