

# Welding and Metal Fabrication

College Now – Career Pathways Program Front Range  
Community College  
2017-2018



## Program Syllabus



# **Career Pathways**

*The Career Pathways program at Front Range Community College provides a supportive educational climate that promotes career exploration, technical skills, and readiness for college and employment.*

## **The Welding and Metal Fabrication Program**

**Instructor:** Josh Heuerman

**Office:** LBP144 **Classroom:** LBP119

**Phone (office):** (970) 204-8631 **Phone (cell):** (970)402-6782 **Email:** josh.heuerman@frontrange.edu

### **Program Description**

The Welding and Metal Fabrication Program has been built around in the field practices of welding. The program consists of several rotations during which students will engage in a curriculum called “Welding and Metal Fabrication”. The students will use critical thinking and project management skills to select materials and fabrication methods to keep the project in budget. Then the student will build the project in the weld shop using Gas Metal Arc Welding, Shielded Metal Arc Welding and Oxy Fuel Welding and cutting processes. At the end of the school year, students will host a silent auction where they will sell the projects they built. Revenue from the auction will then be used to purchase materials for future projects.

### **Schedule and Calendar**

Students are enrolled in Career Pathways for either the morning session or afternoon session, depending on their high school schedule.

Morning Session: 8am – 10am, Monday – Friday

Afternoon Session: 12:30pm – 2:30pm, Monday – Friday

Students will follow the FRCC academic calendar for their Career Pathways classes. As a result, there may be times when students are expected to attend their FRCC classes even when their high school may not be in session, such as Spring Break or Parent/Teacher Conference days.

### **Unexpected Closures**

Students are not expected to attend their Career Pathways classes if FRCC, Poudre School District, or Thompson School District are unexpectedly closed (due to weather, emergencies, etc.). Please see the FRCC website ([www.frontrange.edu](http://www.frontrange.edu)) for updates and check your Desire2Learn course shell (more info below) for information from your instructor.

### **Transportation**

Busses are provided to FRCC from most of the high schools in Poudre and Thompson school districts. Students are expected to provide their own transportation on days the school district is not in session. In addition, students must arrange transportation to most off campus activities, such as labs, field trips, and internships. Students often carpool together to these activities.

### **Program requirements**

Students in Career Pathways are expected to attend every day, participate fully, and communicate regularly with their instructors. Students are responsible for monitoring grades and becoming familiar with the information provided in this syllabus. Students are responsible for regularly checking the online class portal, Desire-to-Learn (D2L), for program announcements and to monitor grades and attendance. See below for more information about D2L.

Students in the Welding and Metal Fabrication are required to wear proper attire at all times—over the ankle leather boots, jeans (no holes or rips), long sleeve cotton shirt or jacket, safety glasses (at all times), gloves when welding or handling metal, welding helmet when welding and welpers or a pair of pliers. Students are required to follow all safety requirements while in the shop. Horseplay of any kind will not be permitted. Students are expected to maintain a professional attitude and appearance.

Grades will consist of assignments posted on D2L (Desire2Learn—our online classroom), in-shop work and participation, work ethics and professional attitude. D2L will be used for quizzes, turning in assignments, and discussions. Students must log on every week to complete assignments/quizzes.

## **Welding and Metal Fabrication Courses**

### **HIGH SCHOOL CREDIT**

All students will be enrolled in the High School Welding and Metal Fabrication technology course each semester. These classes and grades will appear on your home high school transcript, but will not be included on an FRCC college transcript.

#### **Fall Semester**

##### **HS Welding Fall (WELZ 010)**

Start Date: Monday, August 21, 2017

End Date: Tuesday, December 12, 2017

**Course Description:** Fall semester content covered in the Welding and Metal Fabrication program includes: safety practices; equipment operation, set-up, and break-down; shielded metal arc welding; gas metal arc welding; basic fabrication skills; blueprint reading, metallurgy and basic CAD skills. Students complete team projects for local organizations and businesses. Credit awarded in WELZ 010 is designated on the student's fall semester high school transcript only.

#### **Spring Semester**

##### **HS Welding Spring (WELZ 011)**

Start Date: Tuesday, January 16, 2018

End Date: Monday, May 7, 2018

**Course Description:** Spring semester content covered in the Welding and Metal Fabrication program includes: safety practices; advanced shielded metal arc welding; advanced gas metal arc welding;

blueprint reading, metallurgy and basic CAD skills. Students complete team projects for local organizations, businesses, and a student auction. Credit awarded in WELZ 011 is designated on the student's spring semester high school transcript only.

### **COLLEGE CREDIT (OPTIONAL)**

Content for optional College courses is integrated into the high school curriculum, and enrolling in the optional college courses will not add additional course work. The college classes listed below are **optional**. Students who enroll in college classes will generate an FRCC college transcript, and the grades for the classes below will become part of a student's permanent college record at FRCC.

#### **Signing up:**

An enrollment packet containing instructions and required forms will be distributed at Orientation and/or on the first day of class. All required steps must be completed and forms must be submitted to your instructor **by Wednesday, August 30th** in order to be enrolled in the optional college credit awarded in this program.

**Drop and withdraw deadlines for college courses:** Most FRCC degrees and certificates require that students earn a C or higher in each required course. Failure to earn passing grades in the college classes will also negatively impact a student's ability to receive financial aid in the future. To avoid earning a "D" or an "F" on your permanent college transcript, be aware of the drop and withdraw dates for your college courses. Ask your instructor or the College Now Office for help submitting the proper forms *prior* to the deadlines listed below if you are worried about your academic progress in a course. A dropped course will never show on your FRCC transcript and a withdraw reads as a "W" on your FRCC transcript, but there is no grade attached.

#### **Fall Semester**

The deadlines for all fall college courses are:

<b>Drop Deadline</b>	<b>Withdraw Deadline</b>
Wednesday, September 6, 2017	Sunday, November 19, 2017

#### **Safety for Welders** (WEL 100)—Optional College Course

*FRCC Credits: 1*

Start Date: Monday, August 21, 2017

End Date: Tuesday, December 12, 2017

**Course Description:** Covers the hazards of welding on health and safety, locating essential safety information from a code or other standard, and identifying and applying shop safety procedures.

#### **Allied Cutting Processes** (WEL 101)—Optional College Course

*FRCC Credits: 4*

Start Date: Monday, August 21, 2017

End Date: Tuesday, December 12, 2017

Course Description: Covers setting up equipment and performing cutting and gouging operations utilizing the oxyacetylene, air carbon arc, exothermic, and plasma arc cutting processes. This course will also provide an introduction to blueprint reading.

Course Description: Must be co-enrolled in WEL 100.

### Spring Semester

The drop and withdraw deadlines for fall college courses are:

<b>Drop Deadline</b>	<b>Withdraw Deadline</b>
Wednesday, January 31, 2018	Saturday, April 14, 2018

### **Basic Shielded Metal Arc I** (WEL 103)—Optional College Course

*FRCC Credits: 4*

Start Date: Tuesday, January 16, 2018

End Date: Monday, May 7, 2018

Course Description: Covers performing safety inspections, making minor repairs, adjusting operating parameters, and operating SMAW equipment utilizing E-6010, E-6013, and E-7018 electrodes. Layout procedures and practices will also be introduced.

Course Description: Must be co-enrolled in WEL 100.

### **Intro to Gas Metal Arc Welding** (WEL 125)—Optional College Course

*FRCC Credits: 4*

Start Date: Tuesday, January 16, 2018

End Date: Monday, May 7, 2018

Course Description: Covers welding in all positions and on various joint configurations using the Gas Metal Arc Welding (Metal Inert Gas) welding process and flux core welding on carbon steel, stainless steel and aluminum. Student should be familiar with basic metallurgy pertaining to the weld ability of metals, structural joints, and safety in the welding industry.

Course Requirement: Must have passed WEL 100 with a C or better.

## **Career Pathways Policies**

### **Grades**

All students will earn high school grades that will post to the high school transcript. Students who enroll in optional college credit will also earn grades for each college class that will post to the student's FRCC college transcript.

### Career Pathways grading scale

90-100% = A

80-89.9% = B

70-79.9% = C

60-69.9% = D

0-59.9% = F

## **Attendance**

Students are expected to attend every day in the Career Pathways program. Our programs provide hands on experiences that are crucial to student success and difficult to make up.

If extenuating circumstances occur and a student must miss class, the student must contact the instructor before the missed class period. Students should be aware that they will receive a "0" for lab activities that cannot be made up or replicated. **Attendance and participation are a significant part of the high school grade.**

40% of the overall grade is dedicated to points for professionalism/work ethics. Points will be awarded each day for attendance and participation under this grade area.

Students that do miss class may have the option do additional work to earn back points missed. This will be at the instructor's discretion.

Students that miss more than 10 minutes of class (more than 10 minutes tardy, leave class early, or in the middle of class) will be considered absent. If the student knows that they are going to be late or have to leave early, contact the instructor prior to the class period.

If extenuating circumstances occur and a student must miss class, the student should follow the policies listed below:

- Students are expected to contact their instructors *before* the missed class period to explain why they will be absent.
- Students who miss class due to a home high school activity (sports, senior meetings, etc.) must provide documentation from the high school prior to the absence.
- Students are responsible for checking in with instructors while absent or immediately upon their return. Check in should include submitting assignments completed prior to the absence, requesting make up work from the instructor, and setting a deadline for submitting missed assignments.
- Students should be aware that they will receive a "0" for lab activities that cannot be made up or replicated.

Students with absences can expect to discuss their attendance with faculty and/or administrative staff. In some cases, the high school counselor will be informed of attendance issues.

## **Late Work:**

*NO late work will be accepted.*

## **Professionalism**

Attendance, participation, and professionalism will also be evaluated as part of a student's final high school grade. Students are expected to attend every day, participate fully in their programs, and maintain professionalism in the classroom and lab. Professionalism includes wearing appropriate clothing, communicating with instructors, working respectfully with other classmates, and maintaining a safe lab experience.

### **Academic Progress**

Students must earn at least a D in their fall semester high school course to be eligible to continue in the Career Pathways program in the spring. **Students who do not earn this minimum grade will return to their home high schools for all course work in the Spring Semester.** Students who do not return will be expected to return all checked out text books and materials before the start of Spring Semester.

### **Student Progress (Grades, Attendance, etc.)**

Students will have access to updated progress information through Desire-to-Learn (D2L), which provides an online grade book and attendance record for each student. D2L is accessed through the "DESIRE2LEARN" link at the top of the [www.frontrange.edu](http://www.frontrange.edu) webpage. Students will need their FRCC issued "S-number" and their password to access D2L.

Students are expected to track their progress and promptly discuss any concerns with the instructor.

Parents should be aware that the Career Pathways program does not send out routine progress reports, and that Career Pathways instructors do not typically contact parents with grade or attendance concerns. However, parents are encouraged to check on student progress through D2L. Parents are welcome to contact faculty and staff if they have concerns.

Please note that high schools will be periodically updated on student progress and attendance.

### **Accommodations**

Students who have IEPs or 504 Plans in high school are eligible to receive accommodations in their Career Pathways programs. If students enroll for high school credit only, we will follow the accommodations listed in the high school documentation as closely as possible. Students who enroll for optional college credit are only eligible for college-level accommodations that must be arranged with the College Now office. Please contact Beth Montgomery at 204-8372 to set up college accommodations.

### **Drops and Withdraws**

Students who need to drop the Career Pathways program must get approval from their high school counselors. The high school counselor will contact College Now to complete the drop process. Students are expected to return all textbooks and class materials to the instructor.

Students who enroll for college credit have the option to drop or withdraw from individual college classes, but will remain enrolled in the program and will continue earning grades for the high school transcript. Students who wish to drop or withdraw from one or more college classes must contact the College Now office (no high school or parent approval is required). Drop and withdraw deadlines are noted in the college course information section of this syllabus. Please note that withdraws may affect future financial aid eligibility.

Faculty are available to discuss student progress and the withdraw option for students with

questions.

### **Safety**

Safety is the highest priority in the Career Pathways program. Instructors will determine if a student is unfit to participate in lab activities for any reason, including but not limited to: being unprepared, acting unprofessionally, appearing disoriented or impaired, and/or violating safety policies and procedures. Students will receive a "0" for missed lab activities. If safety concerns are not immediately resolved, the student may not be permitted to continue in the program.

### **Student Conduct**

Students are expected to actively and safely participate in their programs, be respectful of all faculty, staff, and students, and show responsibility, maturity, and integrity when enrolled in a Career Pathways program. Students who do not meet these expectations may not be permitted to continue in the program. Career Pathways will notify the FRCC Public Safety Office and Dean of Students for serious issues, which may affect a student's future enrollment at FRCC and may result in legal sanctions.

Students are encouraged to review the FRCC Student Code of Conduct, available at <http://www.frontrange.edu/being-a-student/code-of-conduct>. In particular, students should note the policies listed below:

- Educational environment: any behavior that interferes with the educational environment, teaching, and/or learning is not acceptable.
- Academic honesty: students are expected to complete their coursework with integrity. Cheating and/or plagiarism are not acceptable.
- Drugs/alcohol: any suspected drug and alcohol issues will be immediately reported to the home high school and the FRCC Public Safety office.
- Cell phones and other electronics: use of cell phones and other personal electronics are not allowed except for approved purposes at the discretion of the instructor.
- Attire: students should select appropriate clothing for the hands on activities in their programs. Attire should reflect a professional environment.
- Parking: students who provide their own transportation are expected to drive safely on campus, use designated parking spaces, and go directly to their classrooms, computer lab, student center, or library upon arrival.
- Computer usage: Computers are to be used only for program-related coursework and labs.

### **Permission to Include Student in Photographs and/or Videos**

Photos and videos of our programs are a vital component to recruitment. A non-permission form is available in the College Now office if you or your parent objects to the use of your photo in recruitment materials.

### **Title IX Statement from Paul Meese, Title IX/EO Coordinator**

Our college is committed to preserving a safe and welcoming educational environment for all students. As part of this effort, I have an obligation to report certain issues relating to the health and safety of campus community members. I must report to the appropriate college officials any

allegation of discrimination or harassment. Sexual misconduct, which includes sexual harassment, non-consensual sexual contact, non-consensual sexual intercourse, and sexual exploitation, is considered a form of discrimination.

In addition to reporting all discrimination and harassment claims, I must report all allegations of dating violence or domestic violence, child abuse or neglect, and/or credible threats of harm to yourself or others. Such reports may trigger contact from a college official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like more information, you may reach the Title IX/EO Coordinator by emailing Paul.Meese@frontrange.edu or calling 303-678-3707. Reports to law enforcement can be made with the local law enforcement agency or you may contact the campus security office at:

Boulder County Campus – 303-678-3911

Larimer County Campus – 970-204-8124

Westminster Campus – 303-404-5411

If you would like a confidential resource, please contact Paul Meese, FRCC Executive Director of Human Resources. Further information may be found on the college's web site at: <http://www.frontrange.edu/being-a-student/campus-safety>.

### **FRCC Welding Fundamentals Certificate:**

Students participating in the Welding and Metal Fabrication program have the opportunity to complete the college coursework required to earn an FRCC Welding Fundamentals Certificate.

This certificate program broadly introduces students to knowledge and skills useful for entry-level welders. It provides students with safety instruction in the shop and on using equipment, and provides instruction with common welding processes. More information can be found at <http://frontrange.smartcatalogiq.com/2017-2018/Catalog/Degrees-and-Certificates/Welding-Technology/Welding-Technology-Certificates/Welding-Fundamentals>

#### **Requirements:**

- Students must successfully complete all enrollment steps to sign up for college credit in their program by established deadlines
- Students must successfully complete the following coursework with a “C” or better
  - WEL 100-Safety for Welders
  - WEL 101-Allied Cutting Processes
  - WEL 103-Basic Shielded Metal Arc I
  - WEL 125-Intro to Gas Metal Arc Welding
- Students must fill out an “Intent to Enroll” form and submit to their instructor by the appropriate deadline.



**STUDENT WAIVER OF LIABILITY FORM**

**State Board for Community Colleges and Occupational Education,  
for the use and benefit of Front Range Community College**

Angie Gramse, Associate Legal Counsel, 9101 E. Lowry Blvd, Denver, CO 80230. 720-858-2721

Program: Welding and Metal Fabrication Term: 2017-2018

Description: All on-campus and off-campus activities related to Career Pathways Programs

Front Range Community College, Poudre School District R-1 and Thompson School District R2-J are educational institutions in the State of Colorado, and, as such, are covered by the Colorado Governmental Immunity Act, CRS 24-10-101. This law provides that the state and its institutions are immune from lawsuits for injuries suffered by private persons, except in specific situations listed in the law, where immunity is waived. Voluntary participation by students in field trips and non-classroom activities conducted by a state-funded institution of higher education or other educational institutions is not one of the areas where immunity from liability is specifically waived. In other words, by law, if a student suffers an injury as a result of participation in field trips and non-classroom activities of the college, the college is immune from fiscal liability for such injury. For this reason, students are strongly encouraged to obtain medical insurance coverage, if they do not already have coverage, before participating in these activities. Students are also encouraged to read the applicable statutes cited above, which are on file in the Library and on the Internet.

In consideration of, and as a payment for, the right to participate in field trips and non-classroom activities, and the services and food arranged for me by Front Range Community College, Poudre School District R-1 and Thompson School District R2-J and their agents, I have and do hereby assume all risks and will hold them harmless from any and all liability, actions, causes of action, debts, claims and demands of every kind and nature whatsoever which I now have or which may arise from or in connection with my participation in activities arranged for me by Front Range Community College, Poudre School District or Thompson School District or its agents. The terms hereof shall serve as a release and assumption of risk for my heir's executors and administrators and all members of my family.

In signing below I hereby assert that:

1. I have read this document and understand that specific trip information will be provided;
2. I understand that Front Range Community College, Poudre School District and Thompson School District are covered by the Colorado Governmental Immunity Act;
3. I may be personally liable for injuries that I may suffer as a result of participation in this activity.

---

Student Name (Print)

---

Student Signature

---

Date

---

Parent/Guardian Name (Print)

---

Parent/Guardian Signature

---

Date

## ACKNOWLEDGEMENT OF RECEIPT OF SYLLABUS

- I acknowledge that I have received a copy of the syllabus for the Welding and Metal Fabrication Career Pathways Program.
- I acknowledge that I am responsible for understanding the content of the syllabus and for following by the policies and procedures.

Student Name (please print): \_\_\_\_\_

Student Signature: \_\_\_\_\_

Parent/Guardian: \_\_\_\_\_

Date \_\_\_\_\_

**- Complete this form, detach from the syllabus, and return page to instructor-**