

CNC Machinist Competencies

Required Competencies	
Safety	Understands and upholds safe workplace practices in a manufacturing environment.
Organization	Conducts general housekeeping and cleanup. Maintains a tidy, organized workspace.
Technical Drawings	Reads and interprets technical drawings, including dimensions and tolerances.
Quality Inspection	Uses measurement tools to identify defects and ensure compliance with tolerances and specifications.
Work Orders	Reads and interprets work orders to prepare for production.
Reporting and Record Keeping	Records quality, production, or operational data in an Enterprise Resource Planning (ERP) system or similar system.
Secondary Operations	Performs secondary operations on parts including drilling, grinding, and deburring.
CNC Mill Operation	Operates a CNC mill safely, efficiently, and effectively.
CNC Lathe Operation	Operates a CNC lathe safely, efficiently, and effectively.
Equipment Setup	Sets up new processes on CNC machines safely, efficiently, and effectively.
Optional Competencies (choose 2 or more):	
Job Planning	Reviews and makes edits to process plans.
Process Control	Follows process plans to achieve consistent, repeatable results.
Programming	Develops simple programs using CAM software. Edits simple G code programs.
Maintenance	Works independently and with maintenance personnel to keep equipment in proper working order.

Credential Option 1: NIMS

1. **Measurement, Materials, & Safety:** This certification validates that an individual has the fundamental knowledge of standard steel classifications and numbering systems, reading of precision measuring devices, shop and machine safety, and general machining practices, and inspection techniques.
2. **Job Planning, Benchwork, and Layout:** This certification validates that an individual has the skills and knowledge to successfully complete process planning, hand operations such as drilling, reaming, and sawing, layout, inspection techniques, and safety standards.
3. **CNC Milling Operations Level 1:** This certification validates that an individual is able to successfully machine parts by operating a computer numerical control (CNC) machine; maintain quality and safety standards; keep records; maintain equipment and supplies; and perform routine preventative maintenance.
4. **CNC Turning Operations Level 1:** This certification validates that an individual is able to successfully machine parts by operating a computer numerical control (CNC) machine; maintain quality and safety standards; keep records; maintain equipment and supplies; and perform routine preventative maintenance.

Credential Option 2: MSSC Certified Production Technician

1. **Safety:** Topics include safety inspections, emergencies, safety trainings, and safe equipment operation.
2. **Quality:** Topics include blueprint reading, quality audits, quality inspections, measurement tools, continuous improvement, documenting results, corrective action.
3. **Production:** Topics include customer needs, equipment set up, production goals, process monitoring and reporting.
4. **Maintenance:** Topics include preventative maintenance, reactive maintenance, electrical systems, pneumatic systems, hydraulic systems, mechanical systems, and automation systems.