

# WELDING (Degree)

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## Program Purpose

The Associate of Occupational Technology in Welding program aims to provide accessible, quality educational opportunities that will provide individuals with the knowledge, technical skills, and attitudes necessary to obtain employment in the welding profession. The AOT program is intended to produce graduates who are prepared for employment as structural and/or pipe welders with a concentration in Industrial Electricity/Electronics and Industrial Maintenance. Program graduates are to be competent in the academic areas of communications, mathematics, computer literacy, and human relations and in the technical areas of cutting processes, blueprint reading, SMAW and FCAW structural welding, SMAW and GTAW pipe welding, construction wiring, DC and AC fundamentals and industrial motor controls to applicable codes.

Reid State Community College will accomplish program objectives by providing students with a comprehensive general education and technical training in the core area of Welding and the concentration of Industrial Electricity/Electronics and Industrial Maintenance Technology. The occupational skill preparation should meet the American Welding Society recognized skill standards. The college will ensure program quality through internal certification of graduate competencies through written exams and performance evaluations to applicable welding and industrial electricity/electronics and industrial maintenance technology codes.

## Occupational Data

Graduates of the Welding Technology program work in the structural iron and steel working industry where they use their skills which are grouped under the classification of welder/pipefitter personnel. According to the U.S. Bureau of Labor Statistics Occupational Employment and Wages, the national median wage for welder/pipefitter personnel was \$24.26/hr. in 2022.

## Program Outcome Objectives

- Program graduates will be proficient in communication, computation, and interpersonal skills.
- Program graduates will be technically proficient.
- Program graduates will be able to obtain industry certification.
- Program graduates will be successfully employed in the field.
- Employers of program graduates will be satisfied with their education and training.

## Admission Requirements

Applicants to this program must complete the application procedures. While a high school diploma, in accordance with ACCS Board of Trustees Policy or GED is the preferred entry requirement, applicants who did not receive a high school diploma or GED may be admitted provided they are 16 years of age, have been out of school for one year (or upon recommendation of the local superintendent), and they must demonstrate ability-to-benefit (ATB) on a standardized, federally approved entrance test. Applicants admitted under the ATB provision must obtain the GED prior to graduation.

## Certification Requirements

Students who complete this program may receive voluntary certification through the National Center for Construction Education and Research or through the American Welding Society. Graduate competency is recognized through certificates and a listing in the National Training Registry. This nationally recognized record of training can be transferred throughout the industry and provide a means of assuring construction and maintenance industries that graduates are prepared for productive positions.

**Primary Technical Specialty:** Welding Technology

**Secondary Technical Specialty:** Industrial Electricity/Electronics Technology

## Welding, Associate of Occupational Technology (AOT)

**MINIMUM CREDITS REQUIRED:** 73-74 Semester Credit Hours

**Length of Program:** 6 Semesters of full-time attendance

<b>GENERAL EDUCATION CORE: 16-17 Semester Credit Hours</b>		<b>Theory</b>	<b>Lab</b>	<b>Internship</b>	<b>Contact</b>	<b>Credit</b>
ORT 100	Orientation OR	1	0		1	1
ORI 101	Orientation to College					
<b>AREA I: WRITTEN COMPOSITION 3 hours</b>						
ENG 101	English Composition I	3	0		3	3
<b>AREA II: HUMANITIES AND FINE ARTS 3 hours</b>						
ART 100	Art Appreciation OR	3	0		3	3
MUS 101	Music Appreciation OR					
REL 151	Survey of the Old Testament OR					
REL 152	Survey of the New Testament OR					
PHL 206	Ethics and Society					
<b>AREA III: NATURAL SCIENCE AND MATHEMATICS 6-7 hours</b>						
<i>Students are required to complete one three-hour mathematics course and may either complete an additional mathematics course or one natural science course as listed below. *NOTE: MTH courses higher than MTH 100 may be substituted for the three-hour math requirement as well. MTH 110 or 112 is suggested for students anticipating transfer. A four-hour science course is also suggested.</i>						
MTH 100	Intermediate College Algebra OR	3	0		3	3
MTH 116	Mathematical Applications*					
MTH*	Any MTH course OR	3	0		3	3
BIO 113	History of Biology OR	3	0		3	3
BIO 101	Introduction to Biology I OR	3	1		5	4
BIO 103	Principles of Biology OR	3	1		5	4
PHS 111	Physical Science I	3	1		5	4
<b>AREA IV: HISTORY, SOCIAL, AND BEHAVIORAL SCIENCES 3 hours</b>						
<i>Students are required to complete one three-hour history, social, or behavioral science listed below.</i>						
PSY 200	General Psychology OR	3	0		3	3
PSY 210	Human Growth and Development OR					
SOC 200	Introduction to Sociology					

<b>PRIMARY TECHNICAL CONCENTRATION: 45 Semester Credit Hours</b>						
WDT	108	SMAW Fillet/OFC	2	1	5	3
WDT	109	SMAW Fillet/PAC/CAC	2	1	5	3
WDT	110	Industrial Blueprint Reading	3	0	3	3
WDT	115	GTAW Carbon Pipe	1	2	5	3
WDT	116	GTAW Stainless Pipe	1	2	5	3
WDT	119	Gas Metal Arc/Flux Cored Arc Welding Theory	2	1	5	3
WDT	120	Shielded Metal Arc Welding Grooves	2	1	5	3
WDT	122	SMAW Fillet/OFC Lab	0	3	9	3
WDT	123	SMAW Fillet/PAC/CAC Lab	0	3	9	3
WDT	124	Gas Metal Arc/Flux Cored Arc Welding Lab	0	3	9	3
WDT	125	Shielded Metal Arc Welding Grooves Lab	0	3	9	3
WDT	155	GTAW Carbon Pipe Lab	0	3	9	3
WDT	156	GTAW Stainless Pipe Lab	0	3	9	3
WDT	217	SMAW Carbon Pipe	1	2	7	3
WDT	257	SMAW Carbon Lab	0	3	9	3
<b>SECONDARY TECHNICAL SPECIALTY: 12 Semester Credit Hours</b>						

<b>INDUSTRIAL ELECTRICITY/ELECTRONICS TECHNOLOGY:</b>						
ILT	117	Principles of Construction Wiring	1	2	5	3
ILT	160	DC Fundamentals	1	2	5	3
ILT	161	AC Fundamentals	1	2	5	3
INT	113	Industrial Motor Controls 1	1	2	5	3

