EE231 Electrical Circuits (I)

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
BA 124	2	3	2	2	2	3

COURSE AIM

The course aims to inform the students with basic elements of electric circuits, to apply the different methods of circuit analysis on dc circuits. to introduce the concept of phasors to the students, and to inform the students with the waveform of ac circuits.

COURSE WEEKLY CONTENTS

1 Basic dc circuit elements, series, and parallel Networks.
2 Ohm's law and Kirchhoff's laws.
3 Nodal Analysis
4 Mesh Analysis.
5 Electric Circuits Theorems "Source transformation".
6 Superposition
7 Thevenin's Theorem and Norton Theorem. + Midterm Exam
8 Maximum power transfer.
9 Alternating Current Fundamentals and Ac Generation.
10 RMS value, average value, form factor, and crisp factor.
11 Phasor concept.
12 Relation between Voltage and Current in Resistor, Capacitor, and Inductor
13 Response of RL and RC circuits
14 Sinusoidal response of RLC circuit
15 Series Resonance

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	← 10 MARKS To be freely distributed among possible assessments →					30
8 to 12	← 20 MARKS →						20
13 to 15	← 10 MARKS →						10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

Textbook	Alexander & Sadiku, "Fundamentals Of Electric Circuits "(7th Ed.) Mcgraw-Hill
Other	R. L. Boylestad, "Introductory circuit analysis", Merrill, London. W.J. Hayt and J.E. Kemmerly, "Engineering circuit Analysis", Mc Graw-Hill International Edition.