

# NITEC IN DIGITAL & PRECISION ENGINEERING

## 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 conventional 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 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.

### Digital Manufacturing Processes

On completion of the module, students should be able to use CAD/CAM systems to develop 3D digital models, set up and operate multi-axis CNC machines to produce precise components in accordance to given specifications. Student will also be able to review machining processes remotely with digital monitoring systems and interpret machine data to optimise cutting parameters and machine performance.

### Machine Monitoring System

On completion of the module, students should be able to set up and operate CNC laser cutting machine to produce metal parts and injection moulding machine with pick & place robot to produce plastic parts. Student will also be able to use machine monitoring systems to monitor the overall efficiency of manufacturing processes and interpret production data to improve productivity.

### Industry Attachment

Students will undergo a six-month internship with companies to deepen skills and knowledge acquired in ITE, and further develop competencies in areas related to precision engineering.