

WELDING AND METAL FABRICATION TECHNOLOGY ASSOCIATE OF APPLIED SCIENCE

Welding is a fall start program only. See an advisor for more information.

The welding industry offers workers immediate tangible rewards for their efforts. Few professions allow the opportunity for creativity found in the fabrication shop.

In addition, the fabrication industry represents one of the largest employment segments in our local economy. Graduates may qualify for advanced placement in the Ironworkers, Pipefitters, or Boilermakers unions.

Graduates find work in structural and steel fabrication shops and with heavy equipment rebuilders and manufacturers, mining, refineries, and other energy related enterprises in the region. See our website at www.msbillings.edu/careers for graduate data.

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

- Conduct and present a job safety analysis
- Set up and operate various cutting and welding processes
- Operate machinery common in welding environment
- Construct basic sketches and blueprints
- Evaluate lab work and projects for acceptability within limits of applicable welding codes
- Weld ferrous and non-ferrous metals in all positions with a variety of welding processes current with the welding and energy industry
- Apply welding metallurgy to weldments
- Apply inspection and testing methods to weldments
- Conduct and present a job safety analysis
- Set up and operate various cutting and welding processes
- Operate machinery common in welding environment
- Construct basic sketches and blueprints
- Evaluate lab work and projects for acceptability within limits of applicable welding codes
- Weld ferrous and non-ferrous metals in all positions with a variety of welding processes current with the welding and energy industry
- Apply welding metallurgy to weldments
- Apply inspection and testing methods
- Formulate a plan for assembly and welding of weldments

Code	Title	Credits
Required Courses		
CAPP 120	Introduction to Computers	3
COMX 106	Comm in a Dynamic Workplace	3
M 114	Extended Technical Mathematics	3
WLDG 117	Blueprint Rd & Weld Symbols	3
WLDG 124	Welding Theory Tech & Safety	3
WLDG 125	Cut/Shielded Mtl Arc Weld Lab	5
WLDG 126	Shielded Metal Arc Welding Lab	4
WLDG 153	Metal Fabrication Basics	3
WLDG 154	Metal Fabrication Basics Lab	3
WLDG 156	Semi-Automatic Welding	2

WLDG 157	Semi-Automatic & SMAW Lab	5
WLDG 205	Applied Metallurgy	2
WLDG 212	Pipe Welding & Layout	3
WLDG 213	Pipe Welding I Lab	5
WLDG 215	Gas Tungsten Arc Welding	5
WLDG 250	Metals Production	2
WLDG 251	Specialty Weld Processes	5
WLDG 280	Weld Testing Certification	2
WLDG 281	Weld Testing Certification Lab	3
WRIT 122	Intro to Business Writing	3

Suggested Elective

WLDG 298	Internship/Cooperative Educ	
Total Minimum Credits		67

In order to take the first semester of WLDG courses, students must prove their skills in Reading Comprehension and Writing. For more information, please contact the Advising Office.

Suggested Plan of Study

Code	Title	Credits
First Semester		
WRIT 122	Intro to Business Writing	3
WLDG 117	Blueprint Rd & Weld Symbols	3
WLDG 124	Welding Theory Tech & Safety	3
WLDG 125	Cut/Shielded Mtl Arc Weld Lab	5
WLDG 126	Shielded Metal Arc Welding Lab	4
Total		18
Second Semester		
M 114	Extended Technical Mathematics	3
WLDG 153	Metal Fabrication Basics	3
WLDG 154	Metal Fabrication Basics Lab	3
WLDG 156	Semi-Automatic Welding	2
WLDG 157	Semi-Automatic & SMAW Lab	5
Total		16
Summer		
WLDG 298	Internship/Cooperative Educ (optional)	3-9
Total		3-9
Third Semester		
CAPP 120	Introduction to Computers	3
WLDG 205	Applied Metallurgy	2
WLDG 212	Pipe Welding & Layout	3
WLDG 213	Pipe Welding I Lab	5
WLDG 215	Gas Tungsten Arc Welding	5
Total		18
Fourth Semester		
COMX 106	Comm in a Dynamic Workplace	3
WLDG 250	Metals Production	2
WLDG 251	Specialty Weld Processes	5
WLDG 280	Weld Testing Certification	2
WLDG 281	Weld Testing Certification Lab	3
Total		15