

Welding Technology



Engineering • Manufacturing • Industrial Technology

The associate of applied science degree with specialization in welding technology parallels the highly technological demands of industry. The welding laboratory contains state-of-the-art equipment for shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux cored arc welding (FCAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), plasma arc cutting and oxy-fuel cutting (OFC). Virtually all modern production welding practices are covered.

The subject matter and laboratory experiences in the welding program provide training for the serious welding technologist, with emphasis on welding skill development, welding metallurgy, weldment evaluation and testing and related technical courses. Students are prepared for many welding-related careers, including welding inspection, sales, service, design, maintenance and engineering. The college offers state and American Welding Society (AWS) welder certification testing. Graduates of this program will be prepared for entry-level employment in the following areas:

- Welder/fabricator
- Welding metallurgy technician
- Welding sales/service technician
- Engineering technician
- Pipefitter
- Weld inspector
- Production welder

For welding courses 102, 104 and 106, it is possible to enroll for specific subdivisions of the courses. As an example, WELD 102, Advanced SMAW, is shown as a single, six credit-hour course. The course can be subdivided into WELD 102A, Multi-Pass Arc Welding – two credits; WELD 102B, Code Welding Techniques – two credits; and WELD 102C, Multi-Pass Pipe Fillet Welding – two credits. This allows greater flexibility in terms of advanced placement for those with prior welding experience/training and also in the amount of time one has to commit to class during any one semester. Similar options exist in GMAW and GTAW Applications. See the division dean or faculty member for more information.

Another important feature of the program is the individual progress, audio-tutorial approach to mastering welding skills. Students may come in and, within certain parameters, progress at their own rate of speed. This allows students to complete course requirements based on their own ability rather than being locked into a set rate of progress for a given class.

Welding majors will be required to purchase related equipment for the program. A list is available from the college.

In addition to completion of the required general education courses, students desiring the program designation on their transcript must complete the required core and specialized courses.

	Credits
Required General Education Courses	21
ENGL 101 (Written and Oral Communication) or ENGL 151 (English Composition I)	3
¹ MATH	6
POLSC 151 (Introduction to Political Science)	3
² Social Science/Humanities Elective.....	3
PHY 101, 151, or CHEM 150 or 151	4
³ Computer Skills Elective	2
Required Core Courses	41
1st Semester	
MATL 101 (Industrial Materials)	3
WELD 100 (Introduction to Welding Processes)	4
2nd Semester	
† WELD 110 (Welding Symbols and Blueprint Reading)	2
† WELD 114 (GMAW and GTAW Applications)	6
3rd Semester	
METC 220 (Statics & Strength of Materials)	4
† WELD 102 (Advanced SMAW)	6
WELD 103 (Weldment Evaluation and Testing)	3
4th Semester	
WELD 105 (Welding Metallurgy)	3
WELD 106 (Basic Pipe Welding)	6
Spring	
WELD 216 (Basic Pipefitting)	4
Total Degree Requirements	62

† Tech Prep course. See page 14.

¹ See page 37 for specific Industrial Technology Division mathematics requirements for the associate of applied science degree.

² See the social science/humanities alternatives listed on page 37.

³ See the computer skills alternatives listed on page 38.

Certificate Program: Welding Technology

The college offers two levels of certificate programs in welding. The basic certificate is oriented toward developing those skills required for entry level jobs in the welding field. The advanced certificate program is also a skills intensive program but takes students through higher level skill proficiencies, utilizing additional welding procedures and applications. All courses taken in the certificate program are applicable toward the associate of applied science degree.

Basic Welding Certificate

WELD 100 (Introduction to Welding Processes)	4
† WELD 102 (Advanced SMAW) or	
† WELD 114 (GMAW and GTAW Applications)	6
WELD 103 (Weldment Evaluation and Testing)	3
† WELD 110 (Welding Symbols and Blueprint Reading)	2

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Advanced Welding Certificate

WELD 100 (Introduction to Welding Processes)	4
† WELD 102 (Advanced SMAW)	6
WELD 103 (Weldment Evaluation and Testing)	3
WELD 105 (Welding Metallurgy)	3
† WELD 114 (GMAW and GTAW Applications)	6
WELD 216 (Basic Pipefitting)	4
† WELD 110 (Welding Symbols and Blueprint Reading)	2

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American Welding Society (AWS) Certification

The college also offers course work to prepare students to qualify for AWS certification at entry and advanced levels of proficiency. In addition to verification of skill levels to national standards, AWS certification also includes nationwide registry in the AWS data bank.

† Tech Prep course. See page 14.