

## HIGHER NITEC IN ARCHITECTURAL TECHNOLOGY (3 YEARS)

### CERTIFICATION

Credits required for certification:

|                                 |            |
|---------------------------------|------------|
| Sector Foundation Modules       | : 18       |
| Specialisation Modules          | : 39       |
| Internship Programme            | : 12       |
| LifeSkills Modules              | : 10       |
| Cross-Disciplinary Core Modules | : 9        |
| Electives                       | : 8        |
| <hr/> Total                     | <hr/> : 96 |

### COURSE STRUCTURE

| Module Title                                       | Credits |
|--|---------|
| <b>SECTOR FOUNDATION MODULES</b>                   |         |
| Workplace Safety, Health & Environment             | 3       |
| Data & Digital Essentials                          | 3       |
| Electrical Fundamentals                            | 3       |
| IoT for Engineering                                | 3       |
| Sustainable Engineering                            | 3       |
| Green Building Technology                          | 3       |
| <b>SPECIALISATION MODULES</b>                      |         |
| Spatial Design Fundamentals                        | 3       |
| Spatial Drawings                                   | 3       |
| Building Drawings                                  | 3       |
| BIM Modelling                                      | 3       |
| Architectural Project Proposal                     | 3       |
| Architectural Design Process                       | 3       |
| Architectural Submission Process                   | 3       |
| Architectural Tender Package                       | 3       |
| Architectural Construction Drawings                | 3       |
| Architectural BIM Design                           | 3       |
| Architectural BIM Coordination                     | 3       |
| Green Mark   | 3       |
| Universal Design                                   | 3       |
| <b>INTERNSHIP MODULES</b>                          |         |
| Internship Programme 1                             | 4       |
| Internship Programme 2                             | 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.

#### 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.

### Specialisation Modules

#### Spatial Design Fundamentals

On completion of the module, students should be able to apply fundamental spatial design principles, tools and processes to build spatial design skills.

#### Spatial Drawings

On completion of the module, students should be able to apply knowledge of architectural drawing techniques to produce architectural sketches and perspectives for further design development.

#### Building Drawing

On completion of the module, students should be able to apply the knowledge of orthographic drawing and architectural drawing conventions to prepare a set of building drawings using relevant computer software.

#### BIM Modelling

On completion of the module, students should be able to develop a 3D building model complete with architectural elements and finishes and produce 3D visualisations using relevant BIM software.

#### Architectural Project Proposal

On completion of the module, students should be able to produce a consolidated architectural project proposal complete with project brief, relevant drawings and 3D models.

#### Architectural Design Process

On completion of the module, students should be able to apply knowledge of necessary codes and regulations and produce building model to comply to Development Control (DC) submission requirements.

#### Architectural Submission Process

On completion of the module, students should be able to apply knowledge of necessary codes and regulations to produce a complete set of drawings for Building Plan (BP) submission and perform Buildable Design Score calculations.

### Architectural Tender Package

On completion of the module, students should be able to produce complete set of architectural tender package incorporating all required drawings, details, specifications and documentation necessary for calling of tender.

### Architectural Construction Drawings

On completion of the module, students should be able to apply knowledge of relevant construction technologies and produce a complete set of architectural construction drawings incorporating all details and technical specifications required for construction of buildings on site.

### Architectural BIM Design

On completion of the module, students should be able to produce integrated BIM model incorporating building services and structural systems with architectural design using BIM software.

### Architectural BIM Coordination

On completion of the module, students should be able to develop coordinated BIM model through performance of multi-disciplinary coordination, clash detection and clash resolution using of BIM platform.

### Green Mark

On completion of the module, students should be able to apply the principles and requirements of Green Mark to develop details of elements and features of sustainable building design.

### Universal Design

On completion of the module students should be able to apply the principles and requirements of Universal Design to develop design features for accessibility in built environment.

## Internship Modules

### Internship Programme 1

Students will undergo a 3-months internship with architectural design and building and construction companies where they will apply and integrate the technical, social and methodological competencies in carrying out related industry projects.

### Internship Programme 2

Students will undergo a 6-month internship with architectural design and building and construction companies where they will apply and integrate the technical, social and methodological competencies in carrying out related industry projects.

## Electives (General) and Life Skills Modules

For details, click [here](#).