

## OJT CORE COMPETENCIES

# CNC Set-up Programmer

### TERM OF APPRENTICESHIP

The term of the apprenticeship is 4 years.

### APPRENTICESHIP APPROACH

Time-based

Competency-based

Hybrid

*Apprenticeships may be time-based, requiring a set number of OJT (on-the-job training) and RTI (related technical instruction) hours; competency-based, allowing completion once all skills are mastered; or hybrid, blending both time and competency requirements.*

### SCHEDULE AND CHECKLIST

Essential Job Categories	Competencies
Safety	<ul style="list-style-type: none"><li>• Understands the use of appropriate PPE</li><li>• Understands how to identify, handle, store and dispose of hazardous materials</li><li>• Understands appropriate lock-out/tag-out procedures</li><li>• Understands injury reporting procedures</li><li>• Maintains a clean and organized workspace</li><li>• Employer specific competency</li></ul>
Quality Assurance	<ul style="list-style-type: none"><li>• Understands shop math</li><li>• Understands how to read blueprints</li><li>• Understands how to use various measuring tools and techniques</li><li>• Able to identify defects</li><li>• Able to calculate machine speed and feed rates</li><li>• Understands how to determine root cause</li><li>• Employer specific competency</li></ul>
Machine Components	<ul style="list-style-type: none"><li>• Understands how to interpret and utilize control panel</li><li>• Is able to utilize the table of the machine appropriately</li><li>• Understands the appropriate use of various cutting tools</li><li>• Understands various axes and how they function</li><li>• Understands the purpose and actions of the spindle</li><li>• Understands appropriate use of coolants and lubricants</li><li>• Employer specific competency</li></ul>
Technical Applications	<ul style="list-style-type: none"><li>• Understands G-Code and M-Code programming languages</li><li>• Understands and can appropriately utilize CAD/CAM software</li><li>• Understands how to test, adjust and revise programs</li><li>• Employer specific competency</li></ul>

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Machine Operations	<ul style="list-style-type: none"><li>• Understands the characteristics and uses of drilling</li><li>• Understands the characteristics and uses of milling</li><li>• Understands the characteristics and uses of turning</li><li>• Understands the characteristics and uses of broaching, sawing, grinding, honing, and lapping</li><li>• Understands and can determine the sequence of machine operations</li><li>• Understands and can select the proper tools and workpieces</li><li>• Employer specific competency</li></ul>
Job Planning, Benchwork and Layout	<ul style="list-style-type: none"><li>• Identifies programs and sequences to enhance efficiencies</li><li>• Identifies programs and sequences to enhance efficiencies</li><li>• Identifies and selects proper tools and workpieces</li><li>• Determines reference points, cutting paths, and hole locations.</li><li>• Calculates angles and linear dimensions, radii, and curvatures</li><li>• Prepares geometric layouts from graphic displays</li><li>• Write instruction sheets to guide set-up</li><li>• Employer specific competency</li></ul>
Process Control	<ul style="list-style-type: none"><li>• Understands how to run and observe trial runs and/or computer simulations</li><li>• Understands and troubleshoots defects and malfunctions</li><li>• Employer specific competency</li></ul>



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