Hashemite University
College of Engineering
Department of Electrical Engineering
EE 201-Electric Circuits I (3 Credit Hours/Dept. Compulsory)

		Grading info		Class Info	
Instructor	Dr. Amr Obeidat	Mid	40%	Days	STR
Email:	amrobeidat@hu.edu.jo	Final	40%	Time	11:00-12:00
Office:	EE 3057	Other	20%	Location	Online

Course

Course Number:	110409201
Prerequisite:	Physics (2)covering the following topics: Voltage and current laws; series and parallel connected resistances and sources, Kirchoffe's laws and magnetic and electrical field.
Textbook:	"**Engineering Circuit Analysis", 9th Edition**, Authors: Willian H. Hayt; Jack E. Kemmerly, and Steven M. Durbin. McGraw-Hill
Course Description:	Units, definitions, independent sources, dependent sources, Ohm's law, Kirchhoff's laws, division rule. Nodal analysis, Mesh Analysis, Linearity and Superposition, Thevenin and Norton's theorems. Inductance and capacitance, source free RL and RC circuits, unit-step forcing function, and RLC circuits.
Specific Outcomes of Instruction (Course Learning Outcomes):	- Introduce units and engineering notation - Understand basic circuit laws and their application to DC circuits - Using basic circuit analysis techniques and their application to DC circuits - Using Thevenin and Norton theorems and their application to DC circuits - Analysis methodology in getting natural, forced and complete responses of RL, RC, and RLC circuits
Important material	- Lecture notes - References - Internet resources

References:

1- Electric Circuits, James W. Nilsson , Susan Riedel , Prentice Hall; 9 *edition*.
2- Schaum's Outline of Electric Circuits, Mahmood Nahvi , Joseph A. Edminister, McGraw-Hill; 4th ,2002
3- Electrical Circuit Theory and Technology, John Bird, Newnes; 3 edition , 2007
4- Fundamentals of Electric Circuits, by Charles Alexander and Matthew Sadiku, 5th, 2008.
5- Introduction to Electric Circuits, by Richard C. Dorf and James

Major Topics Covered and Schedule in Weeks:

Topic	# Weeks	# Contact hours*
Definitions and units. Voltage and current laws; series and parallel connected sources and resistance, voltage and current division.	3	9
Nodal and Mesh analysis	3	9
Circuit analysis techniques: superposition, source transformation, Thevenin and Norton equivalent circuits; maximum power transfer, Delta-Wye conversion).	3	9
Capacitors and inductors.	1	3
Basic RL and RC circuits; natural and forced response.	3	9
Basic RLC circuits.	2	6
Total	**15**	**45**

Course Policy

- If you miss class, there won't be a makeup test, quiz, etc. and you WILL get a zero unless you have a valid excuse.
- Cheating and plagiarism are completely prohibited.
- If you miss more than 15% of classes you will automatically fail the class.

Student Outcomes (SO) Addressed by the Course:

#	*Outcome Description*	*Contribution*
	General Engineering Student Outcomes	
(a)	An ability to apply knowledge of mathematics, science, and engineering	***H***
(b)	An ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	An ability to function on multidisciplinary teams	
(e)	An ability to identify, formulate, and solve engineering problems	***H***
(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, economic, environmental, 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	

H=High, **M**= Medium, **L**=Low