

# WELDING AND METAL FABRICATION TECHNOLOGY CERTIFICATE 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 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.msubillings.edu/careers](http://www.msubillings.edu/careers) (<http://www.msubillings.edu/careers/>) for graduate data.

## Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Demonstrate safe work practices in the welding and metal fabrication environment.
- Interpret blueprints and apply appropriate construction methods.
- Successfully weld ferrous metals in all positions with a variety of welding processes.

## Required Courses

| Code                         | Title                          | Credits   |
|------------------------------|--------------------------------|-----------|
| <b>Required Courses</b>      |                                |           |
| CAPP 120                     | Introduction to Computers      | 3         |
| COMX 106                     | Comm in a Dynamic Workplace    | 3         |
| M 111                        | 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         |
| WRIT 104                     | Workplace Communications       | 3         |
| <b>Total Minimum Credits</b> |                                | <b>40</b> |

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 |
|-----------------------|------------------------------|---------|
| <b>First Semester</b> |                              |         |
| WRIT 104              | Workplace Communications     | 3       |
| COMX 106              | Comm in a Dynamic Workplace  | 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         |
| <b>Total</b>           |                                | <b>21</b> |
| <b>Second Semester</b> |                                |           |
| M 111                  | Technical Mathematics          | 3         |
| CAPP 120               | Introduction to Computers      | 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         |
| <b>Total</b>           |                                | <b>19</b> |