

WELDING

Welding

Occupational Skills Award

The South Texas College Welding OSA (Occupational Skills Award) will enable a student to seek an entry level welding position; with potential AWS D1.1 Certification from the WLDG 1428 course.

Combination Welding

Certificate

This three semester program will prepare the students for entry level positions with skills in four welding processes (Shielded Metal Arc Welding, Gas Metal Arc Welding, Gas Tungsten Arc Welding and Flux Core Arc Welding).

Students will perform fillets, lap, corner joint and V groove welds with backing and open groove in the Flat, Horizontal, Vertical-up and Overhead positions. Students will gain knowledge in lay out and fabrication as well as blueprint reading for the welders, welding safety and metallurgy.

Graduate candidates will be eligible to take a welding performance qualification test in accordance with American Welding Society, as used in the industry.

Structural Welding

Certificate

This two semester program will prepare the students for entry level positions with skills in four welding processes (Shielded Metal Arc Welding, Gas Metal Arc Welding, Gas Tungsten Arc Welding and Flux Core Arc Welding) but does not go into the advanced welding level (open groove and pipe) as does the combination certificate.

Students will perform fillets, lap, corner and tee's joint welds in the Flat, Horizontal, Vertical-up and Overhead positions.

Graduate candidates will be eligible to take a welding performance qualification test in accordance with American Welding Society, as used in the industry.

Welding

Associate of Applied Science

This four semester program will prepare the students for entry level positions with skills in four welding processes (Shielded Metal Arc Welding, Gas Metal Arc Welding, Gas Tungsten Arc Welding and Flux Core Arc Welding). Students will perform fillets, lap, corner joint and V groove welds with backing and open groove in the Flat, Horizontal, Vertical-up and Overhead positions. Students will gain knowledge in lay out and fabrication as well as blueprint reading for the welders, welding safety and metallurgy. The curriculum also includes 15 credit hours of General Education coursework. Graduate candidates will be eligible to take a welding performance qualification test in accordance with American Welding Society, as used in industry.

Program Learning Outcomes

Combination Welding Certificate

1. Students will interpret blueprints for welders and apply this to science of metallurgy.

2. Students will be able to perform fillet and V-groove welds in the flat, horizontal, vertical-up, and overhead positions.
3. Students will be able to apply proper techniques to produce layouts and fabrication.
4. Students will be able to execute proper Gas Tungsten Arc Welds according to industry standards.

Structural Welding Certificate

1. Students will be able to perform fillet and V-groove welds in the flat, horizontal, vertical-up, and overhead positions.
2. Students will be able to perform fillet and V-groove welds in the flat, horizontal, vertical-up, and overhead positions.
3. Students will be able to apply proper techniques to produce layouts and fabrication.
4. Students will be able to execute proper Gas Tungsten Arc Welds according to industry standards.

Welding Associate of Applied Science

1. Students will be able to execute proper welding techniques required to pass the welding performance qualification test in various positions.
2. Students will execute successful welds and pass the performance welding exam.
3. Students will be able to apply proper techniques to produce layouts and fabrication.
4. Students will be able to execute proper Gas Tungsten Arc Welds according to industry standards.
5. Students will be able to use basic math and measurement techniques to solve problems related to welding processes.

Advisory Committee Members

Reynaldo Rivera, Matheson
Jeremy Koester, Airgas
Javier Olmos, Airgas
Raul Robles, Robles Consulting, LLC
Bobby Quintero, RAM Welding Inspections
Robert Quintero, Palmer Steel Supplies, Inc.
Jerry Lefner, Alamo Iron Works
Roy Mata, APW Welding

Occupational Skills Award

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Certificates

- Combination Welding Certificate (p. 2)
- Structural Welding Certificate (p. 2)

Associate Degree

- Welding Associate of Applied Science (p. 2)

Welding Occupational Skills Award

TSI EXEMPT

Course	Title	Credit Hours
Fall WLDG 1327	Welding Codes and Standards	3
WLDG 1317	Introduction to Layout and Fabrication	3

WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	4
WLDG 1430	Introduction to Gas Metal Arc Welding (GMAW)	4
Credit Hours		14
Total Credit Hours		14

Combination Welding Certificate

TSI EXEMPT

Course	Title	Credit Hours
Fall		
WLDG 1317	Introduction to Layout and Fabrication	3
WLDG 1327	Welding Codes and Standards	3
WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	4
WLDG 1430	Introduction to Gas Metal Arc Welding (GMAW)	4
Credit Hours		14
Spring		
WLDG 1457	Intermediate Shielded Metal Arc Welding (SMAW)	4
WLDG 1312	Introduction to Flux Cored Arc Welding (FCAW)	3
WLDG 1453	Intermediate Layout and Fabrication	4
WLDG 1434	Introduction to Gas Tungsten Arc Welding (GTAW)	4
Credit Hours		15
Summer		
WLDG 2451	Advanced Gas Tungsten Arc Welding (GTAW)	4
WLDG 2406	Intermediate Pipe Welding	4
WLDG 2413	Capstone: Intermediate Welding Using Multiple Processes	4
Credit Hours		12
Total Credit Hours		41

Structural Welding Certificate

TSI EXEMPT

Course	Title	Credit Hours
Fall		
WLDG 1317	Introduction to Layout and Fabrication	3
WLDG 1327	Welding Codes and Standards	3
WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	4
WLDG 1430	Introduction to Gas Metal Arc Welding (GMAW)	4
Credit Hours		14
Spring		
WLDG 1457	Intermediate Shielded Metal Arc Welding (SMAW)	4
WLDG 1312	Introduction to Flux Cored Arc Welding (FCAW)	3
WLDG 1453	Intermediate Layout and Fabrication	4
WLDG 1434	Introduction to Gas Tungsten Arc Welding (GTAW)	4
Credit Hours		15
Total Credit Hours		29

Welding Associate of Applied Science

TSI LIABLE

Course	Title	Credit Hours
First Year		
Fall		
ENGL 1301	Composition I ¹	3
Humanities Elective ¹		3
WLDG 1327	Welding Codes and Standards	3
WLDG 1317	Introduction to Layout and Fabrication	3
WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	4
Credit Hours		16
Spring		
Math Elective ¹		3
WLDG 1430	Introduction to Gas Metal Arc Welding (GMAW)	4
WLDG 1457	Intermediate Shielded Metal Arc Welding (SMAW)	4
WLDG 1434	Introduction to Gas Tungsten Arc Welding (GTAW)	4
Credit Hours		15
Summer		
WLDG 1453	Intermediate Layout and Fabrication	4
WLDG 1312	Introduction to Flux Cored Arc Welding (FCAW)	3
WLDG 2406	Intermediate Pipe Welding	4
Social and Behavioral Sciences Elective ¹		3
Credit Hours		14
Second Year		
Fall		
WLDG 2435	Advanced Layout and Fabrication	4
WLDG 2413	Capstone: Intermediate Welding Using Multiple Processes	4
WLDG 2451	Advanced Gas Tungsten Arc Welding (GTAW)	4
Speech Elective ¹		3
Credit Hours		15
Total Credit Hours		60

¹ Identifies courses to fulfill minimum 15 credit hour General Education requirement