

## HIGHER NITEC IN TECHNOLOGY – ELECTRONICS ENGINEERING

Course Code: HT2EC / Plan Code: HT2ECIOT (Specialisation: IoT & Communications)

### COURSE OBJECTIVE

This course equips students with the skills and knowledge to install, configure, test and maintain sensors devices and controllers to support the Internet-of-Things (IoT) architecture platform.

### COURSE STRUCTURE

#### Core/Specialisation Modules

S/N	Module Details	Module Code	Module Objectives
<b>MSC: Digital &amp; Analogue Applications</b>			
C1	<b>Analogue Applications</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC43103FP	On completion of the module, students should be able to analyse, test and troubleshoot analogue electronic applications.
		Equivalent Code EC4105FP	
C2	<b>Digital Applications</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC43104FP	On completion of the module, students should be able to analyse, construct, test and troubleshoot digital electronic applications.
		Equivalent Code EC4106FP	
<b>MSC: Communication &amp; Microcontroller Applications</b>			
C3	<b>Wireless Communications</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC43107FP	On completion of the module, students should be able to set up and test electronic communication systems.
		Equivalent Code EC4107FP	
C4	<b>Microcontroller Applications</b> 20 (T) 40 (P) Credits 3 Prerequisite: Nil	EC43108FP	On completion of the module, students should be able to create algorithms and develop microcontroller applications with input and output devices.
		Equivalent Code EC4108FP	
<b>MSC: IoT Devices &amp; Applications</b>			
C5	<b>Sensors &amp; Actuators</b> 10 (T) 50 (P) Credits 3 Prerequisite: Nil	EC53201FP	On completion of the module, students should be able to identify applications and perform installation of sensors and output devices.
		Equivalent Code EC5501FP	
C6	<b>IoT Protocols &amp; Power Management</b> 10 (T) 50 (P) Credits 3 Prerequisite: Nil	EC53202FP	On completion of the module, students should be able to install, interface and configure sensors and output devices with controller to establish network communication.
		Equivalent Code EC5501FP	
<b>MSC: IoT Programming &amp; Data Analytics</b>			
C7	<b>IoT Programming &amp; Cloud Services</b> 10 (T) 50 (P) Credits 3 Prerequisite: Nil	EC53203FP	On completion of the module, students should be able to apply programming skills with knowledge of embedded system, as well as principles of cloud computing and IoT systems.
		Equivalent Code EC5502FP	
C8	<b>IoT Data Analytics &amp; Visualisation</b> 10 (T) 50 (P) Credits 3 Prerequisite: Nil	EC53204FP	On completion of the module, students should be able to perform data visualisation and analysis for an IoT application by applying business intelligence.
		Equivalent Code Nil	

Abbreviations: T - Theory, P - Practical, MSC - Modular Skills Certificate

## CREDITS FOR CERTIFICATION

Total of 24 credits from successful completion of 8 Core/Specialisation modules.

Applicants who do not meet the entry requirements for Core/Specialisation modules will need to complete 12 credits from 4 Foundation modules before taking Core/Specialisation modules.

### Foundation Modules

S/N	Module Details	Module Code	Module Objectives
F1	<b>Digital Electronics</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC33102FP	On completion of the module, students should be able to set up and test digital electronic circuits.
		Equivalent Code Nil	
F2	<b>Analogue Electronics</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC33103FP	On completion of the module, students should be able to set up and test analogue electronic circuits.
		Equivalent Code Nil	
F3	<b>Programming Fundamentals</b> 20 (T) 40 (P) Credits 3 Prerequisite: Nil	EC33104FP	On completion of the module, students should be able to apply programming constructs such as variables, programming syntax, sequential programming and control flow statements, in a programmable controller-based system.
		Equivalent Code Nil	
F4	<b>Networking &amp; Communications Fundamentals</b> 30 (T) 30 (P) Credits 3 Prerequisite: Nil	EC33106FP	On completion of the module, students should be able to set up, configure, maintain and test computer and communication networks. They should also be able to identify the various network topologies and protocols, and troubleshoot network connectivity faults.
		Equivalent Code Nil	

Abbreviations: T - Theory, P - Practical

### VENUE

ITE College Central, ITE College East, ITE College West

### Note:

- 1) Applicants must be free from colour appreciation deficiency.
- 2) The training schedule of lessons is subject to change.
- 3) Depending on the demand, not all the modules in the CET *Higher Nitec* in Technology courses will be offered in each intake. Where the modules are offered and there is insufficient enrolment, the classes will be cancelled and a full refund will be given to the affected students.