Academic Quality Assurance Department

Course Syllabus

College	**Engineering and Technology**		
Department	**Electrical and Electronic Engineering**		
Program	B.sc		
Course Title	Electric Circuits I	**Course Number:**	**12110101**
Year	2023/2024	**Semester:**	Summer
Prerequisite(s)	General Physics I		
Instructor	Eng. Muntaser Sh. Al-Dabe		
Instructor's e-mail	m.dabe@ptuk.edu.ps		
Office Hours	12-2 Sun, Mon, Tue		
Class Time	8-10 Sun. , Mon., Tue	**Class Room:**	H216
Course description	This course will include the following topics: Basics of DC circuit elements, Circuit Analysis (Series, Parallel, and Compound), Circuits Laws (Ohms, Kirchhoff,Divider Rulesand source Transformation), Network Analysis (Mesh, Nodal, Bridges Networks, and Δ-Y connection and conversion), Network Theorems (Superposition, Thevenin, Norton, and Maximum Power Transfer), Capacitors and InductorsCircuits and their properties, RC and RL circuits and their response, Series and Parallel RLC circuits and their response.		
Course Intended Learning Outcomes (CILOs)	**A) Knowledge and understanding** al) Recognize the Principles and electrical properties of electric circuit a2) Recognize D.C circuit architectures, and applications a3) Define characteristics and different applications of D.C. power supply. a4) Identify the differences between DC circuit and Ac circuit. **B) Intellectual/Cognitive skills** b1) Analyze of the different types DC circuit. b2) Formulate equivalent circuit for any electric circuit b3) Employ the properties of different types of load circuit such as resistance only, resistance plus inductance (RL load), resistance plus inductance plus capacitance and their applications. **C) Subject specialization and practical skills** **D) General and transferable skills**		

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	Be able to use outcomes A and B in afterwards courses such as Electronics, Measurements, and Electrical machines.
Textbook(s)	**Engineering Circuit Analysis**, 6th edition, W. Hayt , J. Kemmerly and S. Durbin,Mc Graw Hill.
Other required material (References):	1. Introductory Circuit Analysis, 10th edition, Robert L. Boylestad, Prentice Hall. 2. Electric Circuits, 8th edition, J. Nilsson & S. Riedel, Prentice Hall. 3. Circuit Analysis, 2nd edition, Robbins & Miller, Delmar.
Other Resources used (e.g. e-learning, field visits, periodicals, software, etc.)	**A. Electronic resources, Websites related to the course** **1. LMS learning management system ptuk E-learning (moodle)**

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Course Syllabus Form

Course Teaching Methods	
Teaching Method	**CILOs**
Direct Instruction	A
Problem Based	B
procedural	D

Assessment Type	**Details/Explanation of assessment in relation to CILOs**	**Weight**	**Date(s)**
Midterm	A,B	40%	4th week
Course work	B	15%	5th week
Final Exam	A, B, D	45%	8th week
Total		100%	

Course Intended Learning Outcomes (CILOs)										
CILOs	**Mapping to Program ILOs**									
On successful completion of the course, students will be able to:	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**I**	**j**

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A	√				√					
B	√				√					
D					√					

Week	Date	Topics Covered	CILOs
1	**21/7/2024** **25/7/2024**	Basic components and electrical circuits	**A**
2	**28/7/2024** **1/8/2024**	Voltage and Current Laws	A
3	**4/8/2024** **8/8/2024**	Basic Nodal and Mesh Analysis	A
4	**11/8/2024** **15/8/2024**	Review and Problems solving	A,B
5	**18/8/2024** **22/8/2024**	Useful Circuit Analysis Techniques	A,B
6	**25/8/2024** **29/8/2024**	Capacitors and Inductors	A,B,D
7	**1/9/2024** **5/9/2024**	The RL and RC Circuits	A,B,D
8	**7/9/2024** **12/9/2024**	Final Exams	

Prepared by:	**Eng. MuntaserAldabe**	**Signature**	
Head of Department		**Signature**	
Date	**21-7-2024**		