

# HIGHER NITEC IN ELECTRONICS ENGINEERING

## Core Modules

### Analogue Principles and Applications

On completion of the module, students should be able to interpret, construct, test and analyse various analogue circuits and devices.

### Digital Principles and Applications

On completion of the module, students should be able to interpret, design, construct, test and troubleshoot digital electronic circuits and devices.

### Communications and Networking

On completion of the module, students should be able to set up and maintain wired and wireless Local Area Network (LAN) and radio communication systems. They should be able to perform troubleshooting on networks and systems.

### Microcontroller Applications

On completion of the module, students should be able to interpret system requirements, create algorithms and develop microcontroller program to control and monitor external devices.

## Specialisation Modules

### Group A (Audio Visual Systems)

#### Audio Visual System Integration

On completion of the module, students should be able to install, integrate, troubleshoot and maintain audio and video systems.

#### Audio Visual Information Technology

On completion of the module, students should be able to install, integrate, service, configure, troubleshoot and maintain audio visual control and networking devices and systems; as well as setting up network streaming protocol on audio visual devices.

#### Applied Audio Visual Technology

On completion of the module, students should be able to set up and configure an AV system for real-life application.

#### Industry Attachment

Students will undergo a three-month industry attachment to reinforce the skills and knowledge acquired at the training institute and to develop competencies in other areas not covered in the curriculum.

### Group B (Marine Electronics)

#### Marine Automation System

On completion of the module, students should be able to set up, configure and troubleshoot marine automation system.

#### Marine Communication System

On completion of the module, students should be able to set up marine communication systems in voice, data and radio media. In addition, students should be able to test and troubleshoot radio and data systems.

#### Marine Navigation System

On completion of the module, students should be able to set up, test and maintain marine navigation system. In addition, students should be able to service, identify and isolate faults in marine navigation systems with the integration of its essential modules.

### Industry Attachment

Students will undergo a six-month industry attachment to reinforce the skills and knowledge acquired at the training institute and to develop competencies in other areas not covered in the curriculum.

### Group C (IoT & Communications)

#### Devices and Applications

On completion of the module, students should be able to identify and apply the various types of sensors for different applications.

#### IoT Integration

On completion of the module, students should be able to set up and integrate sensors/actuators with controllers; configure and test wired/wireless sensor networks to perform useful tasks. Students will also be able to deploy IoT in areas such as Healthcare, Logistics and Transport.

#### Advanced Applied Electronics

On completion of the module, students should be able to apply and integrate the skills and knowledge in sensors and controllers, communications networks and their applications deployed in specific industry.

### Industry Attachment

On completion of the module, students should be able to integrate and apply a cluster of key technical, social and methodological competencies related to their field of study.