

# NITEC IN AEROSPACE AVIONICS

## CERTIFICATION

Credits required for certification:

Core Modules	: 57
Life Skills Modules	: 9
Elective Modules	: 6
<hr/> Total	<hr/> : 72

## COURSE STRUCTURE

Module Title	Credits
<b>CORE MODULES</b>	
Aircraft General Maintenance	9
Human Factors and Air Legislation	6
Aircraft Electrical and Electronics Systems	8
Aircraft Instrumentation System	8
Aircraft Materials and Structures	8
Aircraft Communication and Navigation Systems	10
Internship Programme	8
<b>ELECTIVES (COURSE SPECIFIC)</b>	
Unmanned Aircraft System	2
<b>ELECTIVES (INTER-DISCIPLINARY)</b>	
TIG Welding	2
Non-Destructive Testing	2
Basic Principle of Helicopter	2
Composite Structure Repairs	2
<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

### Core Modules

#### Aircraft General Maintenance

On completion of the module, students should be able to perform aircraft general maintenance such as fastening, wire-locking, sealant application, general corrosion control and plumbing; interpret aircraft blueprint drawings, aircraft manuals and catalogues.

#### Human Factors and Air Legislation

On completion of the module, students should be able to carry out Workplace, Safety and Health concepts in aircraft maintenance works and to prevent and minimise human-factor related errors in aircraft maintenance, update maintenance records and documentation and to apply the regulatory framework of local air transport operations and governing system adopted by Civil Aviation Authority of Singapore.

### Aircraft Electrical and Electronics Systems

On completion of the module, students should be able service, maintain and troubleshoot different types of aircraft electrical system and devices.

### Aircraft Instrumentation System

On completion of the module, students should be able service, maintain and troubleshoot aircraft instrumentation system.

### Aircraft Materials and Structures

On completion of the module, students should be able to repair minor surface aircraft structure defects and apply basic Aerodynamic and Theory of Flight.

### Aircraft Communication and Navigation Systems

On completion of the module, students should be able to service, maintain and troubleshoot aircraft communication and navigation systems.

### Internship Programme

Students will undergo a 6-month On-the-Job Training (OJT) course with aerospace industry to reinforce the skills and knowledge acquired at the training institute and to develop competencies in other specialised areas.

## Electives (Course Specific)

### Unmanned Aircraft System

On completion of the module, students should be able to maintain an unmanned aircraft system including associated ground control station and sensors.

## Electives (Inter-disciplinary)

### TIG Welding

On completion of the module, students should be able to join sheet metal and rebuild metal using TIG welding process.

### Non-Destructive Testing

On completion of the module, students should be able to understand the working principles of non-destructive testing (NDT) methods used for detecting defects in the aircraft components/structures.

### Basic Principle of Helicopter

On completion of the module, students should be able to understand the basic principles of aerodynamics in helicopters and the various types of rotors used to achieve lift. They should also be able to identify the various parts of the helicopter and mechanism and controls used in changing of blade pitch.

### Composite Structure Repairs

On completion of the module, students should be able to perform cold and hot bonding on honeycomb structures using fibreglass wet and epoxy resin material (cold bonding) and wet layup pre-preg, metal skin materials and foam core material. Students will also be trained on inspection of damaged structures and post bonding inspection and testing.

## Electives (General) and Life Skills Modules

For details, click [here](#).