

O.18
WORK PROCESS SCHEDULE
SHEET METAL WORKER
O*NET-SOC CODE: 47-2211.00 RAPIDS CODE: 0510

This trade schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation. This sequence of Related Classroom Instruction is competency based and will be offered as traditional classroom training or independent study, which may include electronic media.

1. TERM OF APPRENTICESHIP

The term of the occupation shall be five (5) years with an OJL attainment of 8,000 hours supplemented by the required hours (750) of related technical instruction.

2. RATIO OF APPRENTICES TO JOURNEYPERSONS

One (1) Apprentice to four (4) Journeypersons: one apprentice for the first skilled journeyperson employed, and one additional apprentice for each four (4) additional skilled journeypersons employed thereafter. A fraction-there-of will be adhered to.

3. APPRENTICE WAGE SCHEDULE

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

Term: 8,000 Hours

- 1st 1000 hours = 40 % of journeyperson's rate
- 2nd 1000 hours = 40 % of journeyperson's rate
- 3rd 1000 hours = 45 % of journeyperson's rate
- 4th 1000 hours = 45 % of journeyperson's rate
- 5th 1000 hours = 50 % of journeyperson's rate
- 6th 1000 hours = 50 % of journeyperson's rate
- 7th 1000 hours = 60 % of journeyperson's rate
- 8th 1000 hours = 65 % of journeyperson's rate

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

Apprenticeship Oversight Committee may add to the work processes prior to submitting these Standards to the Division of Apprentice Training for approval.

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

Instruction can incorporate elements of both electronic media and traditional classroom including online training, distance learning, or independent study of established curriculum.

Curricula modules are based on industry standardized applications of current construction practices. Modules are knowledge and skill based including a system for assessment. The assessment will include task objectives, procedures, review materials, and competency-based performance tests.

O.18 - WORK PROCESS SCHEDULE	HOURS
This instruction and experience shall include the following operations, but not necessarily in the listed sequence. Time spent on specific operations need not be continuous.	
1. Use of hand tools	350
2. Use of machine tools and processes	1000
3. Flux, rivets, and fastening devices	500
4. Measurements and layouts	650
5. Bench work	1100
6. Welding	750
7. Installing duct work and equipment	2050
8. General sheet fabrication and installation of skylights and ventilators	1000
9. Safety practices	500
10. Insulation of duct work (lining, etc.)	100
TOTAL HOURS	8,000

O.18 - SHEET METAL WORKER RELATED CLASSROOM INSTRUCTION

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

Modules	Hours
SHEET METAL LEVEL 1 - COMPETENCIES/OBJECTIVES	
MODULE 00101-09 - BASIC SAFETY	12.5
MODULE 00102-09 - INTRODUCTION TO CONSTRUCTION MATH	10
MODULE 00103-09 - INTRODUCTION TO HAND TOOLS	10
MODULE 00104-09 - INTRODUCTION TO POWER TOOLS	10
MODULE 00105-09 - INTRODUCTION TO CONSTRUCTION DRAWINGS	10
MODULE 00106-09 - BASIC RIGGING	15
MODULE 00107-09 - BASIC COMMUNICATION SKILLS	7.5
MODULE 00108-09 - BASIC EMPLOYABILITY SKILLS	7.5
MODULE 00109-09 - INTRODUCTION TO MATERIALS HANDLING	5
MODULE 04101-08 - INTRODUCTION TO THE SHEET METAL TRADE	5
MODULE 04102-08 - TOOLS OF THE TRADE	5
MODULE 04103-08 - INTRODUCTION TO SHEET METAL LAYOUT AND PROCESSES	10
MODULE 04104-08 - TRADE MATH ONE	20
MODULE 04105-08 - FABRICATION ONE – PARALLEL LINE DEVELOPMENT	22.5
TOTAL HOURS Year One	150

SHEET METAL LEVEL 2 - COMPETENCIES/OBJECTIVES

MODULE 04106-08 - INSTALLATION OF DUCTWORK	15
MODULE 04107-08 - INSTALLATION OF AIR DISTRIBUTION ACCESSORIES	5
MODULE 04108-08 - INSULATION	5
MODULE 04109-08 - ARCHITECTURAL SHEET METAL	12.5
MODULE 04201-08 - TRADE MATH TWO	15
MODULE 04202-08 - PLANS AND SPECIFICATIONS	15
MODULE 04203-08 - FABRICATION TWO: RADIAL LINE DEVELOPMENT	45
MODULE 04204-08 - SHEET METAL DUCT FABRICATION STANDARDS	7.5
HANDS ON TRAINING	30
TOTAL YEAR TWO	150

SHEET METAL LEVEL 3 - COMPETENCIES/OBJECTIVES

MODULE 04205-08 - AIR PROPERTIES AND DISTRIBUTION	15
MODULE 04206-08 - BEND ALLOWANCES	5
MODULE 04207-08 - SOLDERING	15
MODULE 04208-08 - BASIC PIPING PRACTICES	7.5
MODULE 04209-08 - FIBERGLASS DUCT	15
MODULE 04301-09 - TRADE MATH THREE - FIELD MEASURING AND FITTING	15
MODULE 04302-09 - AIR SYSTEMS	10
MODULE 04303-09 - PRINCIPLES OF AIRFLOW	22.5
MODULE 04304-09 - LOUVERS, DAMPERS, AND ACCESS DOORS	15
HANDS ON TRAINING	30
TOTAL YEAR THREE	150

SHEET METAL LEVEL 4 - COMPETENCIES/OBJECTIVES

MODULE 04305-09 - COMPREHENSIVE PLAN AND SPECIFICATION READING	25
MODULE 04306-09 - FABRICATION THREE - TRIANGULATION	42.5
MODULE 04307-09 - ADVANCED ARCHITECTURAL SHEET METAL	12.5
MODULE 04401-03 - SHOP PRODUCTION AND ORGANIZATION	20
MODULE 04402-03 - AIR BALANCE	20
HANDS ON TRAINING	30
TOTAL YEAR FOUR	150

SHEET METAL LEVEL 5 - COMPETENCIES/OBJECTIVES

MODULE 04403-03 - LOUVERS, DAMPERS, AND ACCESS DOORS	20
MODULE 04404-03 - FUME AND EXHAUST SYSTEM DESIGN	20
MODULE 04405-03 - FABRICATION FOUR - COMPREHENSIVE REVIEW	35
MODULE 04406-03 (MT101) - INTRODUCTORY SKILLS FOR THE CREW LEADER	15
HANDS ON TRAINING	30
SHEET METAL CODE REVIEW	30
TOTAL YEAR FIVE	150

Total Hours **750**

DAT apprenticeship program standards recommend 150 hours of related technical instruction per year.