

## HIGHER NITEC IN AUTOMOTIVE ENGINEERING (2 YEARS)

### CERTIFICATION

Credits required for certification:

Sector Foundation Modules	: 6
Specialisation Modules	: 33
Internship Programme	: 8
Life Skills Modules	: 9
Cross-Disciplinary Core Modules	: 6
Electives	: 6
Total	: 68

### COURSE STRUCTURE

Module Title	Credits
<b>SECTOR FOUNDATION MODULES</b>	
Workplace Safety, Health & Environment	3
Data & Digital Essentials	3
<b>SPECIALISATION MODULES</b>	
Engine Technology	3
Chassis & Drivetrain Technology	3
Chassis & Drivetrain Systems	3
Automotive Electrical & Electronic Technology	3
Automotive Electrical & Electronic Systems	3
Engine & Powertrain Management	3
High Voltage Vehicle System & Safety	3
Vehicle Telemetry Systems	3
Automotive Body & Chassis Diagnosis	3
Control & Driver Assistance Systems	3
Automotive Powertrain Diagnosis	3
<b>INTERNSHIP PROGRAMME</b>	
Internship Programme	8
<b>ELECTIVES (GENERAL) AND LIFE SKILLS MODULES</b>	
For details, click <a href="#">here</a>	

*Note: The offer of electives is subject to the training schedule of respective ITE Colleges. Students are advised to check with their Class Advisors on the availability of the elective modules they intend to pursue.*

## MODULE OBJECTIVES

### Sector Foundation Modules

#### Workplace Safety, Health & Environment

On completion of the module, students should be able to apply Workplace Safety and Health (WSH) policies, Environmental Management System procedures and practices in the planning, preparation and execution of work activities to ensure a safe and reliable workplace environment.

#### Data & Digital Essentials

On completion of the module, students should be able to prepare data for analysis, use online tools for collaborative work and maintain information security when online.

### Specialisation Modules

#### Engine Technology

On completion of the module, students should be able to service fuel, lubrication, cooling and air intake system components in petrol and diesel engines.

#### Chassis & Drivetrain Technology

On completion of the module, students should be able to service and replace automotive drivetrain and chassis components, including the manual transmission clutch and brakes, on a vehicle.

#### Chassis & Drivetrain Systems

On completion of the module, students should be able to repair and rectify faults within automotive chassis and drivetrain systems

#### Automotive Electrical & Electronic Technology

On completion of the module, students should be able to interpret, measure, and identify faults in vehicle auxiliary systems, including the starter, charging, and lighting systems.

#### Automotive Electrical & Electronic Systems

On completion of the module, students Should be able to perform functional checks on engine electrical and auxiliary electrical systems by conducting diagnosis, troubleshooting and rectifying faults using manufacturer service manuals and accurately interpret electrical wiring diagrams.

#### Engine & Powertrain Management

On completion of the module, students should be able to use systematic fault-finding techniques to identify faults in engine systems, as well as service engine mechanical components and the emission control system.

#### High Voltage Vehicle System & Safety

On completion of the module, students should be equipped with the knowledge and skills necessary to understand, work with, and ensure the safety of high voltage electrical systems in automotive engineering.

#### Vehicle Telemetry Systems

On completion of the module, students should be able to diagnose communication faults within the vehicle communication system using diagnostics tool and perform remote vehicle monitoring.

#### Automotive Body & Chassis Diagnosis

On completion of the module, students should be able to interpret diagnostic results and rectify faults on vehicle steering include SRS Airbag braking and transmission systems on petrol- or diesel-powered vehicle as well as service alternative powered vehicle's powertrain.

### Control & Driver Assistance Systems

On completion of this module, students should be able to perform fundamental assessment on the status and performance of the vehicle stabilisation control systems and advanced driver assistance systems. They will be equipped with the skills and knowledge to perform diagnosis and calibration of the systems using appropriate diagnostic tools and equipment.

### Automotive Powertrain Diagnosis

On completion of the module, students should be able to use systematic fault-finding techniques to diagnose and identify issues in the engine drivetrain and electrical systems. They will be equipped with skills in using On-Board Diagnostic equipment to rectify faults in the vehicle's powertrain systems.

### Electives (General) and Life Skills Modules

For details, click [here](#).