



NEVADA LABOR COMMISSIONER
NEVADA STATE APPRENTICESHIP COUNCIL
2023 Non-Joint Standards of Apprenticeship

Appendix A

WORK PROCESS SCHEDULES AND RELATED INSTRUCTION OUTLINE

*Truckee Meadows Community College
and Workforce Connections*

Skilled Machine Technician

O*NET-SOC CODE: 51-4081.00 RAPIDS CODE: 0511HY

APPROVED BY
THE NEVADA LABOR COMMISSIONER AND THE NEVADA STATE APPRENTICESHIP COUNCIL

Toni Giddens, Nevada State Apprenticeship Director

REGISTRATION DATE: _____

RAPIDS PROGRAM ID NUMBER: 2018-NV-70687

**DEVELOPED IN COOPERATION WITH THE
THE NEVADA LABOR COMMISSIONER, THE NEVADA STATE APPRENTICESHIP COUNCIL AND
THE U.S. DEPARTMENT OF LABOR**

Appendix A

**WORK PROCESS SCHEDULE
SKILLED MACHINE TECHNICIAN
O*NET-SOC CODE: 51-4081.00 RAPIDS CODE: 0511HY**

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

1. TYPE OF OCCUPATION

☐ Time-based ☐ Competency-based ☒ Hybrid

2. TERM OF APPRENTICESHIP

3. The term of the occupation shall be defined by the attainment of all competencies of the position. This would be expected to occur within approximately 2,000 –2,500 hours of OJL, supplemented by the minimum of 144 hours of related instruction per year of the apprenticeship.

4. RATIO OF APPRENTICES TO JOURNEYWORKERS

The apprentice to journey worker/fully trained worker ratio is: 1 apprentice(s) to 1 journey worker/fully trained worker(s).

5. APPRENTICE WAGE SCHEDULE

An apprentice minimum starting wage will be at least \$22.00 per hour. Apprentices shall be paid a progressively increasing schedule of wages based on either a percentage or a dollar amount of the current hourly journey worker/fully trained worker wage. A journey worker/fully trained worker minimum wage will be at least \$27.50.

1-Year Term Example:

1st 12 months = 81%

Periodic review and evaluation of the apprentice's on-the-job learning and related technical instruction will be conducted in alignment with the wage schedule established.

6. WORK PROCESS SCHEDULE (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.

7. RELATED INSTRUCTION OUTLINE (See attached Related Instruction Outline)

The sponsor may modify the related instruction to meet local needs prior to submitting these Standards to the appropriate Registration Agency for approval.

Appendix A

WORK PROCESS SCHEDULE SKILLED MACHINE TECHNICIAN O*NET-SOC CODE: 51-4081.00 RAPIDS CODE: 0511HY

The term of the occupation shall be defined by the attainment of all competencies, both technical and behavioral, of the position, which would be expected and approximated to occur within 2,000-2,500 hours of OJL, supplemented by a minimum of 144 hours of related instruction per year of apprenticeship.

Apprenticeship Competencies – Technical

Item	Work Processes	Approx. Hours
A	Operates in the workplace in a safe and effective manner. <ul style="list-style-type: none"> -Adheres to safety, health, and environmental rules and regulations. -Determines the use of personal protective equipment (PPE). -Performs the Lockout/Tagout procedure. -Conducts job safety analysis. 	500
B	Monitors and troubleshoots electrical systems. <ul style="list-style-type: none"> -Adheres to electrical power and control systems safety rules for the systems. -Troubleshoots and installs electrical systems as needed. -Uses proper input and output wiring. -Uses networking principles to share data and enable and disable machines using an HMI. -Trouble shoots an HMI touchscreen. -Identifies the NEMA Emergency Stop Industry best practice. 	100-200
C	Monitors, troubleshoots, installs, and repairs basic mechanical systems. <ul style="list-style-type: none"> -Performs a preventive maintenance procedure for a given machine. -Uses tools to inspect, adjust/tighten and assemble/disassemble equipment and support preventive maintenance, inspection and troubleshooting activities. -Selects and uses troubleshooting methodologies to find malfunctions in machine systems to return the system to reliable, productive use in the shortest time possible. 	500-600
D	Monitors, troubleshoots, installs, and repairs basic hydraulic/pneumatic systems <ul style="list-style-type: none"> -Adheres to fluid power systems safety rules while understanding safety, health, and environmental rules and regulations. -Interprets a hydraulic/pneumatic circuit drawing. -Troubleshoots a basic hydraulic/pneumatic circuit. 	300-400

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E	Sets up and operates machining equipment. -Performs safety inspections. -Performs basic machining operations including actuators, sensors and other components. -Performs maintenance on equipment.	500-600
F	Performs process improvements and other Continuous Improvement Initiatives -Uses 6S to ensure sort, set, shine, standardize, sustain, safety initiatives. -Performs various Continuous Improvement solutions.	100-200
	Total hours (approximate)	2000-2500

The above on-the-job-learning (OJL) work process competencies are intended as a guide. It need not be followed in any sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient experience to make them fully competent and use good workmanship in all work processes, which are a part of the industry. In addition, the apprentice shall be fully instructed in safety and OSHA requirements.

Apprenticeship Competencies – Behavioral

In addition to mastering all the essential technical competencies, an apprentice must consistently demonstrate at an acceptable level the following behavioral competencies, to complete the apprenticeship.

Item #	Behavioral Competencies
1.	Participation in team discussions/meetings
2.	Focus in team discussions/meetings
3.	Focus during independent work
4.	Openness to new ideas and change
5.	Ability to deal with ambiguity by exploring, asking questions, etc.
6.	Knows when to ask for help
7.	Able to demonstrate effective group presentation skills
8.	Able to demonstrate effective one-on-one communication skills
9.	Maintains an acceptable attendance record
10.	Reports to work on time
11.	Completes assigned tasks on time
12.	Uses appropriate language
13.	Demonstrates respect for patients, co-workers, and supervisors
14.	Demonstrates trust, honesty, and integrity
15.	Requests and performs work assignments without prompting
16.	Appropriately cares for personal dress, grooming and hygiene
17.	Maintains a positive attitude
18.	Cooperates with and assists co-workers
19.	Follows instructions/directions
20.	Able to work under supervision
21.	Able to accept constructive feedback and criticism
22.	Able to follow safety rules
23.	Able to take care of equipment and workplace
24.	Able to keep work area neat and clean
25.	Able to meet supervisor's work standards
26.	Able to not let personal life interfere with work
27.	Adheres to work policies/rules/regulations

RELATED INSTRUCTION OUTLINE

The related instruction has been developed in cooperation with employer-partners as part of the apprenticeship. The following is a set of courses to be delivered by subject matter experts.

Related Technical Instruction (RTI) - This instruction shall include, but not be limited to, at least 144 hours per year for each year of the apprenticeship. The related theoretical education listed below is tightly integrated with real work product. The curriculum is defined as a variety of classes, around which the exams and projects are based. By defining the RTI this way, all competencies required of the students are met, through project work.

COURSE

TOPICS	HOURS	CREDITS
A. General Safety	20	
B. AC/DC Circuits	45	3
C. Industrial Fluid Power	45	3
D. Electric Motor Controls	45	3
E. Automated Production Concepts	45	3

COURSE TOPIC DESCRIPTIONS

A. OSHA 222 – General Industry Safety

This is a general safety course for an industrial environment. Students will learn OSHA regulations, personal safety and understand the importance of safe work habits.

B. ELM 110 – Electrical/Electronic Circuits

This course will cover basic principles of AC/DC electrical circuits. Topics will include foundational mathematical calculations, use of diagnostic equipment to perform troubleshooting, and introductory electrical circuit diagrams.

C. MT 108 – Fluid Power

This course is an introduction to fluid power systems involving pneumatics, hydraulics, and electrical control.

D. ELM 127 – Introduction to AC Controls

This course is an introduction to motor control and control logic. Students will work with a variety of industry-standard dynamics related to the application of motors in a manufacturing setting.

E. MPT 110 – Automated Production Concepts I

This course is an introduction to the concept of industry4.0: the fourth iteration of industrial revolution.

SECTION 27 - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS

Truckee Meadows Community College and Workforce Connections hereby adopts these standards of apprenticeship.

Sponsor(s) designate the appropriate person(s) to sign the standards on their behalf.

Signature of Sponsor (*designee*)

Date:_____

Diane Ferguson, Program Manager
Type Name & Title