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. Graduates will have the knowledge and skills in setup and break-down procedures, test standards, and different types of metals in the fabrication and welding industry.
2. Graduates will have knowledge and skills in OAC (Oxyacetylene Cutting) PAC (Plasma Arc Cutting), SMAW (Shielded Metal Arc Welding), GMAW (Gas Metal Arc Welding), GTAW (Gas Tungsten Arc Welding), FCAW (Flux Core Arc Welding).
3. Graduates will have acquired supervised hands-on experience in various welding processes.
4. Graduates will be prepared for entry level employment in the welding industry and related fields based on skills acquired in welding, blueprint reading, related math and measuring devices.
5. Graduates will have successfully completed the educational program requirements for welding & fabrication through discipline and hard work.
6. Graduates of Welding Technology Program will become critical thinkers in relationship to the welding trades as it pertains to real life roles.

Program Faculty

Todd Hankel todd.hankel@saintpaul.edu
William Schuldt william.schuldt@saintpaul.edu
Caleb Paulson caleb.paulson@saintpaul.edu
Victoria LeMay victoria.lemay@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
☐ CMAE 1514 Safety Awareness	2
☐ CMAE 1518 Manufacturing Processes	2
☐ CMAE 1522 Quality Practices	2
☐ CMAE 1526 Maintenance Awareness	2
☐ WLDG 1401 Industrial Shop Practices 1	2
☐ WLDG 1410 Welding Basics	2
☐ WLDG 1420 SMAW: E6010	2
☐ WLDG 1430 SMAW: E7018	3
☐ WLDG 1440 GMAW Short Arc	2
☐ WLDG 1450 Intro to Blueprint/Measuring Devices	3
☐ WLDG 1501 Industrial Shop Practices 2	2
☐ 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
☐ WLDG 2401 Industrial Shop Practices 3	2
☐ WLDG 2410 GMAW Aluminum and SST	2
☐ WLDG 2420 GTAW Aluminum and SST	4
☐ WLDG 2430 Grinding and Finishing	2
☐ WLDG 2441 Intro to Robotic Welding & Fabrication	2
Subtotal	**48**
Total Program Credits	**48**

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 www.saintpaul.edu/Transfer.

Welding Technology Diploma
BS Operations Management
Minnesota State University-Moorhead

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

Program Start Dates

Fall, Spring

Course Sequence

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

First Semester

CMAE 1514 Safety Awareness	2
WLDG 1401 Industrial Shop Practices 1	2
WLDG 1410 Welding Basics	2
WLDG 1420 SMAW: E6010	2
WLDG 1430 SMAW: E7018	3
WLDG 1440 GMAW Short Arc	2
WLDG 1450 Intro to Blueprint/Measuring Devices	3
Total Semester Credits	**16**

Second Semester

CMAE 1518 Manufacturing Processes	2
WLDG 1501 Industrial Shop Practices 2	2
WLDG 1510 GMAW Spray & 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

CMAE 1522 Quality Practices	2
CMAE 1526 Maintenance Awareness	2
WLDG 2401 Industrial Shop Practices 3	2
WLDG 2410 GMAW Aluminum and SST	2
WLDG 2420 GTAW Aluminum and SST	4
WLDG 2430 Grinding and Finishing	2
WLDG 2441 Intro to Robotic Welding & Fabrication	2
Total Semester Credits	**16**

Total Program Credits 48

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

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.

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