هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	Basic Industrial Electronics
Course Code:	223 EPET
Program:	Electrical Power Engineering Technology (EPET)
Department:	Electrical Engineering Technology (EET)
College:	College of Applied Industrial Technology (CAIT)
Institution:	Jazan University
Version:	T-104 - 2022
Last Revision Date:	20-04-2024

Table of Contents:

A. General Information about the Course

Course Identification								
1. Credit Hours: 3								
2. Course Type:								
a. University		College		☑ Department		Track		Others
b. Required	☑ Elective							
3. Level/year at which this course is offered:	5th Level	2nd Year						
4. Course General Description This Course is related with introducrtory learning of Industrial electronic devices, its circuits, working and application. Basic components like SCR, TRIAC, DIAC, Thyristors, UJT and PUTs are taught.								
5. Pre-requirements for this course (if any):	121 EPET							
6. Co- requirements for this course (if any):	-------							
7. Course Main Objective(s): After learning this course the student should be ablke to draw the charecteristics of SCR, DIAC, TRIAC, Thyristor and UJT. They should be able to draw the circuits of these devices and mention the applications of all of them.								

1. **Teaching Mode: (Mark all that apply)**

No	Mode of Instruction	Contact Hours	Percentages
1	Traditional classrooms	22	50.0%
2	E-learning		0.0%
3	Hybride * Traditional classrooms * E-learning	22	50.0%
4	Distance learning		0.0%

2. **Contact Hours (based on the academic semester)**

No	Activity	Contact Hours
1	Lectures	22
2	Laboratory/Studio	22
3	Field	
4	Tutorial	
5	Others (specify)	
	Total	**44**

Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes (CLOs)	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Explain the working of electronic devices used in the industry. Like that of Thyristor, DIACs, TRIACs, SCRs, UJTs and PUTs	K1.1	Structured Lectures	Exams
2.0	**Skills**			
2.1	Compare the characteristics of rectifiers, controllers, converters and inverters	S1.1	Worked Examples	Exams
2.2	Sketch input and output signal waveforms of PWM	S2.1	Structured Lectures	Exams
2.3	Solve NUMERICAL PROBLEMS	S4.2	Structured Lectures	Exams
3.0	**Values, autonomy, and responsibility**			
3.1	Work under pressure	V1.1	Questioning	Oral
3.2	Show independent timeliness work with effective contribution with classmates	V2.3	Worked Examples	Report

C. Course Content

No	List of Topics	Contact Hours
1	THYRISTOR	6
2	DIAC	2
3	TRIAC	2
4	UJT	2
5	PUT	2
6	CHARECTERISTICS OF POWER ELECTRONIC DEVICES	6
7	PWM	4
8	EXPERIMENT ON DIAC	4
9	EXPERIMENT ON POWER DIODE	4
10	EXPERIMENT ON UJT	4
11	EXPERIMENT ON PUT	4
12	EXPERIMENT ON THYRISTOR	4
	Total	**44**

D. Students Assessment Activities

No	Assessment Activities	Assessment Timing (In Week No)	Percentage of Total Assessment Score
1	HOMEWORK & CLASS ACTIVITI	Week 2	10%
2	MID TERM	Week 7	20%
3	LAB PERFORMANCE	Week 2	10%
4	LAB PRSENTATION	Week 3	10%
5	FINAL LAB EXAM	Week 10	20%
6	Final Exam	As Scheduled	30%

* Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1 References and Learning Resources

Essential References	1	PowerPoint Lectures printout
	2	POWER ELECTRONICS HANDBOOK ACADEMIC PRESS
Supportive References	1	
Electronic Materials	1	
	2	Any related websites which may be used for research assignments and project
Other Learning Materials	1	Not Exist

2 Required Facilities and Equipment

Items	Resources
Facilities (Classrooms, Laboratories, Exhibition rooms, Simulation Room, etc.)	Suitable Classroom Whiteboard Suitable number of chairs Suitable Lab
Technology Equipment (Projector, Smart Board, Software)	Smart Board
Other Equipment (Depending on the nature of the specialty)	:NTAL KITS ON POWER ELE

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Method
Effectiveness of Teaching	Student	Indirect
	Course Instructor (Faculty)	Direct
Quality of Learning Resources	Program Coordinator	Indirect
	Head of Department	Indirect
	Quality Auditor	Indirect
The extent to which CLOs have been achieved	Course Instructor (Faculty)	Indirect
	Quality Auditor	Indirect
Other	Course Coordinator	Indirect
	Quality Auditor	Indirect

G. Specification Approval Data

Council/Committee	Electrical Engineering Technology (EET)
Reference Number	CAITEET23031
Date	03-09-2023