Course Syllabus

Course ID	0902303
Course Title	Electrical Circuits (2)
Prerequisite	**0902202 Electric Circuits(1)**
Time & Date	
Coordinator	-
Instructor	**Assistant. Prof. Dr. Takialddin Al-Smadi** Faculty of Engineering E-mail: dsmadi@rambler.ru Telephone: ext.
Office hours	Periodic waveforms. AC response of RL. RC and RLC circuits. Phase analysis. Impedance concept Resonance. Steady State analysis of AC circuits. Coupled circuits. Three Phase circuits. Fourier analysis. lap lace analysis. Two-Port networks. Circuit analysis using computers Pre:0902202
Course Description	Periodic waveforms. AC response of RL. RC and RLC circuits. Phase analysis. Impedance concept Resonance. Steady State analysis of AC circuits. Coupled circuits. Three Phase circuits. Fourier analysis. lap lace analysis. Two-Port networks. Circuit analysis using computers . Pre:0902202
Course Objectives	1. perform power calculations in single & three phase circuits 2. perform ac analysis of three phase circuits 3. perform ac analysis of magnetically coupled circuits 4. perform transient analysis of circuits using the Laplace transform technique 5. learn complex frequency theory 6. learn frequency response applications 7. learn general network analysis
Course Outcomes	(a) An ability to apply knowledge of mathematics, science, and (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
Course Topics	1. AC Power calculations 8 Hours 2. Three Phase Circuits 8 Hours 3. Magnetically Coupled Circuits 8 Hours 4. The Laplace Transform technique 8 Hours 5. Complex Frequency 3 Hours 6. Frequency Response 6 Hours 7. Two-Port Networks 4 Hours
Course Text Book	**1- Electrical Circuits, Fifth Edition,** ISBN 0-201-40100-2 James W.Nilson and Susan A. Rie Addison Wesley 1997 ***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 4 - W. H. Hayt, Jr., J. E. Kemmerly, and S.M. Durbin, Engineering Circuit Analysis, Sixth Edition, McGraw-Hill, 2002.
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 2009

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO12
CO1											
CO2											
CO3											
CO4											
CO5											
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CO1											
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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).