HIGHER NITEC IN INTEGRATED MECHANICAL & ELECTRICAL DESIGN

CERTIFICATION

Credits required for certification:

Core Modules	:	53
Life Skills Modules	:	9
Elective Modules	:	4
Total	:	66

COURSE STRUCTURE

Module Title	Credits
CORE MODULES	
Engineering Graphics	6
Engineering Mathematics and Statics	8
Building Information Modelling	7
Electrical System Design	8
Air-Conditioning and Ventilation System Design	8
Plumbing and Fire Protection System Design	8
Industry Attachment	8
ELECTIVES (COURSE SPECIFIC)	
Green Building Technology	4
ELECTIVES (INTER-DISCIPLINARY)	
Engineering Project Management	2
Land Surveying	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.

MODULE OBJECTIVES

Core Modules

Engineering Graphics

On completion of the module, students should be able to produce technical sketches, engineering detailed drawings, 3D solid modelling, and assembly drawings in accordance with ISO standards.

Engineering Mathematics and Statics

On completion of the module, students should be able to apply knowledge of mathematics to solve engineering problems involving the use of algebra, indices, logarithms, trigonometry and statistics. Students would also be equipped with the fundamental knowledge of statics, and be able to solve engineering problems involving equilibrium of bodies subjected to forces.

Building Information Modelling

On completion of the module, students should be able to create 3D models, extract information, perform taking-off from BIM model and produce BIM components.

Electrical System Design
On completion of the module, students should be able to perform design on electrical system for buildings, and prepare the drawings in accordance to the standard codes of practice and government regulations.

Air Conditioning and Ventilation System Design
On completion of the module, students should be able to estimate the cooling load of a building, create 3D models and perform design on air-conditioning ducting, and prepare working drawings for ducting layouts and related pipework using catalogues and in accordance to the standard codes of practice and government regulations.

Plumbing and Fire Protection System Design
On completion of the module, students should be able to produce piping layouts and prepare drawings on plumbing system, sanitary system and sprinkler system in accordance to the standard codes of practice and government regulations.

Industry Attachment
Students will be attached to M&E consultant companies to complement and reinforce the skills and knowledge acquired at ITE and to develop competencies in other specialised areas.

Electives (Course Specific)

Green Building Technology
On completion of the module, students would be equipped with the fundamental skills and knowledge of green building technologies and design, and incorporate environment-friendly features in building facility design.

Electives (Inter-disciplinary)

Engineering Project Management
On completion of the module, students should be able to apply the tools and techniques that enable the project team to organise and manage their project work to meet requirements and challenges.

Land Surveying
On completion of the module, students should be able to perform simple levelling work, set out horizontal angles and calculate reduced levels from field bookings.

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