Specialist Diploma in Electrical and Electronic Engineering

OVERVIEW

The Specialist Diploma in Electrical and Electronic Engineering provides the necessary knowledge and skills for students with or without experience to develop a broad knowledge of engineering to become professional practitioners in engineering sector.

PROGRAMME OBJECTIVES:

This course aims are to equip students with applied knowledge, understanding and skills for success in employment in the Electrical and Electronic Engineering sector and develop a wide range of skills and techniques, personal qualities and attributes essential for successful performance and immediately contribution to employment

DURATION COMPONENTS:

Classroom Training Hours: 30 Hours Per Module

MODULE SYNOPSIS:

HM401 Human Management

This module aims to learn various approaches to motivation, leadership and team-building and to illustrate how and when those approaches are approaches used. It is essential for students to learn team management skills and how to organise groups for maximum effectiveness, motivate group members and promote and reward team success.

Upon completion of this module, students will be able to demonstrate an awareness of how the managers of an organisation can seek to ensure that the organisation has sufficient competent staff to facilitate the achievement of strategic objectives in the face of a changing environment.

CP401 Contract Practice

The module is providing students with a sound understanding of Contract Law and its reforms which will be required for their everyday work in the profession requiring specialised knowledge of contract law principles and evaluate contractual issues. It is important for students to understand the various forms of contracts and the responsibilities of the people involved in executing a contract.

Upon completion of this module, students will be able to understand the general principles of the law of contract and practical and social context in which those rules operate.

TM401 Transformer and AC/DC Machines

This module focusses on single phase transformer and AC/DC Machines which are widely used in operation, working, analysis testing, applications of single and three phase motors, power systems, industries and commercial applications.

Upon completion the module, students will be able to:

- Analyse and describe aspects of the construction, principle of operation, applications, methods of speed control, and methods of direction reversal of DC machines
- Analyse and describe aspects of the construction, principle of operation, applications, methods of speed control, and methods of direction reversal of AC machines
- Describe the construction, application and operation of single phase and three phase transformers
- Identify applications of AC/DC machines and transformer for their efficient use in industry

ASSESSMENT METHODS:

70% Coursework & 30% Examination

PROGRAMME OUTCOMES:

Upon completion of the course, the students will be competent to design and validate/evaluate electrical equipment and systems, manage risk, estimate and manage projects and provide technical advice.

AWARDING BODIES:

Global School of Technology and Management

NUMBER OF MODULE:

6

TOTAL CONTACT HOURS:

180

PA401 Power System Analysis

The module helps with an understanding to evaluate the response of this complex system to variation of loads, and to determine how this system can be controlled to supply the loads reliably, while it is economical and safe to the environment.

Upon completion of this module, students will be able to:

- Model major types of components used in electrical power systems.
- Calculate the steady-state power flow in a power system.
- Analyse different types of short-circuit faults.
- Calculate the power system dynamics and its stability.
- Determine the economic dispatch in a power system.
- Understand power system control.
- Understand smart grid structure and operation

EM401 Engineering Mathematics

This module aims to enable the students to become proficient in the application of the mathematical and statistical principles and techniques to analyse and solve the problem within an engineering context.

On successful completion of this module, students will be able to:

- Solve problems involving elementary functions and complex numbers.
- Analyse engineering problems and select and apply appropriate techniques of calculus to solve them.
- Perform matrix arithmetic and solve linear algebraic systems.
- Solve simple problems using vector Algebra

EP401 Engineering Principles

The module aims to provide the knowledge, problem-solving skills and practical aspects of engineering sciences. This module is encouraging students to explore a broad range of engineering topics, including parameters within mechanical engineering systems, characteristics and properties of engineering materials, A.C./D.C. circuit theorems, network analysis and electromagnetic principles and properties.

On successful completion of this module, students will be able to learn on how to apply the mechanical and electrical science to find solutions to a variety of engineering problems and how to documents their work and communicate their solutions to their peers.

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