هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	Electrical Troubleshooting and Maintenance
Course Code:	126 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:	20.4.24

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 Couse gives sufficient background on use of safety devices used in Electrical Industry. Emphasis is laid on Measuring devises used in troubleshooting eklectrical devices used in Industry, and how to maintain them. Sensors and Motors are particularly emphasised in Numerical problems.

5. Pre-requirements for this course (if any): Not Exist
6. Co- requirements for this course (if any): 111 EPET
7. Course Main Objective(s):

Students are expected to learn all basics of PPE, CPR, Electrical manitenance of devices, troubleshooting Transformers and Motors.

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	Hybrid * 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	Define the basic concepts and definitions of electrical safety.	K1.1	Structured Lectures	Homework
2.0	**Skills**			
2.1	Recognize the Electrical components of PPE and CPR	S1.1	Structured Lectures	Exams
2.2	Troubleshoot the Electrical devices	S2.1	Worked Examples	Exams
3.0	**Values, autonomy, and responsibility**			
3.1	Ability to work independently	V1.1	Collaborative Learning	Exams Exams

C. Course Content

No	List of Topics	Contact Hours
1	ELECTRICAL SAFETY TECHNIQUES	4
2	MAINTENANCE PROGRAMS	4
3	TROUBLESHOOTING METHODS	4
4	ELECTRICAL MACHINES	4
5	TRANSFORMERS	4
6	ELECTRICAL SHOCKS AND AVOIDANCE METHODS	2
7	STUDY OF MEGGER	2
8	EXPERIMENT ON MEGGER FINDING BREAK POINT	4
9	STUDY OF INSULATION RESISTANCE	2
10	EXPERIMENT ON INSULATION RESISTANCE USING MEGGER	6
11	TROUBLESHOOTING MOTOR	8
	Total	**44**

D. Students Assessment Activities

No	Assessment Activities	Assessment Timing (In Week No)	Percentage of Total Assessment Score
1	HOME WORK AND CLASS ACTIVITIES	Week 2	10%
2	MID TERM	Week 6	20%
3	LAB PERFORMANCE	Week 8	10%
4	LAB PRESENTATION	Week 9	10%
5	FINAL LAB EXAM	Week 10	20%
6	Final Exam	Week 12	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	INDUSTRIAL ELECTRICAL TROUBLESHOOTING BY LYNN ETA PUBLISHERS
	2	FUNDAMENTAL ELECTRICAL TROUBLESHOOTING BY DAN SULLIVAN WALMART PUBLICATION
Supportive References	1	
Electronic Materials	1	
Other Learning Materials	1	

2 Required Facilities and Equipment

Items	Resources
Facilities (Classrooms, Laboratories, Exhibition rooms, Simulation Room, etc.)	Suitable Classroom
Technology Equipment (Projector, Smart Board, Software)	Smart Board
Other Equipment (Depending on the nature of the specialty)	MOTORS AND AC MOTORS,

F. Assessment of Course Quality

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

G. Specification Approval Data

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