

HIGHER NITEC IN PRECISION ENGINEERING

CERTIFICATION

Credits required for certification:

Core Modules	: 21
Life Skills Modules	: 3
Elective Modules	: 2
Total	: 26

COURSE STRUCTURE

Module Title	Credits
CORE MODULES	
Advanced Materials and Metrology	6
Advanced Machining and Tool Management	7
Internship Programme	8
ELECTIVES (INTER-DISCIPLINARY)	
Product Prototyping	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

Advanced Materials and Metrology

On completion of the module, students should be able to describe the properties and applications of engineering plastics, metals and non-metals, alloys, and exotic materials, and applications of various heat treatment and surface treatment processes. They should also be able to interpret geometrical dimensioning & tolerances, perform measurement of parts with geometrical form and feature using gauges and complex measuring instruments including CMM, and generate quality control reports.

Advanced Machining and Tool Management

On completion of the module, students should be able to interpret blueprint drawings, create CNC part programs using CAM system, perform tooling setup, perform process planning, optimise CNC machining processes and machining parameters involving tool management, produce precise parts to specifications using CNC machines, and troubleshoot machining faults. They should also be able to select appropriate cutting tools for machining different materials, and perform inspection on machined parts using appropriate measuring tools.

Internship Programme

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 (Inter-disciplinary)

Product Prototyping

On completion of the module, students should be able to create simple design of a product using 3D CAD software and produce a 3D model of it using basic prototyping devices.

Electives (General) and Life Skills Modules

For details, click [here](#).