

Work Process Schedule

WORK PROCESS SCHEDULE ¹		O*NET-SOC Code: 51-4012.00	
CNC Set-Up Programmer - Milling and Turning (Alternate Title: Computer Numerically Controlled Machine Tool Programmer, Metal and Plastic)		RAPIDS Code: 1100CB	
Job Title:			
Level:		Specialization:	
Stackable Program ___yes ___no			
Base Occupation Name:			
Company Contact:			
Address:		Phone:	Email:
Apprenticeship Type: ____Competency-Based ____Time-Based ____Hybrid		Prerequisites:	
JOB FUNCTION 1: Demonstrates basics of measurement, materials, and safety of products and parts			
Competencies	Core or Optional	RTI	OJT
A. Identifies and demonstrates use of machine safety and personal protective equipment	Core		
B. Demonstrates compliance with lock-out / tag-out procedures and OSHA requirements and guidelines	Core		
C. Handles and stores hazardous materials as assigned while adhering to safe practices in accordance with OSHA and EPA requirements and guidelines	Core		

¹ See full framework for certifications and occupational pathways, cross-cutting competencies, and detailed job functions at <https://www.dol.gov/cgi-bin/leave-dol.asp?exiturl=https://www.urban.org/policy-centers/center-labor-human-services-and-population/projects/competency-based-occupational-frameworks-registered-apprenticeships&exitTitle=www.urban.org>.

D. Develops an inspection plan and inspects simple parts using precision tools and techniques while preparing reports on the compliance of the parts	Core		
E. Performs the inspection of parts	Core		
F. Follows a sampling plan to allow for process control	Core		
G. Analyzes the performance of a single-part production process	Core		
H. As a member of a process team, analyzes the performance of a production process	Core		
JOB FUNCTION 2: Conducts job planning, layout, and benchwork			
Competencies	Core or Optional	RTI	OJT
A. Lays out the location of hole centers and surfaces with accuracy	Core		
B. Using aluminum or mild steel, hand drills and hand taps holes	Core		
C. Sets up and performs sawing to a layout	Core		
D. Develops a process plan for a part requiring milling, drilling, turning, or grinding	Core		
JOB FUNCTION 3: Operates manufacturing equipment			
Competencies	Core or Optional	RTI	OJT
A. Sets up and operates machine tools to perform routine drilling operations	Core		
B. Sets up and performs squaring up the six surfaces of a block to within +/- .2 inch and .002 inch over 4.5 inches squareness	Core		
C. Sets up and operates vertical milling machines	Core		
JOB FUNCTION 4: Generates CNC programming and operates a milling machine			
Competencies	Core or Optional	RTI	OJT
A. Using the principles of Cartesian coordinates, develops a program for the manufacture of a simple part	Core		
B. Creates a qualified CNC program, sets up and operates the mill, changes tool values as necessary, and replaces and qualifies tooling as necessary	Core		
C. Sets up and operates a CNC mill or CNC milling center	Core		
D. Writes sophisticated RS-274-D programs	Core		
E. Creates programs using a manufacturing modeling software package	Core		
JOB FUNCTION 5: Demonstrates CNC turning operations and operates a CNC lathe			
Competencies	Core or Optional	RTI	OJT
A. Sets up and carries out, between centers and with chucks, turning operations	Core		
B. Uses the principles of Cartesian coordinates to develop a program for the manufacture of a simple part	Core		

C. Operates a CNC lathe or turning center	Core		
D. Writes sophisticated programs	Core		
E. Creates programs using a manufacturing modeling software package	Core		
JOB FUNCTION 6: Conducts general housekeeping and maintenance			
Competencies	Core or Optional	RTI	OJT
A. Keeps the duty station, tools, workbenches, and manual equipment clean and safe for work	Core		
B. Inspects and assesses the general condition of an assigned machine tool	Core		
C. Inspects and assesses the condition of tooling	Core		
JOB FUNCTION 7: Engages in career management and employee relations			
Competencies	Core or Optional	RTI	OJT
A. Develops and explains a short-term career plan and resume	Optional		
B. Completes job application form and demonstrates interviewing skills	Optional		
C. Demonstrates appropriate interpersonal skills in job performance evaluations, group communication and decision-making, and conflict resolution	Optional		
D. Identifies and explains the major departments or functions in a metalworking company and how they affect production units	Optional		
E. Understands and explains employment rights and responsibilities in metalworking companies	Optional		