

Appendix A

WORK PROCESS NUMERICAL CONTROL MACHINE OPERATOR O*NET/SOC CODE: 51-4011.00 RAPIDS CODE: 0845R

This schedule is attached to and a part of these Standards for the above identified occupation.

1. TERM OF APPRENTICESHIP

The term of the occupation shall be 2 Years with an OJL attainment of 4000 hours supplemented by the required hours of related instruction.

2. RATIO OF APPRENTICES TO MENTORS

One (1) Apprentice may be employed in each department and/or jobsite employing one (1) qualified Mentor.

3. APPRENTICE WAGE SCHEDULE

Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current Mentor wage rate.

Note: Sponsoring Employers will show their Mentor wage rate on the Employer Acceptance Agreement

4. SCHEDULE OF WORK EXPERIENCE (See attached Work Process Schedule)

The Sponsor may modify the work processes to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

5. SCHEDULE OF RELATED INSTRUCTION (See attached Related Instruction Outline)

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DESCRIPTION: Sets up and operates numerical control machine to cut, shape, or form metal work pieces to specifications: Reviews setup sheet and specifications to determine setup procedure, machining sequence, and dimensions of finished workpiece. Attaches fixture to machine bed and positions and secures workpiece in fixture according to setup instructions, using clamps, bolts, handtools, power tools, and measuring instruments, such as rule and calipers. Assembles cutting tools in tool holders and positions tool holders in machine spindles as specified, using handtools, or inserts cutting tools in specified machine magazines. Loads control media, such as disk, tape, or punch card, in machine control console or enter commands to retrieve preprogrammed machine instructions from data base. Manipulates controls and enters commands to index cutting tool to specified set point and to start machine. Observes and listens to machine operation to detect malfunctions, such as worn or damaged cutting tools. Changes cutting tools and location of workpiece during machining process as specified in setup instructions. Measures workpiece for conformance to specifications, using measuring instruments, such as micrometers, dial indicators, and gauges. Notifies supervisor of discrepancies. May adjust machine feed and speed and change cutters to machine parts according to specifications when automatic programming is faulty or machine malfunctions. May machine materials other than metal, such as composites, plastic, and rubber.

ON-THE-JOB TRAINING:

APPROXIMATE HOURS

1. Lathes	1050
2. Milling Machines	905
3. Grinders	350
4. Shapers	55
5. Bench Work	155
6. Numerical Machines	755
7. Drill Presses	175
8. Jig Borers	163
9. Electrical Discharge Machines	162
10. Power Saw	75
11. Mechanical Time Fuze Machine Operations	80
12. Engraving Machines	75
TOTAL HOURS	4000

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RELATED INSTRUCTION NUMERICAL CONTROL MACHINE OPERATOR O*NET/SOC CODE: 51-4011.00 RAPIDS CODE: 0845R

Related instruction - This instruction may include, but not be limited to:

Note: Due to regional and local code differences and climate conditions, duration of instructional competencies/modules are suggested estimates.

Trade Technology

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Introduction in the use of, and operation and adjustment of, various machine tools - drill press, lathe, miller, shaper and grinders. Use of precision measurement tools and industrial safety.

Discussions of surface finish, cutting fluids and lubricants, threads and treading, measuring tools, feeds and speeds, blueprint reading.

Introduction to Numerical Control	16
Shop Math and use of Machinery Handbook	16
Engineering Drawings	16
Machinability of Materials	16
Heat Treating - Welding	16
Numerical Control Manual Programming	16
Tool and Fixture Design	16
Practical Descriptive and Analytic Geometry	16
Strength of Materials	16

TOTAL HOURS

288