Welding Technology Programs

The Welding Technology program offers two options. A three-term welding program combines training with classes in the background knowledge needed by workers in welding occupations. You practice and develop your welding skills in the laboratory and may take an examination for certification in plate welding. The six-term Welding Fabrication program is for those who want to acquire the technical knowledge and skills required for workers in welding, fabrication, and related occupations.

Welding fabrication technicians are skilled in the use of oxyacetylene welding and cutting equipment, manual arc, tungsten inert gas (TIG), and metallic inert gas (MIG) processes and have a working knowledge of shop blueprints and welding symbols, jig fabrication, and assembly processes.

The certificate program has been designed to be completed in one year and the degree program in two years if you attend full time. However, there are entry-level expectations for skill levels in reading, writing, and mathematics. The length of time you take to complete the program will depend on your skills in these areas. To assess the time you will need to complete the program, please meet with the program chair.

Total required credit may vary due to three to four credit conversion. Chemeketa degree and certificate minimum requirements must be met.

Program outcomes

Students completing the certificate will:

- 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 products.
- Read and interpret engineering drawings to American Welding Society standards.
- Use welding process and procedure applications.
- Apply basic metallurgy knowledge to fabrication processes.
- Perform as a team member and practice skills that reflect professional and ethical behavior in the workplace.

In addition to the certificate outcomes, students completing the AAS will:

- Perform basic set-ups and operations for manual and computer numeric controlled machining equipment.
- Design and carry out planning procedures for machining purposes.
- Select and use tools and equipment to manufacture, measure, and inspect parts in a machining environment.

Welding Fabrication

Welding Certificate of Completion

This program prepares you for a variety of positions in job specialty production and maintenance shops. Graduates may find work as MIG welders, arc welders, oxyacetylene welders, semiautomatic welding equipment operators, and TIG welders.

In addition to tuition, estimated costs for students who complete the entire program listed below are books, $402; class fees, $488; universal fee, $400; equipment and supplies, $550; certification test, $340 (optional). Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn a Certificate of Completion by successfully completing these 51 required credit hours with a grade of "C" or better in all courses.

Course	Title	Credit Hours
Term 1		
MTH052	Introduction to Algebra and Geometry+ (or higher)	3
WLD051	Basic Arc Welding	5
WLD056	Blueprint Reading and Sketching	2
WLD061	Basic Gas Metal Arc Welding (MIG)	3
WLD070	Oxyacetylene Processes	3
Term 2		
COM051	Communications Skills 1+ (or higher)	3
PSY101	Psychology of Human Relations+ (or higher)	4
WLD052	Intermediate Arc Welding	5
WLD057	Layout Practices	1
WLD062	Intermediate Gas Metal Arc Welding (MIG)	3
WLD073	Basic Gas Tungsten Arc Welding (TIG)	4
Term 3		
WLD053	Advanced Arc Welding	3
WLD058	Weld Shop Problems	7
WLD063	Advanced Gas Metal Arc Welding (MIG)	3
WLD080	Metallurgy for Welders	2

+Meets related instruction requirement, see page 43. For subject areas, see page 55.

Welding Fabrication Associate of Applied Science

As a graduate of the Welding Fabrication program, you may qualify for positions in business and industry such as machinery fabrication, structural fabrication, welding fitting and layout, automatic and semiautomatic welding, automatic flame cutter operation, millwright welding, plant maintenance, and quality control and development.

The program offers you a background in manufacturing materials, processes, and systems, including shear and press brake operation, blueprint reading, and shop drawing and layout. The curriculum includes written and oral communications and general education classes and emphasizes related scientific, mathematical, and general mechanical principles.

At the end of the third term you may take a plate certification test. The fee for this test is determined by the number of students involved and the type of test.

In addition to tuition, estimated costs for students who complete the entire program listed below are books, $909; class fees, $750; universal fee, $736; equipment and supplies, $700; certification test, $340 (optional). Contact the Financial Aid Office at 503.399.5018 to find out if you qualify for help with these costs.

You may earn an Associate of Applied Science degree by successfully completing the required 93 credit hours with a grade of "C" or better in all courses.

Course	Title	Credit Hours
Term 1		
MTH052	Introduction to Algebra and Geometry+ (or higher)	3
WLD051	Basic Arc Welding	5
WLD056	Blueprint Reading and Sketching	2
WLD061	Basic Gas Metal Arc Welding (MIG)	3
WLD070	Oxyacetylene Processes	3
Term 2		
COM051	Communications Skills 1+ (or higher)	3
WLD052	Intermediate Arc Welding	5
WLD057	Layout Practices	1
WLD062	Intermediate Gas Metal Arc Welding (MIG)	3
WLD073	Basic Gas Tungsten Arc Welding (TIG)	4
Term 3		
WLD053	Advanced Arc Welding	3
WLD058	Weld Shop Problems	7
WLD063	Advanced Gas Metal Arc Welding (MIG)	3
WLD080	Metallurgy for Welders	2
Term 4		
CAM100	Blueprint Reading and Sketching	2
CAM105	Precision Measurement	2
CAM110A	CNC/Manual Fundamentals	4
CAM111	Industrial Safety Seminar	1
CAM130	CNC Machine Setup/Operation	4
GS104	General Science: Physics (or higher)	4
Term 5		
CAM115	Geometric Dimensioning/Tolerancing	2
CAM116	Geometric Dimensioning/Tolerancing for CNC-Lab	1
CAM140	Metallurgy for Manufacturing	2
CAM160	Programming for CNC Mills	4
MTH053	Introduction to Trigonometry with Geometry (or higher)	3
PSY101	Psychology of Human Relations+ (or higher)	4
Term 6		
CAM062	Practical Applications 2	2
CAM150	Cutting Tools and Materials	3
CAM190	Programming CNC Lathes	4
CAM280D	Cooperative Work Experience	4