Internship On CNC Programming And Modern Manufacturing

Duration:- 6 Weeks

Course Content

⇒ Module-1: NX Designing

- Basic Sketch Creation
- Geometric and Dimensional Constraints
- Part Modeling- Basic and Advance
- Part Modification features
- Synchronous Modeling
- Assemblies- Constraints and Methods
- Understanding Drafting Overview
- NX CAM – Basics of CAM and selection of tools
- NX CAM- Facing, Turning and Cavity Milling operations

⇒ Module-2: Rapid Prototyping

- Introduction to Additive Manufacturing
- Basic concepts of 3D Printing
- Technologies in 3D Printing –SLA, FDM, SLS, POLYJET, SLM & EBM
- Data and Process flow of 3D Printing

- Strategy making for 3D printing using Machine interface software
- Demo of 3D printers with live printing of part
- Application of 3D printers.
- Future aspects of 3D printing technologies.
- Introduction Digital Fabrication Techniques
- Laser Cutting Operation
- Hands-on on software for strategizing laser cutting

⇒ **Module-3: CNC Programming**

- Introduction to the program, History of CNC Machining
- Basic tools, Types of milling tools
- Basic of hard keys and soft keys, Basic of using software
- Milling machine Axis system Practice, Basic codes of Milling
- Milling Program Format, Face milling operation
- End milling use, Name writing on the plate
- Tool compensation use, Contouring, Pocketing
- Drilling Operation, Tapping operation, Polar modes
- Introduction to turning process, Types of tools and inserts
- Lathe machine Axis system and practice, Codes of turning

- Turning Program format, Facing Operation, Rough turning
- Grooving operation, drilling cycle, Tapping cycle
- Internal threading, External threading, Boring operation
- Project & Simulation