

# Welding Technology & Fabrication CAS

## Certificate of Applied Science Degree

**Program Director:** Joel Sims

**Faculty:** Doug Zander, Monte Cobb, Tyler Redding

Program Website (<http://www.gfcmsu.edu/webs/Welding>)

Program Application ([http://www.gfcmsu.edu/webs/welding/documents/Welding\\_Application.pdf](http://www.gfcmsu.edu/webs/welding/documents/Welding_Application.pdf)) (Spring 2018 Application available October 2nd & Fall 2018 Application available February 15th)

Gainful Employment Programs Information -- Tier 1 Certificate of Technical Studies (<http://www.gfcmsu.edu/webs/gepi/weldingtier1>)

Gainful Employment Programs Information -- CAS Degree (<http://www.gfcmsu.edu/webs/gepi/welding.html>)

**Note:** The Welding program is a limited enrollment program. Interested students must apply for entry into the program. An application packet is available here on the GFC MSU catalog website, the Welding program website or Admissions. To be accepted into this program, students must have a qualifying placement assessment score or have completed M 065 within the last 3 years.

This program follows the National Center for Construction Education and Research (NCCER) curriculum.

Outcomes Tier 1

## Graduates are prepared to:

The mission of the Great Falls College MSU Welding and Fabrication Tier 1 CTS program is to provide regional competent, skilled, and credentialed work force for the welding industry.

- The Welding and Fabrication program prepares students to set up, operate, and use critical thinking skills to trouble shoot a variety of welding equipment.
- The program prepares students to gain the craftsmanship skills, computational skills and problem solving techniques essential to the welding industry.
- Throughout the program, students will develop skills in Oxy fuel cutting (OFC), Plasma arc cutting (PAC, and Carbon arc cutting (CAC-A) processes.
- Skills to industry standards will also be developed in Shielded metal arc welding (SMAW).
- In addition to building craftsmanship skills, students will gain understanding of print reading and welding symbols.
- Students will also work on interpersonal and effective communications skills to be prepared to enter the work place.
- Students will also gain technical literacy skills as they apply to the welding industry.

Outcomes CAS

## Graduates are prepared to:

- Meet safety requirements.
- Produce welds in all positions that meet industry standards using the following process(es):
  - Shielded Metal Arc Welding (SMAW)
  - Flux Cored Arc Welding (FCAW)
- Will be exposed to:
  - Gas Metal Arc Welding (GMAW)
  - Gas Tungsten Arc Welding (GTAW)
- Make cuts that meet industry standards in the following process(es):
  - Oxy-Fuel Cutting (OFC)
  - Plasma Arc Cutting (PAC)
  - Air Carbon Arc Cutting (CAC-C)
- Understand the use of measuring instruments and their purpose.
- Understand power sources and current types.
- Interpret welding blueprints and weld symbols.
- Utilize basic welding metallurgy.
- Utilize oral and written communication skills in the workplace, including terminology in the welding industry.

Estimated Cost

## Estimated Resident Program Cost\*

### Welding Technology & Fabrication Certificate of Applied Science

Tuition and Fees	\$3,225
Application Fee	\$30
Program Fees	\$1,300
Tools/Clothing	varies
Books/Supplies	\$774
Total	\$5,359+

\* **Fall 2017 MUS Student Health Insurance Premiums will be changing. Please check the Health Insurance website** (<http://students.gfcmsu.edu/insurance.html>) **and/or Student Central for confirmed premium rates. Students will be charged an additional fee of \$21 per credit for online/hybrid courses.**

Program Requirements

Many students need preliminary math and writing courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and writing placement before planning out their full program schedules.

## GFC MSU Additional Graduation Requirement

Course	Title	Credits	Grade/Sem
COLS 103	Becoming a Successful Student +	1	_____

Course	Title	Credits	Grade/Sem
<b>Fall</b>			

First Semester - After Formal Acceptance

(Students who complete the first semester of courses are eligible for the Welding & Fabrication Tier 1 Certificate of Technical Studies degree)

M 191B	Special Topics: Math for Weld **,+	3	_____
WLDG 110	Welding Theory I +	3	_____
WLDG 111	Welding Theory I Practical +	6	_____
WLDG 117	Blueprint Rdng & Weldng Symbls +	2	_____
WLDG 145	Fabrication Basics +	2	_____
<b>Credits</b>		<b>16</b>	

<b>Spring</b>			
COMX 102	Interprsnl Skills in Workplace +	1	_____
WRIT 104	Workplace Communications +	2	_____
WLDG 120	Welding Theory II *,+	2	_____
WLDG 121	Welding Theory II Practical *,+	4	_____
WLDG 130	Intro to Structural Welding *,+	2	_____
WLDG 185	Welding Qualification Tst Prep *,+	4	_____
WLDG 205	Applied Metallurgy *,+	1	_____
<b>Credits</b>		<b>16</b>	
<b>Total Credits</b>		<b>32</b>	

\* Indicates prerequisites needed.

\*\* Placement in course(s) is determined by placement assessment.

+ A grade of C- or above is required for graduation.