

CNC MACHINING CENTER OPERATOR

Levels 1 - 4

The CNC Machinist pathway covers a wide range of essential topics such as CNC Lathe Operation, Machining Center Operation, Milling, CNC Controllers, 5-axis lathes, and CAD/CAM Training. This pathway offers an accelerated pathway for new hires to go from basic, intermediate, and advanced CNC machinists with new hire onboarding included.

Total # of Modules: 66



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Level 1

Introduction to CNC Machining Centers

- 1.1 Horizontal and Vertical Machining Centers
- 1.2 Machining Center Axes
- 1.3 The CNC Controller
- 1.4 Workpiece and Tool Holding Devices for a CNC Machining Center
- 1.5 Auxiliary Systems for a CNC Machining Center
- 1.6 Maintenance Tasks for a CNC Machining Center
- 1.7 Machining Center Movements

Auxiliary Systems

- 1.8 CNC Machine Lubricants
- 1.9 Cutting Fluids
- 1.10 The Chip Removal System

Deburring

- 1.11 Deburring Machined Parts

Visual Testing

- 1.12 The NDE Process
- 1.13 Visual Testing

Level 2

Components of a CNC Machining Center

- 2.1 Components of a CNC Machining Center
- 2.2 CNC Machining Center Spindles
- 2.3 Probing Systems
- 2.4 Pallet Changers

Basic Machine Offsets

- 2.5 Adjust a Tool Wear Offset on a CNC Machining Center

Level 3

Metal Cutting

- 3.1 Cutting Tool Materials
- 3.2 Speed and Feedrate

Tooling

- 3.3 Indexable Tooling
- 3.4 Solid Cutting Tools

Indexable Tool Holders

- 3.5 Indexable Drills
- 3.6 Indexable Turning Tool Holders
- 3.7 Boring Bars
- 3.8 Indexable Milling Cutters

Solid Cutting Tools

- 3.9 Drill Bits
- 3.10 Reamers
- 3.11 Taps
- 3.12 End Mills

Level 4

Machining Center Setup

- 4.1 Setting Up a CNC Machining Center

CNC Programming

- 4.2 CNC Programming Procedure for a CNC Machining Center
- 4.3 Program Structure for a CNC Machining Center
- 4.4 CNC Addresses for a CNC Machining Center
- 4.5 CNC Machining Center Commands
- 4.6 Organizing a CNC Program for a CNC Machining Center

