

# Sheet Metal-HVAC Ducts and Fittings DIPLOMA

## Program Overview

The sheet metal worker reads blueprints, prepares layouts, and operates fabricating devices such as special hand tools, power shears, nibbler, brake, bar folder, turning machines, spot and arc welders, soldering equipment, and plasma cutting systems. The skilled sheet metal worker gathers general information and specifications from blueprints for the fabrication and installation of ducts for heating, cooling, filtering, and humidifying air. Also, sheet metal workers fabricate and install metal roofing and siding, stainless steel equipment for homes and industry, chutes for material transfer, signs, and rain dispersal equipment.

Satisfactory preparation for the sheet metal program may include high school courses in algebra and geometry. Other helpful courses are mechanical drafting and metal shop. Much of the sheet metal work starts with two-dimensional objects and ends with a three-dimensional product. Sheet metal work requires good spatial perception.

## Career Opportunities

According to the U.S. Department of Labor, employment of sheet metal workers in construction is expected to increase about as fast as the average for all occupations. Graduates may go to work for firms that fabricate sheet metal products and become skilled production, precision, or construction sheet metal workers.

## Program Outcomes

1. Graduates will have the knowledge and skills to layout, fabricate, and assemble all types of sheet metal products.
2. Graduates will have the ability to safely operate all types of sheet metal fabricating equipment.
3. Graduates will have the knowledge and skills to complete sheet metal welding and soldering processes.
4. Graduates will have the knowledge and skills to use computer-aided drafting for the design and fabrication of sheet metal products.
5. Graduates will have the knowledge and skills to use drafting and blueprint reading to design HVAC duct systems.

## Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to [saintpaul.edu/Transfer](http://saintpaul.edu/Transfer).

### Sheet Metal-HVAC Ducts and Fittings Diploma

BS Operations Management  
Minnesota State University, Moorhead

## Program Faculty

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### Special supplies, tools, and estimated costs

The list for required tools is supplied by the program advisor. The cost of tools for the program is approximately \$300. Contact program faculty for more information.

## Program Requirements

Check off when completed

Course	Cr
<input type="checkbox"/> SMET 1410 Sheet Metal Fitting Layout and Design	4
<input type="checkbox"/> SMET 1415 OSHA 30 HR Training	2
<input type="checkbox"/> SMET 1420 Sheet Metal Fitting Fabrication	4
<input type="checkbox"/> SMET 1430 Sheet Metal Drafting & Blueprint Reading	2
<input type="checkbox"/> SMET 1440 Sheet Metal Welding	5
<input type="checkbox"/> SMET 1450 Sheet Metal Practical Problem Solving	2
<input type="checkbox"/> SMET 1510 Duct System Layout & Design	4
<input type="checkbox"/> SMET 1520 Duct System Fabrication	4
<input type="checkbox"/> SMET 1530 Architectural Sheet Metal	4
<input type="checkbox"/> SMET 1540 Power Machine Operation	3
<input type="checkbox"/> SMET 1550 Sheet Metal CAD/CAM Systems	3
<b>Subtotal</b>	<b>37</b>

### General Education/MnTC Requirements

General Education/MnTC Requirements	Cr
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area	
<input type="checkbox"/> Goal 1: Communication	3
COMM 17XX – 3 cr	
<b>General Education Requirements</b>	<b>3</b>

**Total Program Credits** . . . . . 40

## Program Start Dates

Fall

### Full-time enrollment is required

Students must be enrolled full-time with a cohort of students. Technical courses only offered during days.

## Course Sequence

The following sequence is recommended.

### First Semester

SMET 1410 Sheet Metal Fitting Layout and Design	4
SMET 1415 OSHA 30 HR Training	2
SMET 1420 Sheet Metal Fitting Fabrication	4
SMET 1430 Sheet Metal Drafting & Blueprint Reading	2
SMET 1440 Sheet Metal Welding	5
SMET 1450 Sheet Metal Practical Problem Solving	2
Goal 1: COMM 17XX	3
<b>Total Semester Credits</b>	<b>22</b>

### Second Semester

SMET 1510 Duct System Layout & Design	4
SMET 1520 Duct System Fabrication	4
SMET 1530 Architectural Sheet Metal	4
SMET 1540 Power Machine Operation	3
SMET 1550 Sheet Metal CAD/CAM Systems	3
<b>Total Semester Credits</b>	<b>18</b>

**Total Program Credits** . . . . . 40

### Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 240+ or grade of "C" or better in READ 0721

**Writing:** Score of 225+

**Arithmetic:** Score of 237+

**Spatial assessment required:** Score 50+

### Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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*Information is subject to change.  
This Program Requirements Guide is not a contract.*