

# SHEET METAL

## STUDENT GRADE RECORD *Career & Technical Education* WINDHAM SCHOOL DISTRICT

Student Name \_\_\_\_\_

TDCJ # \_\_\_\_\_

Social Security Number \_\_\_\_\_

Certified Craft Instructor \_\_\_\_\_

Certified Craft Instructor Code \_\_\_\_\_

Unit \_\_\_\_\_

WSD Certificate	Y / N
If I were hiring for this position, I would: (check one)	
<input type="checkbox"/> 0-No recommendation at this time. (Cannot be used for Completers.)	
<input type="checkbox"/> 1-Hire this person and look no further.	
<input type="checkbox"/> 2-Interview this person along with other applicants	
<input type="checkbox"/> 3-Not hire this person.	
<b>Complete only if student attempted industry certification.</b>	
Name of Industry Certificate	Code      P/F
NCCER, Core	0300
NCCER, Sheet Metal, Level-I	0361
CSSO	0102
OSHA	0100

I attest that all of the information reported on this form is true.

\_\_\_\_\_  
Certified Craft Instructor Signature

Date of Report – CORE \_\_\_\_\_

Date of Report – CSSO \_\_\_\_\_

Date of Report – Level I \_\_\_\_\_

\_\_\_\_\_  
Sponsor Representative

Course Outline Modules	Industry Module Test	Industry Module Performance	Module Competency Rating
<b>CORE</b>			
0. CTE Orientation			
1. Basic Safety- 00101-09			
2. Introduction to Construction Math- 00102-09			
3. Introduction to Hand Tools- 00103-09			
4. Introduction to Power Tools- 00104-09			
5. Introduction to Construction Drawings- 00105-09			
6. Basic Rigging- 00106-09			
7. Basic Communication Skills- 00107-09			
8. Basic Employability Skills- 00108-09			
9. Introduction to Materials Handling- 00109-09			
<b>SHEET METAL LEVEL-I</b>			
10. Introduction to the Sheet Metal Trade- 04101-08			
11. Tools of the Trade- 04102-08			
12. Introduction to Sheet Metal Layout and Processes- 04103-08			
13. Trade Math One-04104-08			
14. Fabrication One-Parallel Line Development - 04105-08			
15. Installation of Ductwork- 04106-08			
16. Installation of Air Distribution Accessories -04107-08			
17. Insulation- 04108-08			

Windham Module Test Average	x . 75		a	Completer
Windham End of Course Exam	x . 25		b	
Windham Module Score (a + b=)				70+
% Competencies Completed				70+
Module Competency Rating				2.7+

I hereby authorize the NCCER Registry Department to verify information in my craft training records to Sponsor Representatives upon request. I release and hold harmless the National Center for Construction Education and Research for this verification process.

Signature \_\_\_\_\_

Date \_\_\_\_\_

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## STUDENT PROGRESS RECORD

### RECORDING DIRECTIONS

SKILL RATING: Post the student's competency rating for each skill performed.

MODULE TEST SCORE: Enter the student's test score for the module.

MODULE RATING: Use the following scale to determine module rating:

[4] **Skilled**- Can perform competencies independently with no supervision.

[3] **Moderately Skilled**- Can perform competencies with limited supervision.

[2] **Limited Skill**- Requires instruction and close supervision to perform competencies.

**Note:** When evaluating a student's module rating, skill performance should be given priority

### CORE

#### 0. CTE Orientation

Teacher Student

Initial Initial

- \_\_\_\_ | \_\_\_\_ 1. Identify employment opportunities related to the course.
- \_\_\_\_ | \_\_\_\_ 2. Identify the number of classroom hours a student must attend to be considered as a completer.
- \_\_\_\_ | \_\_\_\_ 3. Identify the industry-recognized certification.
- \_\_\_\_ | \_\_\_\_ 4. Identify course expectations including:
- Working conditions
  - Attendance expectations
  - Instructor's expectations

#### 1. Basic Safety- 00101-09

Module Test Score \_\_\_\_\_

Minimum 100% Required

\_\_\_\_ Module Rating (4, 3, 2)

- \_\_\_\_ 1. Inspect personal protective equipment (PPE) to determine if it is safe to use (PPE should include safety goggles, hard hat, gloves, safety harness and safety shoes).
- \_\_\_\_ 2. Properly don and remove personal protective equipment (safety goggles, hard hat and personal fall protection).
- \_\_\_\_ 3. Demonstrate safe lifting procedures.
- \_\_\_\_ 4. Set up an extension ladder properly.
- \_\_\_\_ 5. Demonstrate three-point contact on a ladder.

#### 2. Introduction to Construction Math- 00102-09

Module Test Score \_\_\_\_\_

This is knowledge-based; there is no performance test.

#### 3. Introduction to Hand Tools- 00103-09

Module Test Score \_\_\_\_\_

\_\_\_\_ Module Rating (4, 3, 2)

- \_\_\_\_ 1. Visually inspect the following tools to determine if they are safe to use:
- Hammer
  - Screwdriver

- Saw

\_\_\_\_ 2. Make a straight square cut using a crosscut saw.

\_\_\_\_ 3. Safely and properly use a minimum of three of the following tools:

- Hammer and cat's paw (to drive and pull nails)
- Screwdriver (slotted and Phillips)
- Adjustable wrench
- CHANNELLOCK® pliers
- Spirit level
- Carpenter's square and steel tape
- Saw

#### 4. Introduction to Power Tools- 00104-09

Module Test Score \_\_\_\_\_

\_\_\_\_ Module Rating (4, 3, 2)

\_\_\_\_ 1. Safely and properly use three of the following tools:

- Electric drill
- Circular saw
- Saw Zall®
- Pneumatic power nailer

#### 5. Introduction to Construction Drawings- 00105-09

Module Test Score \_\_\_\_\_

\_\_\_\_ Module Rating (4, 3, 2)

\_\_\_\_ 1. Using the floor plan supplied with this module:

- Locate the wall common to both interview rooms.
- Determine the overall width of the structure studio.
- Find the distance from the outside east wall to the center of the beam in the structure studio.
- Find the elevation of the slab.

#### 6. Basic Rigging- 00106-09

Module Test Score \_\_\_\_\_

\_\_\_\_ Module Rating (4, 3, 2)

\_\_\_\_ 1. Select and inspect appropriate slings for a lift.

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- \_\_\_\_\_ 2. Given various loads, determine the proper hitch to be used.
- \_\_\_\_\_ 3. Select and inspect appropriate hardware and/or lifting equipment.
- \_\_\_\_\_ 4. Demonstrate and/or simulate the proper techniques for connecting hitches.
- \_\_\_\_\_ 5. Demonstrate the proper use of all hand signals according to ANSI B30.2 and B30.5.
- \_\_\_\_\_ 6. Describe or demonstrate pre-lift safety checks.
- \_\_\_\_\_ 7. Demonstrate and/or simulate how to lift a load level.
- \_\_\_\_\_ 8. Describe and/or demonstrate safety precautions for attaching and disconnection a load.

## 7. Basic Communication Skills- 00107-09

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Fill out a work-related form supplied by your instructor. (Handouts 4 and 5 are sample forms and are provided in the AIG for this module as an optional resource.)
- \_\_\_\_\_ 2. Read instructions for how to properly don a safety harness, orally instruct another person to don the apparatus.
- \_\_\_\_\_ 3. Perform given task after listening to oral instructions.

## 8. Basic Employability Skills- 00108-09

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Demonstrate the ability to access, retrieve, and print from the following basic software programs:
  - Email
  - Databases
  - Internet

## 9. Introduction to Materials Handling- 00109-09

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Demonstrate proper materials-handling techniques.

## SHEET METAL LEVEL-I

### 10. Introduction to the Sheet Metal Trade- 04101-08

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Identify types of metal from a collection of materials to instructor standards.

- \_\_\_\_\_ 2. Identify common sheet metal fittings.
- \_\_\_\_\_ 3. Use a standard sheet metal gauges to measure various metal thicknesses to given standards.

### 11. Tools of the Trade- 04102-08

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Identify a given hand tool, state its application, and describe its safe use and maintenance.
- \_\_\_\_\_ 2. Demonstrate the use of a given hand tool, according to standards as given by your instructor.
- \_\_\_\_\_ 3. Identify a given power tool, state its application, and describe its safe use and maintenance.
- \_\_\_\_\_ 4. Demonstrate the use of a given power tool, according to standards as given by your instructor.
- \_\_\_\_\_ 5. Identify a given shop machine, state its application, and describe its safe use and maintenance.
- \_\_\_\_\_ 6. Demonstrate the use of a given shop machine, according to standards as given by your instructor.
- \_\_\_\_\_ 7. Select the most suitable tool or machine for a given application.
- \_\_\_\_\_ 8. Demonstrate the use of the selected tool, according to standards as given by your instructor.

### 12. Introduction to Sheet Metal Layout & Processes- 04103-08

*Module Test Score* \_\_\_\_\_

*Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Transfer a sheet metal pattern to a piece of sheet metal to given standards.
- \_\_\_\_\_ 2. Use hand snips to make the following cuts to given standards on 24-gauge or lighter sheet metal: straight cuts, outside curved cuts, and internal cuts.
- \_\_\_\_\_ 3. Perform a double cut on light pipe to given standards
- \_\_\_\_\_ 4. Use shears to square a piece of light gauge sheet metal for ductwork to within 1/16 inch.
- \_\_\_\_\_ 5. Use stakes to form a cone for a weather cap to given standards.
- \_\_\_\_\_ 6. Use stakes to form a 90-degree bend to given standards
- \_\_\_\_\_ 7. Use a slip-roll forming machine to make two sections of round pipe with grooved seams to given standards.
- \_\_\_\_\_ 8. Use a box and pan brake to make right-angle bends to given standards on light-gauge stock.
- \_\_\_\_\_ 9. Use a bar folder to make a hem bend to given standards.
- \_\_\_\_\_ 10. Use a hand brake to make a Pittsburg seam to given standards.

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- \_\_\_\_\_ 11. Make a crimped edge on round pipe to given standards.
- \_\_\_\_\_ 12. Join two sections of round pipe by crimping and beading to given standards.

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## 13. Trade Math One- 04104-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Use the OWL Method to calculate a specific offset.

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## 14. Fabrication One-Parallel Line Development 04105-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Under the supervision of the instructor, the trainee should be able to lay out and fabricate seven fittings from among the following:
- Grooved lock seam
  - Flexible connection
  - Pittsburg seam
  - Mitered fitting
  - 90-degree elbow
  - 90-degree change elbow
  - 45-degree change elbow
  - Rectangular Y-branch
  - 90-degree double Y-branch
  - 90-degree clinch tee
  - Three piece round offset
  - Transition with three straight sides
  - Transition with two straight sides
  - Double offset
  - Ogee offset
  - Rectangular roof flange
  - Smokestack
  - Gored elbow
  - Ogee gutter
  - Belt guard Lay out and fabricate the following:
    - 90-degree tee
    - 45-degree tee
    - Type-A ventilator

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## 15. Installation of Ductwork- 04106-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Identify a given fastener and state its application.
- \_\_\_\_\_ 2. Determine the various specifications of given fasteners.
- \_\_\_\_\_ 3. Classify hangers by types and applications.
- \_\_\_\_\_ 4. Demonstrate the proper method of installing selected duct hangers, supports, and reinforcements.
- \_\_\_\_\_ 5. Connect and seal rectangular and round duct.

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## 16. Installation of Air Distribution Accessories- 04107-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Explain the purpose of selected air distribution accessories.
- \_\_\_\_\_ 2. Simulate and/or demonstrate the installation of selected air distribution accessories,
- \_\_\_\_\_ 3. Install an opposed-blade balancing damper in a section of lined duct.
- \_\_\_\_\_ 4. Install a takeoff in the same section of duct.

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## 17. Insulation 04108-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Measure and cut a specified length of fibrous duct wrap from a larger piece, including at least one facing tab, using the appropriate tools.
- \_\_\_\_\_ 2. Properly install appropriate insulation around a provided pipe.
- \_\_\_\_\_ 3. Properly install a vapor barrier around a provided pipe.
- \_\_\_\_\_ 4. Properly seal the seams, joints, or facing tabs on the insulation with tape or adhesive, as the instructor chooses.
- \_\_\_\_\_ 5. Install metal nosing.

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## 18. Architectural Sheet Metal 04109-08

\_\_\_\_\_ *Module Test Score* \_\_\_\_\_

\_\_\_\_\_ *Module Rating (4, 3, 2)*

- \_\_\_\_\_ 1. Layout and develop the pattern for a 60 degree two-piece conductor elbow.
- \_\_\_\_\_ 2. Fabricate the fitting listed above.
- \_\_\_\_\_ 3. Form and solder a lap seam and a butt seam.
- \_\_\_\_\_ 4. Lay out and fabricate the following:
  - Rectangular outlet tube
  - Rectangular gutter (two styles)
- \_\_\_\_\_ 5. Fabricate flashing for a shingle roof.
- \_\_\_\_\_ 6. Lay out and fabricate the following:
  - Chimney flashing
  - Typical metal coping profile

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