**Republic of Iraq
The Ministry Of Higher Education
& Scientific Research**

وزارة التعليم العالي والبـحـث الـعـلـمـي
Ministry of Higher Education & Scientific Research

University: Diayla
College: Engineering
Department: Fundamental of Electrical Circuits
Stage: first
Lecturer name: Hayder Salim Hameed
Qualification: Asst. Lec.
Place of work

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Course Instructor	Hayder Salim Hameed
E-mail	hayderalskooki@yahoo.com
Title	Fundamental of Electrical Circuits
Course Coordinator	3 Hours per week (annual system)
Course Objective	Introduce students to the basic elements of electrical circuits and how to deal with them in identifying all of the voltages , current and power….. etc.
Course Description	Study the basic elements of the circuits (resistors , Almtsat , capacitors, voltage sources) and how to deal with these departments to resolve issues to find voltages and current , resistance , power and in phasic DC and AC
Textbook	Boylestad, R, L., Introductory Circuit Analysis (4th Edition), Charles E. Merill Pubishers.

Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As(٣٥%)	-	As(٥%)	-	As(٦٠٪)

General Notes	

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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
١	٢٧/١١/٢٠١٤	**Circuit Variables and Circuit Element** System of units, voltage and current, circuit elements,		
٢	٤ / ١٢ / ٢٠١٤	Voltage and current source, electrical resistance and conductance.		
٣	١١ / ١٢/ ٢٠١٤	Ohm's and Kirchoffs law, power and energy.		
٤	١٨/ ١٢/ ٢٠١٤	**Circuit Transformations** Resistances in series and parallel, source transformation.		
٥	٢٥ / ١٢/ ٢٠١٤	Current and voltage division, delta-star and star-delta transformations.		
٦	١ / ١/ ٢٠١٥	**OFF Day**		
٧	٨ / ١/ ٢٠١٥	**Techniques of Circuit Analysis** Basic terminology, the loop current method.		
٨	١٥/ ١/ ٢٠١٥	The node voltage method, Circuit Theorems: Superposition,		
٩	٢٢ / ١/ ٢٠١٥	Thevenin's, Norton's, reciprocity,		
١٠	٢٩ / ١/ ٢٠١٥	**Monthly Exam.**		
Half – year break				
١١	١٩ / ٢ / ٢٠١٥	Maximum Power Transfer		
١٢	٢٦ /٢ / ٢٠١٥	**Sinusoidal Alternating Current** Ac generation, polarities and directions, RMS and average values,		
١٣	٥ / ٣ /٢٠١٥	Circuit elements in the phasor domain, power factors.		

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١٤	١٢ / ٣ / ٢٠١٥	**Phasors** AC current through various circuit element,		
١٥	١٩ / ٣ / ٢٠١٥	Operations with complex number, phasor diagram		
١٦	٢٦ /٣ / ٢٠١٥	**AC Power Calculations** Active, reactive and apparent power,		
١٧	٢ / ٤ / ٢٠١٥	Power in complex form, the power triangle		
١٨	٩ / ٤ / ٢٠١٥	**Resonance in AC Circuits** Frequency response of various circuit element,		
١٩	١٦ / ٤ / ٢٠١٥	Resonance in series and parallel circuits,		
٢٠	٢٣ /٤ / ٢٠١٥	Quality, factor, the half power frequencies.		
٢١	٣٠ / ٤ / ٢٠١٥	**Circuit theorem in AC circuits** Loop and node voltage methods in AC circuits,		
٢٢	٧/ ٥ / ٢٠١٥	**Magnetic Circuits** Magnetic filed, characteristics of lines of magnetic flux, magnetic filed due to an electric current, mmf,		
٢٣	١٤/٥/ ٢٠١٥	Magnetic filed strength, magnetic constants reluctance, Kirchoffs laws for magnetic circuit,		
٢٤	٢١/٥/٢٠١٥	Series and parallel magnetic circuit.		
٢٥	٢٨/٥/٢٠١٥	**Monthly Exam.**		
٢٦		**Final Exam.**		

INSTRUCTOR Signature: **Dean Signature:**