Course Syllabus

Course ID	0902202
Course Title	**Electric Circuits I**
Prerequisite	0304102 General physics (2)
Time & Date	**14:00qm – 15:00pm (Room)**
Coordinator	-
Instructor	**Assistant. Prof. Dr. Takialddin Al-Smadi** Faculty of Engineering E-mail: dsmadi@rambler.ru Telephone: ext.
Office hours	
Course Description	**Definitions and units. Basic concepts (Charge. Current. Voltage. Power. Energy). Circuit elements (Independent and Dependent Voltage. Power. Sources. Resistors. Capacitors. Inductors). KVL and KCL. Mesh and nodal Circuit analysis. Network theorems. Transient analysis of RL. RC, and RLC Circuits. Introduction to AC circuits.**
Course Objectives	1. Ability to apply basic circuit laws and rules. Objectives 2. Understand and apply circuit theorems. 3. Ability to analyze first and second order transient circuits.
Course Outcomes	
Course Topics	1-Introduction to Circuit Analysis and Design 2. Basic Components and Electric Circuits 3. Voltage and Current Laws 4. Basic Nodal and Mesh Analysis 5. Circuit Analysis Techniques 6. The Operational Amplifier 7. Capacitors and Inductors 8. Basic RL and RC Circuits 9. The RLC Circuit 10. Sinusoidal Steady State Analysis

Course Text Book	1- W. H. Hayt, **Electrical Circuits, Fifth Edition,** ISBN 0-201-40100-2 James W.Nilson and Susan A. Rie Addison Wesley 19097 902201 ***2* - Engineering circuit Analysis 5th Edition** W.H.Hayt, JR Jack and J .E.Kemmerly McGraw- Hill 1993 3- Electrical circuit Analysis Second Edition S.A Doctor Prentice -Hall 1992
Course References	1- R. C. Dorf and J. A. Svoboda, Introduction to Electric Circuits, Seventh Edition, Wiley, 2006. 2- C. K. Alexander and M. N. O. Sadiku, Fundamentals of Electric Circuits, Third Edition, McGraw-Hill, 2006. 3- R. E. Thomas and A. J. Rosa, The Analysis and Design of Linear Circuits, 5th Edition, Wiley, 2006. 4- J. David Irwin, Basic Engineering Circuit Analysis, Seventh Edition, Wiley, 2001.
Course delivery	Lectures Tutorial Lab Homework Project Computer Internet Industrial Visit
Course Assessment	**First Exam : 20%** **Second Exam: 20%** **Quizzes : 10%** **Final Exam : 50%** **Total : 100**
Updated	Dr.Takialddin AL-Smadi

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO12
CO1											
CO2											
CO3											

CO4											
CO5											
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CO1											
CO2											
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CO5											
CO6											
CO7											
CO8											
CO9											

ABET a-k Engineering and Technology program outcome

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, to analyze and interpret data
(c) An ability to design a system, component, or process to meet desired needs
(d) An ability to function on multi-disciplinary teams
(e) An ability to identify, formulate, and solve engineering problems
(f) An understanding of professional and ethical responsibility
(g) An ability to communicate effectively
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context
(i) A recognition of the need for, and an ability to engage in life-long learning
(j) A knowledge of contemporary issues
(k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Plagiarism

Deliberate plagiarism is a serious act of academic misconduct. Students may be suspended from the University if they are found to have plagiarized their course work. Whether inadvertent or deliberate, plagiarism includes the following:

(a) word-for-word copying of sentences or whole paragraphs or presenting of substantial extracts from either paper-based or electronic sources the work or data of others that are published or unpublished (such as books, internal reports, and lecture notes or tapes) without clearly indicating their origin;
(b) using very close paraphrasing of sentences or whole paragraphs without due acknowledgement in the form of reference to the original work;
(c) submitting another student's work in whole or in part;
(d) using of another person's ideas, work or research data without acknowledgement;
(e) copying computer files, algorithms or computer code without clearly indicating their origin;
(f) submitting work that has been written by someone else on the student's behalf; and
(g) submitting work that has been derived, in whole or in part, from another student's work by a process of mechanical transformation (e.g., changing variable names in computer programs).