

METAL FABRICATION/ WELDING

Overview

Metal Fabrication/Welding Technical Diploma

Program Code: 31-457-1

For more information: wctc.edu/metal-fab (<http://www.wctc.edu/metal-fab/>)

Metal fabrication involves preparing and manipulating materials, while welding fuses parts together. In this program, learn to read prints; create the shape of a part for cutting, fabrication and welding; and produce quality parts. Develop skills to program/operate computer-controlled press brakes/shears, plasma arc cutting machines and microprocessor-based power sources.

The minimum required course grades and program grade point average (GPA) for students under this catalog are:

Core Courses = C

General Studies Courses = C-

Program GPA = 2.0

Build your degree along a career pathway. Start with a couple of courses or an entry-level credential to enter the job market in your area of interest, then continue with higher credentials on your educational path for job advancement and higher wages.

Career Pathway

1. Welding Technician 19
2. Metal Fabrication/Welding 33
3. Metal Fabrication/Welding - Advanced 60

Related certificates that can be earned along the way.

- GMAW/Fabricator Technical Certificate (<https://catalog.wctc.edu/programs/gmaw-fabricator/>)
- Industrial Laser Operator Technical Certificate (<https://catalog.wctc.edu/programs/industrial-laser-operator/>)

Learning Outcomes

Program Outcomes

1. Demonstrate industry recognized safety practices.
2. Form materials to detailed drawings.
3. Cut materials to detailed drawings.
4. Join materials to detailed drawings.
5. Layout components/assemblies.
6. Inspect product.

Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multicultural and collaborative**, we provide curricular and co-curricular opportunities to develop critical life skills. WCTC is committed to teaching all students the following skills:

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

Required Courses

Listed below are the required courses for the program. To view the recommended sequence for taking courses click on the plan of study tab(s) above. Work with your Academic Advisor to design a program plan!

View your **Program Matrix** to find out when each course will be offered (term and time of day).

| Code | Title | Credits |
|--|--------------------------------|-----------|
| Core Courses | | |
| 422-103 | Metals Technology/Fabricators | 1 |
| 442-151 | Gas Metal Arc Welding 1 | 2 |
| Approved Substitute: 442-150 | | |
| 442-152 | Gas Metal Arc Welding 2 | 2 |
| Approved Substitute: 442-150 | | |
| 442-171 | Flux Core Arc Welding 1 | 2 |
| Approved Substitutes: 442-170 OR 442-180 OR 442-181 | | |
| 442-172 | Flux Core Arc Welding 2 | 2 |
| Approved Substitutes: 442-170 OR 442-180 OR 442-182 | | |
| 457-110 | Blueprint Reading - Fab | 2 |
| 457-121 | Automated Cutting Processes 1 | 2 |
| 457-125 | Manual Thermal Cutting Process | 1 |
| 457-161 | Intro to Metal Fabrication | 2 |
| Approved Substitute: 457-160 | | |
| 457-162 | Metal Fabrication 1 | 3 |
| Approved Substitute: 457-160 | | |
| 457-163 | Metal Fabrication 2 | 2 |
| Approved Substitute: 457-165 | | |
| 457-164 | Advanced Metal Fabrication | 3 |
| Approved Substitute: 457-165 | | |
| General Studies | | |
| 801-196 | Oral/Interpersonal Comm | 3 |
| Approved Substitute: 801-198 | | |
| 804-107 | College Mathematics | 3 |
| Approved Substitutes: 804-115 OR 804-116 OR 804-118 OR 804-195 OR 804-198 OR (804-304 AND 804-305) | | |
| 809-199 | Psychology of Human Relations | 3 |
| Approved Substitute: 809-198 | | |
| Total Credits | | 33 |
| Full-time Plan | | |
| First Year | | |
| Fall Term 1 | | |
| 442-151 | Gas Metal Arc Welding 1 | 2 |
| 457-110 | Blueprint Reading - Fab | 2 |
| 804-107 | College Mathematics | 3 |
| Credits | | 7 |

Fall Term 2

| | | |
|----------------|-------------------------------|----------|
| 422-103 | Metals Technology/Fabricators | 1 |
| 442-152 | Gas Metal Arc Welding 2 | 2 |
| 457-161 | Intro to Metal Fabrication | 2 |
| Credits | | 5 |

Winter Interim

| | | |
|----------------|-------------------------|----------|
| 801-196 | Oral/Interpersonal Comm | 3 |
| Credits | | 3 |

Spring Term 1

| | | |
|----------------|--------------------------------|----------|
| 457-125 | Manual Thermal Cutting Process | 1 |
| 457-162 | Metal Fabrication 1 | 3 |
| 809-199 | Psychology of Human Relations | 3 |
| Credits | | 7 |

Spring Term 2

| | | |
|----------------|-------------------------------|----------|
| 442-171 | Flux Core Arc Welding 1 | 2 |
| 457-121 | Automated Cutting Processes 1 | 2 |
| 457-163 | Metal Fabrication 2 | 2 |
| Credits | | 6 |

Second Year**Summer Term**

| | | |
|----------------------|----------------------------|-----------|
| 442-172 | Flux Core Arc Welding 2 | 2 |
| 457-164 | Advanced Metal Fabrication | 3 |
| Credits | | 5 |
| Total Credits | | 33 |