

ASSOCIATE OF APPLIED SCIENCE WELDING AND FABRICATION

**Career Pathway Certificate of Completion:
Welding Assistant (18 Credits)**

**Certificate of Completion
Welding and Fabrication (51 Credits)**

**Associate of Applied Science
Welding and Fabrication (94 Credits)**

The Associate of Applied Science in Welding and Fabrication provides the training for entry-level employment and offers the technical knowledge necessary for career advancement. Coupled with experience, the program prepares students for manufacturing employment opportunities in industry, private enterprise, supervision, and/or advanced welding technologies. These opportunities include welding, fabrication, inspection, fitting in heavy machinery or structural steel, light industrial fabrication, estimating, and technical sales.

PROGRAM STUDENT LEARNING OUTCOMES

Upon successful completion of this program the student will be able to:

- Set up and operate manual and semi-automatic welding and cutting equipment used in the metal fabrication industry.
- Perform basic layout and fabrication skills to produce welded metal parts and projects.
- Read and Interpret blueprints and American Welding Society standard welding symbols.
- Perform as a team member and practice skills that reflect professional and ethical behavior in the workplace.

ENTRY REQUIREMENTS

Students are required to take the college placement test 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 by the college placement test scores.

Because a variety of working conditions exist in the welding field, a person generally should be in good physical condition and able to stand, stoop, kneel and bend without difficulty and be able to lift and carry at least 50 pounds. Good eyesight, especially depth perception, is necessary for a welder.

The Associate of Applied Science Welding and Fabrication and the Certificate of Completion Welding and Fabrication are both American Welding Society (AWS) entry level welding certified programs.

Successfully completing the AWS portion of each welding course also qualifies the completer for a Certificate of Completion from the AWS as an Entry Level Welder – a nationally recognized certificate.

GRADUATION REQUIREMENTS

Students must complete a minimum of 94 credit hours with a minimum Grade Point Average (GPA) of 2.0 (C) average or better. All courses indicated with a * in this program must be completed with a 'C' or better. Thirty (30) of the last 45 credits must be earned at Southwestern before the Associate of Applied Science Welding and Fabrication degree is awarded.

Complete the graduation application process one term prior to the term of completion (i.e., spring term graduates must apply during winter term).



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PREREQUISITES	CIS101 (2) Computers in Society	WR90 (3) Paragraph Fundamentals (or placement test score)	Reading Score of ASSET39 COMPASS69
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FALL = 17 CREDITS	MFG100 (2)* Safety for Fabrication	WLD4010 (3)* Welding Process I	WLD4061 (3)* Shielded Metal Arc Welding I	WLD4062 (3)* Shielded Metal Arc Welding II	DRFT105 (3)* Blueprint Reading	MTH55 (3)* Introduction to Technical Math (or higher)
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WINTER = 16 CREDITS	WLD4126 (3)* Flux Cored Arc Welding	MFG4101 (3) Electrical/Electronic Principles	WLD4125 (3)* Gas Metal Arc Welding	MTH80 (3)* Technical Mathematics I	CIS120 (4) Concepts of Computing
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SPRING = 16 CREDITS	WR115 (3)* Introduction to Expository Writing ²	WLD4100 (3)* Gas Tungsten Arc Welding	WLD4150 (3)* Pipe Fitting and Fabrication	MTH85 (3)* Technical Mathematics II	WLD4155 (4)* Fitting and Fabrication
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49 CREDITS = FIRST YEAR TOTAL REQUIREMENTS

FALL = 15 CREDITS	DRFT100 (3) Computer Assisted Drafting (or DRFT110)	MT101 (3) Machine Tool Process I	WLD4050 (3)* Welding and Joining Processes I	PE231 (3) Wellness for Life ¹	BA285 (3) Human Relations in Organizations
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WINTER = 15 CREDITS	WLD4165 (3)* Welding Lab A	MT102 (3) Machine Tool Processes II	MFG4102 (3) Mechanical Principles	MFG4180 (3)* Field Experience or WLD9225 (3)*	(3) Elective ³
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SPRING = 15 CREDITS	MFG4103 (3) Hydraulic/Pneumatic Principles	WLD4047 (3)* Advanced Welding Workshop	WLD4166 (3)* Welding Lab B	WLD4170 (3)* Welder and Manufacturing	(3) Speech Course ⁴
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45 CREDITS = SECOND YEAR TOTAL REQUIREMENTS

94 CREDITS = TOTAL PROGRAM REQUIREMENTS

PROGRAM NOTES

¹HE250 or three credits of PE185 may be substituted for PE231.
²WR214 or WR214T may be substituted for WR115
³Developmental and remedial courses will not fulfill elective requirement.
⁴Student may choose from SP100, SP111, SP112, SP217, SP218 or SP219.