

Welding Technology DIPLOMA

Program Overview

Welding and fabrication operations require skilled workers who are well-trained in the use of advanced arc welding process, layout fabrication techniques, blueprint reading and measuring devices. Skilled welding fabricators are thoroughly familiar with both welding and shop equipment, understanding the breakdown and setup procedures, test standards, and knowledge of the various types of metals. Physical requirements include good eyesight, good hand and eye coordination and the ability to perform heavy, physical work.

Career Opportunities

According to the U.S. Department of Labor, it is projected within the next 10 years to see a 15% growth rate, adding 50,000 new jobs. Welders and fabricators work in manufacturing plants both in structural and non-structural settings as production welders, maintenance welders, specialty welders, layout fabricators, press brake operators, CNC plasma/laser cutting operators, and robotic welding operators. Welding fabrication is widely used in the aircraft, automobile, trucking, shipbuilding, pipefitting, plumbing, sheetmetal, ironworking and other trades that use metals. Skilled welders may become layout specialists, engineers, technicians, supervisors, Certified Welding Inspectors or private shop owners.

Program Outcomes

1. Identify correct welding techniques for multiple processes.
2. Follow safety requirements in the set-up, operation, and break down of metal shop equipment.
3. Produce weldments to AWS/Industry standards for multiple processes.
4. Analyze the quality of welds to determine if proper techniques/settings are being used.
5. Use blueprints and measuring devices to aid in welding.
6. Distinguish between the characteristics of commonly used metal types.
7. Apply mathematical tools to metalworking techniques.
8. Construct projects using metalworking fabrication techniques.

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.

Welding Technology Diploma

BS Operations Management
Minnesota State University, Moorhead

Program Faculty

Todd Hankel todd.hankel@saintpaul.edu
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Caleb Paulson caleb.paulson@saintpaul.edu

Supply costs

Estimated cost for student supplies \$520.

Program Requirements

Check off when completed

Certain classes must be taken concurrently and certain classes are prerequisites to other classes.

| Course | Cr |
|--|-----------|
| <input type="checkbox"/> WLDG 1402 Industrial Shop Practices 1 | 4 |
| <input type="checkbox"/> WLDG 1410 Welding Basics | 2 |
| <input type="checkbox"/> WLDG 1420 SMAW: E6010 | 2 |
| <input type="checkbox"/> WLDG 1431 SMAW: E7018 | 2 |
| <input type="checkbox"/> WLDG 1441 GMAW: Short Arc | 3 |
| <input type="checkbox"/> WLDG 1450 Intro to Blueprint/Measuring Devices | 3 |
| <input type="checkbox"/> WLDG 1502 Industrial Shop Practices | 4 |
| <input type="checkbox"/> WLDG 1510 GMAW Spray and Pulse Spray | 3 |
| <input type="checkbox"/> WLDG 1520 GMAW Core Wires | 3 |
| <input type="checkbox"/> WLDG 1530 Intro to GTAW | 3 |
| <input type="checkbox"/> WLDG 1540 Blueprint Welding Symbols/Math/Welder Qualification | 3 |
| <input type="checkbox"/> WLDG 2402 Industrial Shop Practices 3 | 4 |
| <input type="checkbox"/> WLDG 2411 GMAW: Aluminum and Stainless Steel | 3 |
| <input type="checkbox"/> WLDG 2420 GTAW: Aluminum and Stainless Steel | 4 |
| <input type="checkbox"/> WLDG 2430 Grinding and Finishing | 2 |
| <input type="checkbox"/> WLDG 2442 Intro to Robotics | 3 |
| Subtotal | 48 |

Total Program Credits48

Program Start Dates

Fall, Spring

Course Sequence

The following sequence is recommended for a full-time student.

First Semester

| | |
|--|-----------|
| WLDG 1402 Industrial Shop Practices 1 | 4 |
| WLDG 1410 Welding Basics | 2 |
| WLDG 1420 SMAW: E6010 | 2 |
| WLDG 1431 SMAW: E7018 | 2 |
| WLDG 1441 GMAW: Short Arc | 3 |
| WLDG 1450 Intro to Blueprint/Measuring Devices | 3 |
| Total Semester Credits | 16 |

Second Semester

| | |
|---|-----------|
| WLDG 1502 Industrial Shop Practices | 4 |
| WLDG 1510 GMAW Spray and Pulse Spray | 3 |
| WLDG 1520 GMAW Core Wires | 3 |
| WLDG 1530 Intro to GTAW | 3 |
| WLDG 1540 Blueprint Welding Symbols/Math/Welder Qualification | 3 |
| Total Semester Credits | 16 |

Third Semester

| | |
|--|-----------|
| WLDG 2402 Industrial Shop Practices 3 | 4 |
| WLDG 2411 GMAW: Aluminum and Stainless Steel | 3 |
| WLDG 2420 GTAW: Aluminum and Stainless Steel | 4 |
| WLDG 2430 Grinding and Finishing | 2 |
| WLDG 2442 Intro to Robotics | 3 |
| Total Semester Credits | 16 |

Total Program Credits48

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 38+

Arithmetic: Score of 31+

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.

Degree option may have a greater requirement than this diploma.

324D (7187)

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