

# NITEC IN AEROSPACE MACHINING TECHNOLOGY

## CERTIFICATION

Credits required for certification:

Core Modules	: 44
Life Skills Modules	: 9
Elective Modules	: 4
<hr/> Total	<hr/> : 57

## COURSE STRUCTURE

Module Title	Credits
<b>CORE MODULES</b>	
Engineering Drawing & Inspection Techniques	6
Engineering Process (Turning)	6
Engineering Process (Milling)	6
3D CAD/CAM Applications	6
Aerospace Machining	6
Multi-Axis Programming & Machining	6
Industry Attachment	8
<b>ELECTIVES (COURSE SPECIFIC)</b>	
Assembly Skills	2
Co-ordinate Measuring Techniques	2
Grinding	2
CNC EDM (Die-sink & Wire-cut)	2
<b>ELECTIVES (INTER-DISCIPLINARY)</b>	
Design Conceptualization & Rapid Prototyping	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

#### Engineering Drawing & Inspection Techniques

On completion of the module, students should be able to interpret technical drawings and perform dimensional inspections for the machined components in accordance with ISO standards.

#### Engineering Process (Turning)

On completion of the module, students should be able to set up and operate centre lathes and CNC lathes to produce components in accordance with given specifications.

#### Engineering Process (Milling)

On completion of the module, students should be able to set up and operate conventional milling machines and CNC milling machines to produce components in accordance with given specifications.

### 3D CAD/CAM Applications

On completion of the module, students should be able to interpret engineering drawings, create 3D CAD models and, generate and verify CNC part programs using a CAD/CAM system for CNC lathes and CNC milling machines.

### Aerospace Machining

On completion of the module, students should be able to develop part program for aerospace parts, set up and operate CNC high speed machining centres to manufacture engine and structural aerospace parts and components.

### Multi-Axis Programming & Machining

On completion of the module, students should be able to develop multi-axis part program, set up and operate 5-axis CNC universal machining centres to manufacture components in a single set up for the aerospace and oil & gas industries.

### Industry Attachment

On completion of the module, students should be able to acquire and apply a cluster of key technical, social and methodological competencies in their occupation.

## Electives (Course Specific)

### Assembly Skills

On completion of the module, students should be able to select and use the correct hand tools for assembly and dismantle of mechanical components.

### Co-ordinate Measuring Techniques

On completion of the module, students should be able to understand the fundamentals of co-ordinate measuring techniques. They will be able to operate and apply the application to perform mathematical alignment of various simple geometrical components and obtain the measured results as required.

### Grinding

On completion of the module, students should be able to interpret technical drawings, grind components safely using a surface grinder and cylindrical grinder and supporting tools in accordance with given specific.

### CNC EDM (Die-sink & Wire-cut)

On completion of the module, students should be able to interpret technical drawings, produce components safely using a CNC EDM Die-sink machine and CNC EDM Wire-cut machine and supporting tools in accordance with given specific.

## Electives (Inter-disciplinary)

### Design Conceptualization & Rapid Prototyping

On completion of the module, students should be able to create a 3D solid model using CAD software and to operate the rapid prototyping printing machine to generate the 3D model.

## Electives (General) and Life Skills Modules

For details, click [here](#).