Course Name : *TURNING-Numerical Control Programming*

Course Duration : 24 Hrs.

Course Overview

- **Course Description**
  - This course teaches the use of the CNC Turning Numerical control programming on Siemens 808D & 840Dsl controller
- **Intended Audience**
  - This course is designed for manufacturing engineers, process planners
- **Prerequisites**
  - *Education*: Diploma 3 year Students or Degree 2nd year completed in any one of following Streams.
    - Aeronautical, Automobile, Industrial, Marine, Mechanical, Mechatronics, Metallurgy, Production and Manufacturing Engineering.
  - *Software:* None

Course Objective

- After successfully completing this course, you should be able to perform the following activities on CNC Turning Machine:
  - Introduction to Manufacturing, History & Processes
  - Introduction to Conventional Lathe
  - Introduction to MCMT/CNC
  - Mechanical Elements of CNC machine
  - Introduction to CNC Programming
  - Introduction to SIEMENS 808D & 840Dsl controller.
  - Cutting Tools and Parameter Selection Turning
  - Programming using Siemens standard cycles for Turning
  - Hands on practical – All standard Cycles of 808D & 840Dsl Turning

Course Contents

- Basics Manufacturing Processes
- Different types of conventional machines & Types of Lathe M/Cs.
- Elements of Lathe
- Types of Lathe Operations
- History of CNC
- Types of CNC Machines

- Mechanical Elements of CNC M/C
- Electrical Elements of CNC M/C
- Different Machine Modes
- Introduction to Turning Controller
- Introduction to Milling Controller
- ISO Machine Tool Axis
- Right Hand Thumb Rule
- Lathe & Milling Coordinate Systems
- Absolute and Incremental Programming
- Introduction To G-Codes
- Introduction To M-Codes
- Other Codes
- Facing Operation
- Turning Operation
- Radius Turning
- Chamfer Operation
- Taper Operation
- Stock Removal Cycle
- Contour Cycle
- Drilling Cycle
- Grooving Cycle
- Undercut Cycle
- Cut-Off Cycle
- Threading Cycle