HIGHER NITEC IN FACILITIES MANAGEMENT & ENGINEERING (3 YEARS)

CERTIFICATION

Credits required for certification:

Sector Foundation Modules	:	18
Cluster Core Modules	:	6
Specialisation Modules	:	33
Life Skills Modules	:	10
Cross Disciplinary Core Modules	:	9
Elective Modules	:	8
Internship Programme	:	12
Total	:	96

COURSE STRUCTURE

Module Title	Credits
SECTOR FOUNDATION MODULES	
Workplace Safety, Health & Environment	3
Data & Digital Essentials	3
Electrical Fundamentals	3
IoT for Engineering	3
Sustainable Engineering	3
Green Building Technology	3
CLUSTER CORE MODULES	
Integrated Digital Delivery	3
Technical Drawing	3
SPECIALISATION MODULES	
Commercial Air Conditioning and Mechanical Ventilation Systems	3
Electrical Systems	3
Sanitary and Drainage Systems	3
Fire Detection and Protection Systems	3
Plumbing Systems	3
Estate Management and Coordination	3
Integrated Smart Facilities Management	3
Building Systems and Services Supervision	3
Building Information Modelling	3
Residential Air Conditioning Systems	3
Energy Audit and Management	3
INTERNSHIP PROGRAMME	

Module Title	Credits
Internship 1	4
Internship 2	8
ELECTIVES (COURSE SPECIFIC)	
Water Efficiency Management	2
Presentations Through Infographic Design	2
Technical Communication & Documentation	2
Construction Technology	2
3D Printing	2
ELECTIVES (GENERAL) AND LIFE SKILLS MODULES	
For details, click here	

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.

Nitec in Facility Technology (Landscaping Services) or Nitec in Facility Technology (Vertical Transportation) graduates with minimum GPA of 3.0 and had completed "Air-Conditioning and Building Management System" and "Building Fire-Fighting and Protection Systems" elective modules can apply to progress directly to second year of study in Higher Nitec in Facility Management course.

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.

Electrical Fundamentals
On completion of the module, students should be able to interpret circuit schematic and board layout, perform DC circuit connection and in-circuit measurement.

IoT for Engineering
On completion of the module, students should be able to set up an IoT, configure the controller to transmit sensor's collected data wirelessly to an IoT platform.

Sustainable Engineering
On completion of the module, students should be able to determine key contributors to environmental changes and the challenges involved in implementing sustainable initiatives, and propose effective strategies to promote sustainability and address environmental challenges across various industries.

Green Building Technology
On completion of the module, students should be able to interpret and determine green building features and performance; and to develop best practices for sustainable buildings in accordance with BCA Green Mark Framework.

Cluster Core Modules

Integrated Digital Delivery
On completion of this module, students should be able to identify key processes and implement the Integrated Digital Delivery (IDD) technologies across projects and building life-cycle in accordance with local standard.

Technical Drawing
On completion of the module, students should be able to produce technical sketches, engineering drawings to support construction, operations and maintenance of buildings in accordance to International Standard Organisation (ISO) and Code of Practice (CP).

Specialisation Modules

Commercial Air Conditioning and Mechanical Ventilation Systems
On completion of the module, students should be able to implement operational principle of commercial air conditioning systems and carry out inspections, commissioning and maintenance for air conditioning systems and mechanical ventilation systems in the buildings.

Electrical Systems
On completion of the module, students should be able to interpret electrical circuit diagrams, conduct continuity and insulation resistance tests. They should be able to conduct first line maintenance and coordinate maintenance of Extra Low Voltage system as well as the power and lighting circuits.

Sanitary and Drainage Systems
On completion of the module, students should be able to repair sanitary piping systems, replace piping fittings, sanitary fixtures, clear pipe and drain chokes.

Fire Detection and Protection Systems
On completion of the module, students should be able to interpret building mechanical system plan, inspect fire alarm system, riser system (dry and wet), private hydrant system, automated sprinkler system, emergency voice communication systems and fire suppression system. They should be able to conduct first line maintenance and coordinate maintenance of fire detection and protection systems.

Plumbing Systems
On completion of the module, students should be able to repair potable water supply piping system, replace piping fittings and inspect water pump and control systems.

Estate Management and Coordination
On completion of the module, students should be able to interpret building contract administration terms, supervise works for pest control, landscaping, cleaning services and handing & taking over of job tasks.

Integrated Smart Facilities Management
On completion of this module, participants will be able to interpret and implement diverse control systems within Building Management Systems (BMS), execute system health assessments for primary and secondary subsystems, implement control strategies of Smart Facilities Management (FM) to correct common faults, compile and oversee BMS-related system reports.

Building Systems and Services Supervision
On completion of the module, students should be able to maintain fittings, fixtures and inspect painting works related to building. Students should be able to supervise swimming pool maintenance, monitor lift and escalator maintenance and electronic car park system. In addition, students should be able to interpret and understand service report related to the above-mentioned works and systems.

Building Information Modelling
On completion of this module, students should be able to interpret two-dimensional architectural layout drawings, generate three-dimensional modelling, retrieve relevant information on building services systems using BIM software and apply effective modelling with visualization techniques.

Residential Air Conditioning Systems
On completion of the module, students should be able to carry out the installation, commissioning and maintenance of residential air conditioning systems and refrigeration system.

Energy Audit and Management
On completion of this module, students should be able to carry out on-site energy audits using suitable measuring instruments and tools and propose corrective actions to enhance energy utilization within buildings.

Internship Programme

Internship 1
On completion of the module, students should be able to integrate and apply the skills and knowledge acquired at ITE College, and further develop competencies at the workplace.

Internship 2
On completion of the module, students should be able to integrate and apply the skills and knowledge acquired at ITE College, and further develop competencies at the workplace.

Electives (Course Specific)

Water Efficiency Management
On completion of this module, students should be equipped with the knowledge and skills needed to conduct water audit and employ measures to enhance water efficiency, thereby reducing water consumption in buildings.

Presentations Through Infographic Design
On completion of the module, students should be able to communicate their presentation information more effectively through colours, visuals and infographics.

Technical Communication and Documentation
On completion of the module, students should be able to apply both oral and written communication skills in technical documentation, presentation and determine relevant technical documentation for the purpose of workplace submissions.

Construction Technology
On completion of the module, students should be able to identify construction processes and technologies in building development.

3D Printing
On completion of the module, students will gain a comprehensive understanding of 3D printing technology and its applications, enabling them to contribute effectively in various professional fields where 3D printing is utilized.

Electives (General) and Life Skills Modules
For details, click here.