

## Welding Industry Opportunities

Welders are in demand in countless industries. With decades of few new workers entering the trades, vocations like welding are now left with an aging workforce, and a shortage of qualified people. The Rochester Arc + Flame Center, and MCC Corporate College have partnered together to offer Rochester area workers programs that provide the relevant training necessary to get jobs in the exciting and rewarding field of welding.

On-site AWS Qualification training and testing is conducted to give students the ability to specialize in areas that will help them obtain their desired career.

### HOW TO GET STARTED

#### 1) Attend an Information Session:

Call 585.349.7110 or email [admissions@rocafc.com](mailto:admissions@rocafc.com) and provide YOUR NAME, PHONE NUMBER and EMAIL. Sessions are held monthly at specific times and last for 3 hours. They provide an overview of the course, tour of the facility, and opportunity to ask faculty questions.

#### 2) Attend Final Interview:

Final interviews last approximately 1-hour and are held 1-2 weeks after you have attended an information session. You will complete a verbal, written and mathematical evaluation with an Arc + Flame admissions team member. Please note, admission is competitive and is not guaranteed.

For more information please contact MCC Corporate College at 585-685-6004 or [corporatecollege@monroecc.edu](mailto:corporatecollege@monroecc.edu).

Classes are held at:

**Rochester Arc + Flame Center**  
125 Fedex Way  
Rochester, NY 14624  
[www.rocafc.com](http://www.rocafc.com)

For non-credit programs, traditional financial aid is not available. For more information on course financing, please visit [SallieMae.com](http://SallieMae.com).

### SCHOLARSHIP OPPORTUNITIES

#### The Krupnicki Family Scholarship for Excellence in Welding:

The Krupnicki Family Scholarship for Excellence in Welding is awarded to two students per semester. An application will be sent to accepted students after admissions decisions are made. Please fill out and submit before deadline indicated on form.

## Types of Welding

**MIG WELDING**, also known as Gas Metal Arc Welding (GMAW) or Wire Feed Welding, is a versatile welding process that is relatively easy to learn. A MIG system includes a constant voltage welding power source, a wire feeder, torch, shielding gas, gas regulator, and welding wire.

**TIG WELDING**, also known as Gas Tungsten Arc Welding or "Heli-Arc" Welding, is a welding process that utilizes a non-consumable Tungsten electrode to create an electric arc. Although usually more difficult to master than MIG welding, TIG is capable of precise, high quality welds.

**STICK WELDING**, also known as Shielded Metal Arc Welding (SMAW), is an electric arc process that uses a consumable flux-coated rod as the electrode and the filler metal. Required equipment is a constant-current welding power source, electrode cable with electrode holder, and ground cable with ground clamp.

#### ARC + FLAME

The Rochester Arc + Flame Center (RocAFC) is an 11,000 square-foot training facility designed specifically for welding, glass working and blacksmithing. The mission of RocAFC is to foster exciting and innovative classes for people of all skill levels.

Michael Krupnicki is the Executive Director and founder of the Rochester Arc + Flame Center. In 2001, Krupnicki became President of Mahany Welding Supply and had a vision to create welder training classes not only for professional tradesmen but

also the general public. Mahany Welding Supply trained students through day clinics, night courses, collegiate and vocational classes, and professional welder qualification programs. The success of these welder-training programs prompted Krupnicki to expand his model of training into a separate entity featuring welding and additional frameworking arts.

Since opening in 2012, over 15,000 students have taken classes at the Rochester Arc + Flame Center. The Arc + Flame Center features instructors who are experienced professionals and world-renowned artists to provide the best programs available. Classes are designed for all levels of interest from individuals in search of a unique weekend experience to tradespeople seeking career training.



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## Economic & Workforce Development Center

MONROE COMMUNITY COLLEGE

## Welding & Fabrication Industry Certification Programs



Co-Sponsored by:  
Rochester Arc + Flame Center  
125 Fedex Way, Rochester, NY 14624  
[www.rocafc.com](http://www.rocafc.com)

# Welding & Fabrication Industry Certification Program



The Monroe Community College Career Welding & Fabrication Program features training for MIG, TIG, Flux Core and Stick welding processes. On-site AWS Qualification training and testing is conducted to validate the students' skill level. A minimum of six tests must be successfully completed and students have the opportunity to take as many more as time permits. The program also provides resume writing assistance, employer research techniques, and mock job interviews. To date, our graduates have been hired by over 120 unique employers in over 20 different states.

## WHAT YOU WILL COVER:

The program consists of 450 hours of classroom instruction and hands-on training. The day-time program is offered twice per year, August through January, and February through June. The program spans approximately 20 weeks, for 22.5 hours per week, and has options for either a morning session or afternoon session. Accepted students may choose either the morning session which runs from 7:30a.m.-12:00noon, or the afternoon session which runs from 1:00p.m.-5:30p.m. There is also an evening program that runs for 10-months from August to June, featuring the same 450 hour curriculum. This program takes place Monday and Wednesday evenings from 5:30p.m.-9:30p.m., one Saturday class each month, and three total Sunday classes. To earn the certificate, the successful student will have passed the following:

- 10 hours of OSHA Safety Outreach Program
- Theory and Practical Examinations
- Aluminum Qualifications Tests in GTAW or GMAW-P
- Carbon Steel Qualifications Tests in GMAW, FCAW, SMAW, GTAW
- Stainless Steel Qualifications Tests in GTAW or GMAW

## HOW YOU WILL BENEFIT:

- You will be prepared for entry into a welding career.
- You will not just learn how to weld: you will become a well-rounded Welder/Fabricator who can read blueprints and cut/drill/prep metal.
- You'll receive over \$700 worth of safety gear and shop tools to use for the program, and take with you on the job.

The course outline is as follows:

### GMAW (GAS-METAL-ARC-WELDING) 1

- Welder safety
- Types of power sources
- GMAW torches and consumables
- American Welding Society nomenclature
- GMAW filler metals
- GMAW gases
- Transfer methods
- Equipment troubleshooting
- Welding steel in flat position
- Welding steel in horizontal position
- Welding steel in vertical position
- Welding steel in overhead position

### GTAW (GAS-TUNGSTEN-ARC-WELDING) 1

- Types of power sources
- American Welding Society nomenclature
- GTAW filler metals
- GTAW gases
- GTAW torches and consumables
- Equipment troubleshooting
- Welding steel in flat position
- Welding steel in horizontal position
- Welding steel in vertical position
- Welding steel in overhead position

### BLUE PRINTS/WELD SYMBOLS/QUALITY OF WELDS

- American Welding Society weld symbols
- Shop blue prints
- Field blue prints
- Deficiencies: causes and cures
- Workplace tolerances
- Dimensioning
- Fillet gauge application

### GMAW (GAS-METAL-ARC-WELDING) 2

- Spray-arc welding applications
- Flux-core welding applications
- Metal-core welding applications
- Stainless steel welding applications
- Aluminum welding applications

- Capstone projects
- Qualification tests
- Guest speakers/shop tours/recruiting

### GTAW (GAS-TUNGSTEN-ARC-WELDING) 2

- GTAW stainless steel applications
- GTAW aluminum applications
- GTAW exotics applications
- Capstone projects
- Qualification tests

### SMAW (SHIELDED-METAL-ARC-WELDING)

- Power sources (static and engine driver)
- SMAW rod nomenclature
- Electrode and ground cable accessories
- Welding steel in flat position
- Welding steel in horizontal position
- Welding steel in vertical position
- Welding steel in overhead position

### FABRICATION PROCESSES

- Oxygen/fuel gas apparatus safety
- Cutting with oxygen/fuel
- Brazing/welding with oxygen/fuel
- Heating with oxygen/fuel
- Plasma cutting power sources
- Plasma cutting torches and consumables
- Plasma cutting safety
- Cutting and gouging with plasma
- Stud welder safety and operation
- Ironworker safety and operation
- Magnetic base drill safety and operation
- Grinder safety and application
- Abrasives/metal finishing overview
- SMAW welding overview

## Additional Welding Programs

### STICK WELDING FOR PIPING & STRUCTURAL TUBE\*

This fast-paced course is designed to provide the skills necessary to gain professional level qualifications for pipe and structural tube welding.

Filler metals and piping materials for this course are included in the cost. Safety gear, welding hood and standard fitting tools are required and not provided. A complete supply list will be reviewed during the pre-registration meeting.

All candidates will meet with the instructor for a pre-registration interview to review and verify sufficient basic skills to successfully complete the course.

You will learn:

- Basics of welding piping using 6010 and 7018 electrodes.
- Welding full penetration groove welds in the 2G, 5G and 6G positions.
- Prepping and fitting techniques
- Weld symbols, weld bead reading & adjustment, machine settings and understanding welding procedure specifications (WPS)
- Welding Process: Shielded Metal Arc Welding (Stick)
- Materials: Schedule 40 and Schedule 80 Carbon Steel Pipe in 2" Diameters and 6"
- Styles: API (Petroleum Pipeline and related facilities), mechanical piping, water-steam and gasses

This 120-hour course runs two weekends each month on Fridays from 5:00 pm - 9:00 pm, and Saturdays from 8:00 am - 4:00 pm. During the final days of the course there will be testing in the API and ASME styles on each of the variations of the course in the 6G (all) position.

The program will require the ability to weld in vertical position with SMAW as a minimum prerequisite.

*\*This class runs based on participant interest.*

### CUSTOM TRAINING & QUALIFICATION

Arc + Flame Center can be your source for a wide variety of training solutions. We can tailor custom programs to your individual corporate needs with training provided at your site or ours (depending on the details). Courses we have provided to other local firms include:

- Welding for the non-welder
- Non-destructive testing
  - Dye penetrant
  - Magentic particle
  - NDT overview
- Mold and tool repair
- Weld symbols
- Visual inspection
  - WPS deficiencies
  - Code usage to commonly specified codes

**Our on-staff Certified Welding Inspectors (CWI) can also assist with:**

- Procedure writing
- Quality control
- Quality assurance
- Welder testing and qualification
- Welding machine calibration
- Welding machine preventive maintenance
- Training to prepare for AWS D1.1, 1.6, 17.1 and NYS DOT

**For more information on custom welder training and qualification testing, email Arc + Flame at [admissions@rocafc.com](mailto:admissions@rocafc.com) or call 585-349-7110.**