

# Sheet Metal-HVAC Ducts and Fittings AAS DEGREE

## 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 institutions for the baccalaureate degree programs listed below. For more information please go to [saintpaul.edu/Transfer](http://saintpaul.edu/Transfer).

### Sheet Metal/HVAC Ducts & Fittings AAS

- BA Individualized Studies  
Metropolitan State University
- BS Operations Management  
Minnesota State University, Moorhead

## Program Faculty

Viangsavanh Paborriboon  
viangsavanh.paborriboon@saintpaul.edu  
651.846.1367

## Program Requirements

Check off when completed

### 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.

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 Cr

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

<input type="checkbox"/> Goal 1: Communication	7
ENGL 1711 Composition 1 – 4 cr	
COMM 17XX – 3 cr	
<input type="checkbox"/> Goal 3 or Goal 4	6
Goal 3: Natural Sciences OR	
Goal 4: Mathematical/Logical Reasoning	
<input type="checkbox"/> Goal 5: History, Social Science and Behavioral Sciences	3
<input type="checkbox"/> Goal 6: Humanities and Fine Arts	3
Select a minimum of 4 additional credits	
<input type="checkbox"/> Goals 1 – 10 of the Minnesota Transfer Curriculum	4
Select a minimum of 4 additional credits	
<b>General Education Requirements</b>	<b>23</b>
General Education requirement courses may be taken before, after or concurrently with Sheet Metal courses.	

**Total Program Credits . . . . . 60**

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

## 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>

**General Education Requirements (20 additional credits)**

**Total Program Credits . . . . . 60**

### Minimum Program Entry Requirements

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

**Reading:** Score of 60+ or grade of "C" or better in READ 0721

**Writing:** Score of 60+ or grade of "C" or better in ENGL 0921

**Arithmetic:** Score of 31+

**Spatial assessment required:** Score 50+ on spatial assessment

**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.

368A