

FABRICATION WELDING

Associate of Applied Science Degree

Advanced Manufacturing Center- Manufacturing Pathway
CCD.edu/Welding

Fabrication Welding

The Associate of Applied Science in fabrication welding prepares you with the entry-level cutting and welding skills to work in operations in using oxyacetylene cutting and welding, plasma arc cutting, carbon arc cutting, shielded metal arc welding, gas metal arc welding and gas tungsten arc welding on metals that range from heavy plate and pipe to thin-gauge sheet metals. Various steels and aluminum metals are used. As a graduate of this program, you will be prepared to attempt one of the limited thickness Welder Qualification tests under American Welding Society D1.1 Structural code for certification in SMAW, GMAW and GTAW. You will also be prepared to enter positions as production, fabrication or construction welders.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
MAT 1150	Technical Mathematics	4
Subtotal		17
Second Semester		
WEL 1003	Basic Shielded Metal Arc I	4
WEL 1024	Introduction to Gas Tungsten Arc Welding	4
WEL 1025	Introduction to Gas Metal Arc Welding	4
Choose One Composition Course		3
ENG 1021	English Composition I: GT-CO1	
ENG 1031	Technical Writing I: GT-CO1	
Subtotal		15
Third Semester		
WEL 1010	Advanced Shielded Metal Arc I	4
WEL 2002	Gas Metal Arc Welding II	4
WEL 1011	Advanced Shielded Metal Arc II	4
WEL 2024	Advanced Gas Tungsten Arc Welding	4
Subtotal		16
Fourth Semester		
WEL 2030	Pipe Welding I	4
WEL 2051	Design, Layout and Fabrication	4
Choose Three Elective Courses		9
ART 1110	Art Appreciation: GT-AH1	
ART 1002	Visual Concepts 2-D Design	
ART 1003	3-D Design	
CAD 2455	SolidWorks/Mechanical	
CIS 1018	Introduction to PC Applications	
BUS 1015	Introduction to Business	
Subtotal		17
Total Credits		65

Certificates

Advanced Manufacturing Center- Manufacturing Pathway
CCD.edu/Welding

Community College of Denver currently offers five certificates in fabrication welding.

- Basic Welding
- Intermediate Welding
- ARC Welder
- Fabrication Welder
- Creative Metalworking

Basic Welding

This program prepares you with entry-level knowledge in cutting processes, oxyacetylene-joining processes, and blueprint reading. The certificate is fully transferable to the Associate of Applied Science in fabrication welder.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. You may take individual courses, if course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Code	Title	Credits
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
MAT 1150	Technical Mathematics	4
Total Credits		17

Intermediate Welding

This certificate prepares you with entry-level knowledge in cutting processes, oxyacetylene joining processes, blueprint reading, basic shielded metal arc welding, introduction to gas tungsten arc welding (GTAW), and introduction to gas metal arc welding (GMAW). The certificate is fully transferable to the Associate of Applied Science in fabrication welder.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. Refer to the course descriptions section of this catalog for course prerequisites. You may take individual courses, if course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
MAT 1150	Technical Mathematics	4
Subtotal		17
Second Semester		
WEL 1003	Basic Shielded Metal Arc I	4
WEL 1024	Introduction to Gas Tungsten Arc Welding	4
WEL 1025	Introduction to Gas Metal Arc Welding	4
Subtotal		12
Total Credits		29

Arc Welder

Arc Welder prepares you with the entry-level cutting and welding skills necessary to perform shielded metal arc welding operations. As a graduate of this program, you are prepared to enter positions such as production, fabrication or construction welders using the shielded metal arc process. All arc welder certificate program credits apply toward the Associate of Applied Science (A.A.S.) fabrication welder degree. Upon successful completion of this program, you will be prepared to attempt one of the limited thickness Welder Qualification tests under American Welding Society D1.1 Structural code for certification in SMAW.

PROGRAM ADMISSION REQUIREMENTS

Meet minimum assessment scores or prerequisites required for general education courses in the program. Refer to the course descriptions section

of this catalog for course prerequisites. You may take individual courses, if course prerequisites are met, prior to being accepted into this program.

COURSE MAP

Course	Title	Credits
First Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1003	Basic Shielded Metal Arc I	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
MAT 1150	Technical Mathematics	4
Subtotal		21
Second Semester		
WEL 1010	Advanced Shielded Metal Arc I	4
WEL 1024	Introduction to Gas Tungsten Arc Welding	4
WEL 1011	Advanced Shielded Metal Arc II	4
WEL 2030	Pipe Welding I	4
Subtotal		16
Total Credits		37

the art and design theory and welding competency necessary to fabricate functional and sculptural pieces. Students will learn how to conceptualize, reference, design, layout, and fabricate projects from start to finish.

Course	Title	Credits
First Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
ART 1002	Visual Concepts 2-D Design	3
Subtotal		16
Second Semester		
ART 1110	Art Appreciation: GT-AH1	3
ART 1003	3-D Design	3
WEL 1024	Introduction to Gas Tungsten Arc Welding	4
WEL 2064	Creative Welding	4
CAD 2455	SolidWorks/Mechanical	3
Subtotal		17
Total Credits		33

Fabrication Welder

This certificate prepares you with entry-level cutting and welding skills to work in operations in using oxyacetylene cutting and welding, plasma arc cutting, carbon arc cutting, shielded metal arc welding, gas metal arc welding and gas tungsten arc welding on metals that range from heavy plate and pipe to thin-gauge sheet metals. Various steels and aluminum are used. Upon successful completion of this program, you will be prepared to test for American Welding Society certification in SMAW and MIG/TIG. You will also be prepared to enter a position as an arc welder, plate welder, industrial welder, production welder, fabrication welder, construction welder, and TIG or MIG welder. The certificate is fully transferable to the Associate of Applied Science in fabrication welder.

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COURSE MAP

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First Semester		
WEL 1000	Safety for Welders	1
WEL 1001	Allied Cutting Processes	4
WEL 1002	Oxyacetylene Joining Processes	4
WEL 1003	Basic Shielded Metal Arc I	4
WEL 1006	Blueprint Reading for Welders and Fitters	4
MAT 1150	Technical Mathematics	4
Subtotal		21
Second Semester		
WEL 1010	Advanced Shielded Metal Arc I	4
WEL 1024	Introduction to Gas Tungsten Arc Welding	4
WEL 1011	Advanced Shielded Metal Arc II	4
WEL 1025	Introduction to Gas Metal Arc Welding	4
Subtotal		16
Third Semester		
WEL 2002	Gas Metal Arc Welding II	4
WEL 2024	Advanced Gas Tungsten Arc Welding	4
WEL 2030	Pipe Welding I	4
WEL 2051	Design, Layout and Fabrication	4
Subtotal		16
Total Credits		53

Creative Metalworking

The Creative Metalworking Certificate is designed for students interested in the intersection of welding and art. The certificate provides students with