

Program Overview

The Welding program will provide students with the skills and knowledge identified by the American Welding Society Skill Standards. They will be taught welding skills and theory, fabrication, layout, print reading, welding symbols, math, and welding codes.

Campus:



**Ashland
New Richmond
Rice Lake
Superior**

Admission Requirements

Students in this program must:

- Complete application form and submit with fee (fee waiver may apply if previously submitted)
- Complete Accuplacer entrance assessment to determine placement (waiver may apply with acceptable alternative test scores and/or postsecondary degree completion)
- Complete admissions interview with a WITC counselor (above requirements should be completed prior to interview)

Student Profile

Welding students should:

- Enjoy working with their hands
- Be able to use independent judgment
- Be able to visualize objects from drawings
- Be able to organize work rapidly and perform repetitive tasks
- Be able to follow procedures carefully
- Be able to stand for long periods
- Be able to work in an industrial setting
- Be able to work well under pressure
- Be able to work with or without direct supervision

Preparation for Admission

Students should strive to reach a comfort level in the following courses or skills:

- Communications
- Drafting and Design
- Basic Math
- General Metals
- Machine Shop
- Welding
- Principles of Technology

Program Outcomes

Employers will expect the Welding graduate to be able to:

- Demonstrate industry-recognized safety practices
- Interpret welding drawings
- Produce shielded metal arc welds (SMAW)
- Produce gas metal arc welds (GMAW)
- Produce flux core welds
- Produce gas tungsten arc welds (GTAW)
- Perform thermal cutting

Collegewide outcomes and indicators will also be addressed to develop personal awareness, career effectiveness, and professionalism. See page 5 for a list of collegewide outcomes and indicators.

Career Outlook

Almost 60 percent of the gross national product involves welding. The demand for welders continues to be very strong. Positions available after graduation include:

- Production Welder
- Construction Welder
- Maintenance Welder
- Welder/Fitter
- Welder Helper
- Welding Machine Operator
- Flame Cutter/Machine Operator

Curriculum

Number	Course Title	Credits
Occupational Specific Courses		
31442321	Print Reading - Welding Trades	2
31442325	Welding Fabrication/Production (WBL) ▲	3
31442370	Gas Metal Arc Welding 1	3
31442371	Gas Metal Arc Welding 2 ▲	2
31442372	Gas Metal Arc Welding 3 ▲	1
31442373	Shielded Metal Arc Welding 1	3
31442374	Shielded Metal Arc Welding 2 ▲	2
31442375	Shielded Metal Arc Welding 3 ▲	2
31442376	OAC/PAC/AAC Cutting	2
31442377	Flux Cored Arc Welding 1	2
31442378	Flux Cored Arc Welding 2 ▲	2
31442379	Gas Tungsten Arc Welding 1	2
31442380	Gas Tungsten Arc Welding 2 ▲	2
		<u>28</u>
Occupational Supportive/General Studies Courses[▸]		
32801361	Applied Communications 1	2
32804373	Math 373	2
32809371	Applied Human Relations	2
		<u>6</u>

PROGRAM REQUIREMENTS **34**

- ▲ Requires a prerequisite and/or corequisite that must be completed with a grade point of 2.0 or better.
- See page 40 for General Studies course descriptions.

Course Descriptions

(See page 40 for General Studies course descriptions)

31442321

Print Reading - Welding Trades - Credits: 2

Orthographic projection, sketching, dimensioning, section and auxiliary views, structural shape identification, weld symbols, welding symbol nomenclature, welded joint geometry, metric conversion, and interpretation of fabrications from prints.

31442325

Welding Fabrication/Production (WBL) - Credits: 3

This course introduces the student to the basics of metal fabrication including the use of layout tools and principles, and blueprint interpretation. Also, weldment fit-up, tacking, distortion, and flame straightening are covered. The use of shears, drilling, taping, painting, and CNC cutting equipment for fabrication purposes is also covered. PREREQUISITES: 31442321 Print Reading - Welding Trades, 31442370 Gas Metal Arc Welding 1, 31442373 Shielded Metal Arc Welding 1, 31442374 Shielded Metal Arc Welding 2, 31442376 OAC/PAC/AAC Cutting, and COREQUISITE: 31442375 Shielded Metal Arc Welding 3.

31442370

Gas Metal Arc Welding 1 - Credits: 3

This course introduces the student to the basics of GMAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques.

31442371

Gas Metal Arc Welding 2 - Credits: 2

This course introduces the student to the next level of GMAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques. COREQUISITE: 31442370 Gas Metal Arc Welding 1.

31442372

Gas Metal Arc Welding 3 - Credits: 1

This course introduces the student to an advanced level of GMAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques. COREQUISITE: 31442371 Gas Metal Arc Welding 2.

31442373

Shielded Metal Arc Welding 1 - Credits: 3

This course introduces the student to the basics of SMAW welding. It includes the study of the type of metals and equipment utilized when welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard welding techniques.

31442374

Shielded Metal Arc Welding 2 - Credits: 2

This course introduces the student to the next level of SMAW welding. It includes the study of the type of metals and equipment utilized when welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard welding techniques. COREQUISITE: 31442373 Shielded Metal Arc Welding 1.

31442375

Shielded Metal Arc Welding 3 - Credits: 2

This course introduces the student to an advanced level of SMAW welding. It includes the study of the type of metals and equipment utilized in SMAW welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard welding techniques. COREQUISITE: 31442374 Shielded Metal Arc Welding 2.

31442376

OAC/PAC/AAC Cutting - Credits: 2

This course introduces the student to the basics of cutting and gouging operations. It includes the study of the common processes, techniques, and equipment utilized when cutting and gouging. The instruction emphasizes accepted applications in the use of carbon steel, stainless steel, and aluminum.

31442377

Flux Cored Arc Welding 1 - Credits: 2

This course introduces the student to the basics of FCAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques.

31442378

Flux Cored Arc Welding 2 - Credits: 2

This course introduces the student to the next level of FCAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques. COREQUISITE: 31442377 Flux Cored Arc Welding 1.

31442379

Gas Tungsten Arc Welding 1 - Credits: 2

This course introduces the student to the basics of GTAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing standard industry techniques.

31442380

Gas Tungsten Arc Welding 2 - Credits: 2

This course introduces the student to the next level of GTAW welding operations. It includes the study of the type of metals and equipment utilized in welding. The instruction emphasizes accepted applications in butting and joining metals utilizing the standard industry techniques. COREQUISITE: 31442379 Gas Tungsten Arc Welding 1.

Gainful employment information is available at this link: <http://www.witc.edu/pgmpages/welding/career.htm>. This information is provided as a federal requirement in an effort to help students make informed decisions related to the costs and potential employment in a chosen field.

Graduate Employment Information

(WITC Graduate Survey Responses 2009-2010; for most recent data, go to [witc.edu](http://www.witc.edu))

Number of graduates	57	Number employed	45	% employed in WITC district	50%
Number of responses	52	Percent employed	90%	Range of yearly salary	\$20,798-\$118,676
Number available for employment	50	Employed in related field	28	Average yearly salary	\$39,982

career vision