

# Industrial Welding Technology

Holland code family: Doers

## About the Program

The Associate of Applied Science degree in Industrial Welding Technology is designed for students whose goals are to enter the job market as entry-level welders/fabricators. Upon completing the program, students will be qualified to test for certification to the American Welding Society (AWS) D1.1-06 Structural Steel Welding Codes and the AWS D1.3-08 Sheet Steel Welding Code. Students would also be able to test to certify as pipe welders to the American Society of Mechanical Engineers (ASME) Section IX Welding Code, and as Level I Entry Level and Level II Advanced Level Welder by the AWS EG2.0 and 3.0 welder training programs.

Additionally, students will have a good foundation in structural steel layout, pipefitting, and sheet metal pattern development. Students will also be prepared with mathematics and communication skills and be knowledgeable of the human relations skills necessary to become valuable employees in the industrial welding field.

If students intend to transfer to SOU's Bachelor of Applied Science degree program, transfer courses should be chosen from the list of electives where possible. See an advisor for more information or visit [www.sou.edu/degreecompletion](http://www.sou.edu/degreecompletion).

## Program Learning Outcomes

The curriculum in RCC courses is derived from a set of identified learning outcomes that are relevant to the discipline. Program learning outcomes for industrial welding programs are:

Show a serious commitment to a culture of safety in all college and work environments.

Produce industry quality weldments on carbon steel plate in various joint and groove configurations.

Processes include oxy fuel cutting, plasma arc cutting, SMAW, GMAW and FCAW.

Produce industry-quality welds using GTAW, GMAW and FCAW on stainless steel and aluminum plate.

Produce industry-quality welds on various diameters of carbon steel pipe in the 5g and 6g positions using SMAW electrodes E6010 and E7018.

Develop a logical sequence of steps to foresee, troubleshoot, and resolve mechanical and process issues that may arise in the workplace.

Interpret and create mechanical blueprints to industry standards.

Layout and fabricate industry-quality fabrication projects using shearing and forming equipment.

Demonstrate a commitment to the professional standards of the industry.

## Entry Requirements

Students are required to complete the Placement Process to determine skill level and readiness in math, reading, and writing. As part of their training program, students must begin with the courses within their skill level as determined through the Placement Process. In addition, students may also be required to enroll in classes that would increase their employability and success.

## Advanced Standing

Coursework from accredited colleges and universities will be accepted in accordance with college policies. In order to ensure that coursework is current, program courses over three years old must be reviewed and approved by the appropriate department chair before being accepted toward core requirements. College Now credit will be accepted in accordance with current agreement. Verified industry experience may be substituted for some coursework in accordance with college policy and the department chair's approval.

Credits earned in the successful completion of Career Pathways certificates can be applied to other certificates and degrees in the Career Pathway. For more information, speak to a program advisor and review the roadmap at [www.roguecc.edu/Programs/CareerPathways](http://www.roguecc.edu/Programs/CareerPathways).

## Graduation Requirements

Students must complete all courses in this program with a grade of "C" or better to receive their degrees. Certain required courses are graded on a pass/no pass basis only. A grade of "P" for these courses indicates a student earned the equivalent of a "C" or better grade.

## Prerequisites

Course No.	Course Title	Credits
BBT113	Business English I or WR115 Introduction to Expository Writing or higher level composition <sup>1</sup>	3-4
CS/CIS	Approved 3-4 credit Computer Science class, CS/CIS120 or above or documented computer proficiency within the past ten years. <sup>1</sup>	0-4



MEC102	Basic Hand Tools or demonstrated proficiency	0-3
MTH20	Pre-algebra or designated placement test score	0-4
<b>Total Prerequisite Credits</b>		<b>3-15</b>

## First Year Required Courses

Course No.	Course Title	Credits
<b>First Term</b>		
HE112	Emergency First Aid	1
MET101	Mechanical Drafting	3
MTH63	Applied Algebra I or MTH60 Fundamentals of Algebra I or higher level math	4
WLD111	Technology of Industrial Welding I	6
		14
<b>Second Term</b>		
LIB127	Introduction to Academic Research or LIB101 Introduction to Information Literacy	1
WLD104	Blueprint Reading – Mechanical	3
WLD112	Technology of Industrial Welding II	6
WLD121	Fabrication and Repair Practices I	5
		15

## Third Term

BT101	Human Relations in Organizations or PSY101 Psychology of Human Relations	3
BT114	Business English II or WR121 English Composition I or higher level composition 2	4
WLD113	Technology of Industrial Welding III	6
WLD122	Fabrication and Repair Practices II	5
		18

## Total First Year Credits

47

## Second Year Required Courses

Course No.	Course Title	Credits
<b>Fourth Term</b>		
GS104	Physical Science with lab or approved program elective	3-4
MFG121	Manufacturing Processes I	4
WLD211	Technology of Industrial Welding IV	6
WLD220	Machine Tool Maintenance and Repair	3
WLD221	Welding Codes, Procedures and Inspections	3
		19-20

### Fifth Term

MEC103	Industrial Safety	1
MEC114	Safety for Industry	3
WLD212	Technology of Industrial Welding V	6
WLD225	Industrial Metallurgy or MET160 Materials and Metallurgy	3 13

### Sixth Term

WLD213	Technology of Industrial Welding VI	6
WLD280	Cooperative Work Experience/Welding or WLD250F Capstone	2-3
—	Approved program elective	3-6 11-15

**Total Second Year Credits 43-48**

**TOTAL PROGRAM CREDITS 90-95**

### Approved Program Electives

(minimum of 3-6 credits required)

Course No.	Course Title	Credits
BA109	Ready, Set, Work: Techniques for Landing a Job	2
DS260	Hydraulic Systems for Heavy Equipment with lab	3
EET101	Introduction to Electronics	3
MEC116	Quality Practices and Measurements	3
MEC124	Hoisting and Rigging I	3
MEC125	Pneumatics I	3
MEC130	Hydraulics I	3
MEC149	Electric Motor Control	4
MET121	Computer Aided Drafting I: Mechanical (SolidWorks)	3
MET122	Computer Aided Drafting II: Mechanical (SolidWorks)	3
MET123	Computer Aided Drafting III: Mechanical (SolidWorks)	3
MFG122	Manufacturing Processes II	4
MFG123	Manufacturing Processes III	4
MFG211	Manufacturing Power and Control Electronics	4
MFG291	Laser Cutting and Engraving Fundamentals	2
WLD160	American Welding Society (AWS) Certification Seminar: Plate	1
WLD250	Selected Topics in Welding	variable
WLD250P	Selected Topics in Welding: CNC Plasma Cutting	3
WLD260	American Welding Society (AWS) Certification Seminar: Pipe	1
—	Any college-level course numbered 100 or above	variable

<sup>1</sup> Required for graduation.

<sup>2</sup> Students must complete either BT113 and BT114 or WR115 and WR121 (or higher level composition classes). Three credits of speech may be substituted for 3-4 credits of writing. Students who have successfully completed the 3-credit versions of BT113 and BT114 will have met this requirement.

For more information contact the Industrial Welding Department:

Grants Pass or Medford ..... 541-245-7809  
 Toll free in Oregon .....800-411-6508, Ext. 7809  
 email .....welding@roguecc.edu  
 Web address ..... www.roguecc.edu/welding  
 TTY ..... Oregon Telecom Relay Service, 711

This advising guide is for advising purposes only. Please see current college catalog for additional information on specific college policies and graduation requirements.

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