

## Appendix A

### **WORK PROCESS SCHEDULE METAL FABRICATOR O\*NET-SOC CODE: 51-2041.00 RAPID CODE: 0325**

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

#### **1. TERM OF APPRENTICESHIP**

The term of the occupation shall be three (3) or four (4) years with an OJL attainment of up to 2,000 hours per year for a total of 6,000 – 8,000 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 based on a percentage of the current Mentor wage rate.

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

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#### **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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Job Processes (within courses)	Job Training Hours - 3 Year Program (6,000 hours)	Job Training Hours - 4 Year Program (8,000 hours)
<p><b>Shielded Metal Arc Welding (SMAW)</b></p> <ul style="list-style-type: none"> <li>• Set-up SMAW equipment</li> <li>• Evaluate the quality of a SMAW weld</li> <li>• Run a stringer bead</li> <li>• Perform a butt joint (square) in the four basic positions</li> <li>• Perform a butt/groove weld in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a lap weld in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a t-joint/fillet in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a corner joint in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform an edge joint in the four basic positions (flat, vertical, horizontal, overhead)</li> </ul>	375	500
<p><b>Gas Tungsten Arc Welding (GTAW)</b></p> <ul style="list-style-type: none"> <li>• Set-up GTAW equipment</li> <li>• Evaluate the quality of a GTAW weld</li> <li>• Perform a butt/groove weld in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a lap weld in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a t-joint in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform a corner joint in the four basic positions (flat, vertical, horizontal, overhead)</li> <li>• Perform an edge joint in the four basic positions (flat, vertical, horizontal, overhead)</li> </ul>	750	1,000
<p><b>OxyFuel Cutting and Welding (OFC/W)</b></p> <ul style="list-style-type: none"> <li>• Set-up OFC equipment</li> <li>• Perform oxyfuel cutting</li> <li>• Perform oxyfuel welding</li> <li>• Perform oxyfuel brazing</li> </ul>	390	520
<p><b>Gas Metal Arc Welding (GMAW)</b></p> <ul style="list-style-type: none"> <li>• Set-up GMAW equipment</li> <li>• Perform a butt/groove weld in the appropriate position for short arc and/or pulse spray</li> <li>• Perform a lap weld in the appropriate position for</li> </ul>	1,500	2,000

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short arc and/or pulse spray <ul style="list-style-type: none"> <li>• Perform a t-joint in the appropriate position for short arc and/or pulse spray</li> <li>• Perform a butt/groove weld in the flat or horizontal position using globular or spray method</li> <li>• Perform a lap weld in the flat or horizontal position using globular or spray method</li> <li>• Perform a t-joint weld in the flat or horizontal position using globular or spray method</li> </ul>		
<b>Rigging</b> <ul style="list-style-type: none"> <li>• Identify types of fiber rope</li> <li>• Demonstrate coiling and uncoiling techniques</li> <li>• Whip the end of a line</li> <li>• Inspect fiber rope</li> <li>• Splice fiber rope</li> <li>• Demonstrate the ability to tie various types of knots with fiber rope</li> <li>• Reeve rope falls</li> <li>• Identify types of wire ropes</li> <li>• Inspect wire ropes</li> <li>• Attach end fittings to wire rope</li> <li>• Identify rigging hardware</li> <li>• Demonstrate the use of a single choker hitch</li> <li>• Demonstrate the use of a double wrap choker hitch</li> <li>• Demonstrate the use of a single basket hitch</li> <li>• Demonstrate the use of a double wrap basket hitch</li> <li>• Inspect and use chains</li> <li>• Use an overhead crane</li> <li>• Use a jack</li> <li>• Use a roller</li> <li>• Use a pulling device</li> <li>• Operate a fork lift</li> <li>• Demonstrate crane signals</li> </ul>	188	250
<b>Tools and Equipment</b> Set-up and use the following: <ul style="list-style-type: none"> <li>• Hand tools</li> <li>• Measuring devices</li> <li>• Precision measuring instruments</li> <li>• Shears</li> <li>• Punch press</li> </ul>	1,125	1,500

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Job Processes (within courses)	Job Training Hours - 3 Year Program (6,000 hours)	Job Training Hours - 4 Year Program (8,000 hours)
<ul style="list-style-type: none"> <li>• Drill press</li> <li>• Grinders</li> <li>• Bending brakes</li> <li>• Saws</li> <li>• Beam drilling line</li> <li>• Beam punch line</li> <li>• Plate drilling machine</li> <li>• Plate cutting machine</li> <li>• Brakes</li> <li>• Rolls</li> <li>• Ironworker</li> </ul>		
<p><b>Fabrication and Assembly</b></p> <ul style="list-style-type: none"> <li>• Position, align, fit, and weld parts to form complete units or subunits, following blueprints and layout specifications, and using jigs, welding torches, and hand tools</li> <li>• Verify conformance of work pieces to specifications, using squares, rulers, and measuring tapes</li> <li>• Tack-weld fitted parts together</li> <li>• Layout and examine metal stock or work pieces to be processed to ensure that specifications are met</li> <li>• Align and fit parts according to specifications, using jacks, turnbuckles, wedges, drift pins, pry bars, and hammers</li> <li>• Locate and mark work piece bending and cutting lines, allowing for stock thickness, machine and welding shrinkage, and other component specifications</li> <li>• Position or tighten braces, jacks, clamps, ropes, or bolt straps, or bolt parts in position for welding or riveting</li> <li>• Study engineering drawings and blueprints to determine materials requirements and task sequences</li> <li>• Move parts into position, manually or with hoists or cranes</li> </ul>	1,672	2,230
<b>Total Hours</b>	<b>6,000</b>	<b>8,000</b>