Faculty of Engineering & Technology

Power Electronics 2

Information :

Course Code :	EPR 452	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Specialization of Electrical Power Engineering

Instructor Information :

Title	Name	Office hours
Professor	Naser Mohammed Bayoumy AbdelRahim	5
Teaching Assistant	Ibrahim Mohamed Ibrahim Farag	

Area Of Study :

1.understand the fundamentals of operation different power electronic converters.
2.Identify the methods used for controlling the output voltage and current of the converters.
3.Recognize the applications for different converters.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Identify the main configurations of different power electronic converters
2 -	understand the operation of power electronics converters under different loading conditions
b.Intellectual Skills: :	
1 -	Solve problems related to Power electronic converters
2 -	Classify the different types of power electronic switches and their
3 -	Analyze the performance of power electronic converters under different
c.Professional and Practical Skills: :	
1 -	Research different topics relevant to the course
d.General and Transferable Skills: :	
1 -	Write technical reports in accordance with standard scientific guidelines.
2 -	Work in a self-directed manner.
3 -	Analyze problems and use innovative thinking in their solution.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	5	3	2
AC voltage controllers	20	12	8
DC voltage controllers	20	12	8

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Inverters	20	12	8

Teaching And Learning Methodologies :

Lectures

Tutorials

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Written exam	40.00	15	to assess the comprehensive understanding of the scientific background of the course, to assess the ability of problem solving with different techniques studied
Mid- Term 2	15.00	11	to assess the skills of problem solving, understanding of related topics
Mid-Term 1	15.00	7	to assess the skills of problem solving, understanding of related topics
Performance	10.00	14	to assess the Performance of the student through overall term
Quiz 1 & Assignment 1	10.00	5	to assess the ability of self learning, problem solving and report writing.
Quiz 2 & Assignment 2	10.00	9	to assess the ability of self learning, problem solving and report writing.

Recommended books :

1. M. H. Rashid. Power Electronics: Circuits, Devices, and Applications, 3rd ed. Pearson Education Inc., 2004.
2. B. Bird, et al, An Introduction to Power Electronics, 2nd Edition
A. Ahmed, Power Electronics Technology