

Course Specification Template

1. General information about Instructor:

Name	Muntaser Shafiq Aldabe			Class Time & Office Hours				
Phone	Internal	1515	Day	SUN	MON	TUE	WED	THU
	External	-						
Mobile	0599031674		Class Time	11-12		11-12		11-12
Instructor's E-mail	Muntaser.aldabe@yahoo.com		Class Room	B109		B109		B109
			Office Hours	10-11	11-12	10-11	11-12	10-11

2. General information about the Course

No	Requirements						
1	Course Title	Electric Circuits II					
2	Course code & Number	12110203					
3	Credit hours	Theo. (CH): 3			Practical (CH):		
4	Faculty	Engineering					
5	Department / Division that offers the course:	Electrical and Industrial Automation department					
6	Course type	Compulsory			Elective		
		Uni.	Fac.	Dep.	Uni.	Fac.	Dep.
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Level and Semester	Second year / Second Semester					
8	Prerequisite(s) – If any	Electric Circuit I					
9	Co-requisite(s) – if any						
10	Program/programs for it/them the course is offered	Electrical , Automation, Communication					
11	Instruction Medium:	English <input checked="" type="checkbox"/>			Arabic <input type="checkbox"/>		

3. Course description:

This course will include the following topics: Basics of ac waveforms and circuit elements, principles of phasors and its diagrams, Circuit Analysis (Series, Parallel, and Compound), Network Analysis (Mesh, Nodal, Bridges Networks, and Δ -Y connection and conversion), Network Theorems (Superposition, Thevenin, Norton, and Maximum Power Transfer), the types of Power and its triangle and Power Factor Correction, Resonance Circuits and properties, Polyphase System properties and Analysis, Magnetically coupled Network and Transformers, and using Laplace Transformation to solve the circuits.

4. General Course Objectives

On successful completion of this course the student will be able to achieve the following objectives:

1. Identify the sinusoidal alternating waveforms and their properties.
2. Define the basics of ac circuit elements and phasors, their response to electrical quantities, complex numbers and its mathematical operations.
3. Analyze the electric Networks using Mesh and Nodal approaches. Also, the ability to analyze Bridge Networks, Δ -Y connection and conversion.
4. Recognize the most famous Network Theorems.
5. Identify the Power concepts and types, Power triangle techniques and Power Factor Correction.
6. Understand the Resonance Circuits and properties.
7. Analyze the Polyphase Systems (Y-Y, Δ -Y, Y- Δ , Δ - Δ).
8. Define the basics of electrical Transformers.

5. Intended Learning Outcomes/ILO's

- A) Knowledge and understanding
- B) Intellectual/Cognitive skills
- C) Subject specialization and practical skills
- D) General and transferable skills

6. Topics covered and Calendar:

Number	Topics	Number of hours
1.	Sinusoidal Alternating Waveforms	3 hrs
2.	The Basic Elements and Phasors	3 hrs
3.	Series and Parallel ac Circuits	3 hrs
4.	Series and Parallel ac Circuits	3 hrs
5.	Review	3 hrs
6.	Methods of analysis and Selected Topics	3 hrs
7.	Network Theorems	3 hrs
8.	Power (ac)	3 hrs
9.	Power (ac)	3 hrs
10.	review	3 hrs
11.	Resonance	3 hrs
12.	Resonance	3 hrs
13.	Polyphase Systems	3 hrs
14.	Polyphase Systems	3 hrs
15.	Review	3 hrs

7. Student assessment methods based on ILO,s

No	Assessment method	Week	Mark	Percentage to overall mark
1.	First Exam	7 th week	30	30%
2.	Second Exam	11 th week	30	30%
3.	Mid-term Exam (if any)			
4.				
5.	Final Exam	17 th week	40	40%

8. References and other resources

Introductory Circuit Analysis, 10th edition, Robert L. Boylestad, Prentice Hall. (Ch13-Ch22)
A. Other references 1. Electric Circuits, 8 th edition, J. Nilsson & S. Riedel, Prentice Hall. 2. Engineering Circuit Analysis, 6 th edition, Hayt & Durbin, Mc Graw Hill. 3. Electric Circuit Analysis, 3 rd edition, D.E Johnson & J.R. Johnson, Prentice Hall. 4. Circuit Analysis, 2 nd edition, Robbins & Miller, Delmar.
B. Electronic resources, Websites related to the course 1. 2.

Name & signature of Head of department/ program leader

Name: signature: Date:

Name & signature of Quality rep. in your faculty

Name: signature: Date:

Course Tutor's name and signature

Name: Muntaser Al-dabe signature: Date: