

# SHEETMETAL WORKER (IRON PLATE)

## APPENDIX A

O\*NET CODE 47-2211.00

This training outline is a minimum standard for Work Processes and Related Instruction. Changes in technology and regulations may result in the need for additional on-the-job or classroom training.

### WORK PROCESSES

	<b>Approximate Hours</b>
<b>A. Mastering Basic Skills</b>	<b>2,000</b>
1. Proper use and maintenance of hand tools and equipment such as hacksaw, combo square, ball peen hammer, center punch, framing square, vise grips, pliers, crescent wrench, small screwdriver, scribe, protractor and divider.	
2. Proper use of portable power tools.	
3. Filing, trimming, grinding, deburring and buffing of metal.	
4. Proper set up and operation of drill press.	
5. Proper use and operation of polishing and grinding equipment.	
6. Tapping holes and riveting.	
7. Proper use and understanding of measuring equipment.	
<b>B. Using Punching, Shearing and Cutting Machines</b>	<b>2,000</b>
1. Proper set up and operation of punching machine.	
2. Proper operation of shearing machine.	
3. Proper use of gas and plasma cutting equipment.	
4. Accurate blueprint reading and tolerancing.	
5. Implementing proper layout techniques (simple to intricate).	
<b>C. Various Operations</b>	<b>2,000</b>
1. Accurately reading blueprints.	
2. Implementing proper layout techniques (simple to intricate).	
3. Set up and operation of press brake.	
4. Demonstrating proper use and operation of forming rolls.	

5. Operation of metal cutters.
6. Designing and building fixtures.
7. Demonstrating basic knowledge and understanding of weld symbols.
8. Fit up and tack welding.

**D. Operation and Adjustment of Welding Machines** **2,000**

1. Performing MIG & TIG welding.
2. Designing weld joints.
3. Performing ductile, fillet, butt and tap welds.
4. Heat distortion and straightening.
5. Performing preventive maintenance and minor repair of equipment.
6. Silver soldering and brazing.
7. Spot welding.
8. Assembly of sheet metal products.
9. Sanitary fabrication and welding (if applicable).

**Approximate Total Hours** **8,000**

*Apprenticeship work processes are applicable only to training curricula for apprentices in approved programs. Apprenticeship work processes have no impact on classification determinations under Article 8 or 9 of the Labor Law. For guidance regarding classification for purposes of Article 8 or 9 of the Labor Law, please refer to <https://dol.ny.gov/public-work-and-prevailing-wage>.*

# **SHEETMETAL WORKER (IRON PLATE)**

## **APPENDIX B**

### **RELATED INSTRUCTION**

#### **Safety and Health**

1. Proper Use of Personal Protective Equipment (PPE)
2. Proper Lifting Techniques
3. Fall Protection
4. Hazard Communication/Material Safety Data Sheets (MSDS)
5. Working Safely Around Machinery
6. Welding Safety
7. Lock-out/Tagout
8. First Aid – minimum 6.5 hours every 3 years
9. Sexual Harassment Prevention Training – must comply with section 201-g of the Labor Law

#### **Blueprint Reading, Sketching and Drawing**

1. Fundamentals of Blueprint Reading
2. Sheetmetal Drawing and Layout
3. Transferring Pattern Layout
4. Pattern Drafting

#### **Mathematics**

1. Fundamentals
2. Applications to the Trade
3. Estimating

#### **Industrial History and Labor Relations**

1. Current Laws and Practices

#### **Trade Theory**

1. Tools, Machines, and Equipment
2. Operation, Care and Maintenance
3. Materials
4. Terminology
5. Theory of Jobs and Processes

## **Trade Science**

1. History of Sheetmetal Working (optional)
2. Technology of Jobs and Processes
3. Physical Properties of Materials
4. Principles of Machine Operation
5. Technology of Sheetmetal Fabrication
6. Strength of Materials
7. Metallurgy
8. Principles of Welding
9. Working with Heat Treated Metals

## **Other Workplace Skills**

1. Basic Computer Skills
2. Working as a Member of a Team

## **Other Related Instruction as Necessary**

A minimum of 144 hours of Related Instruction is required for each apprentice for each year.

Appendix B topics are approved by New York State Education Department.