

Welding Programs Frequently Asked Questions

What programs are available?

We have three exciting welding programs:

- Structural Shielded Metal Arc Welding (SMAW)
- Gas Tungsten Arc Welding (GTAW)
- Gas Metal Arc Welding (GMAW)

What are TIG, MIG, and Stick?

These acronyms refer to three of the most common welding techniques. These techniques are more accurately described by the American Welding Society titles as noted below. Whatever the name, NVCC's expert instructors will help you learn these skills.

- Shielded Metal Arc Welding (SMAW) = Stick (also referred to as "arc welding")
- Gas Tungsten Arc Welding (GTAW) = TIG
- Gas Metal Arc Welding (GMAW) = MIG

What class should I take to get started?

- 1) Determine which technique will meet your needs. This will depend on the type of welding you would like to do (indoors, outdoors, for manufacturing, in construction, for repair...etc).
- 2) Register for the basic course for your technique choice.
- 3) The prerequisite for the basic courses is high school level reading and math skills.

To help you choose, here are some of the industries where you will use each technique:

- SMAW – Construction, shipyards and repair (like in landscaping).
- GMAW – Manufacturing, heavy construction, welding in automobile shops, and shipyards. It is considered the easiest one to learn, since it is semi-automatic (point the torch, start it and the machine will feed the wire automatically).
- GTAW – Specially used to weld non-ferrous metals. Mostly used in manufacturing, aerospace applications (places like Pratt & Whitney), pipe welding, welding in automobile shops, making of automobile and motorcycles, and shipyards. It is considered the cleanest of the three, but also the one where the most coordination is needed (you will be using both of your hands, and one of your feet).

What is a welding certification?

A welding certification is a procedure that students have to follow in order to get certified. It shows the prospective employer that you are knowledgeable of a specific welding code.

There are many welding certifications, for each technique of welding, the process and the materials used. For example, if you are certified in overhead welding of a fillet weld joint, then you would be certified in the 4F position. The number and letter identify the type of position and weld you are certified in:

- 1 is for Flat
- 2 for Horizontal
- 3 for Vertical
- 4 for Overhead

The higher positions cover the previous ones (for example, a 3G test, means you can weld in 1G, 2G and 3G). The letters described the weld joint. **G** is for a Groove weld joint and **F** is for Fillet weld joint. These are the only positions available at NVCC. There are others that you can be certified in, like positions for pipe welding.

Welders may have many certifications throughout their career, as each company they work for may do their own certification. They may also apply for other certifications like those offered by their home State (like in Connecticut, the CT DOT welding certification is available), the American Welding Society (AWS), and the American Society of Mechanical Engineers (ASME), as well as others.

The certification exam is done on the last day of the class. Students are tested in accordance with AWS standards, and they will receive a NVCC certification administered by a Certified Welding Inspector (CWI). The student will receive paperwork stating the specifications for the tests and that they pass it. They can use this to show the type of test that they passed.

Do welding certifications expire?

Welding certifications expire after 6 months. That is standard across the board. They can be renewed, if you are working in the field using that specific technique, or by taking the test again.

Even if you do not renew your certification, when searching for employment, you should list all the certifications you had, as well as any training and experience on your resume. You can include copies of the certification paperwork. This way, employers can see that you have passed that type of test in the past and/or that you have had training.

What certifications do NVCC offers?

NVCC offers various welding certifications in accordance with American Welding Society (AWS) Standards. We are also a CONNDOT approved testing site.

SMAW (Stick):

- D1.1, Structural Welding Code, 2G certification
- D1.1, Structural Welding Code, 3G/4G certification

GMAW (MIG):

- D1.1, Structural Welding Code, 3G certification

GTAW (TIG):

- D17.1, Specification for Fusion Welding for Aerospace Applications, 2F in stainless steel
- D17.1, Specification for Fusion Welding for Aerospace Applications, 2F in aluminum

Connecticut Department of Transportation (CONNDOT) Welding Certification:

- D1.5, Bridge Welding Code, 3G/4G certification

What careers are available for welders?

There are many exciting careers in the welding field. Some of these are:

- Welders, Cutters, and Welder Fitters
- Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders
- Structural Metal Fabricators and Fitters
- Sheet Metal Workers
- Commercial Divers
- Solderers and Brazers
- Boilermakers
- Layout Workers, Metal and Plastic
- Pipe Fitters and Steamfitters
- Structural Iron and Steel Workers
- Materials Engineers
- Bus and Truck Mechanics and Diesel Engine Specialists
- Rail Car Repairers
- Industrial Machinery Mechanics
- Machinists
- Reinforcing Iron and Rebar Workers
- First-Line Supervisors of Mechanics, Installers, and Repairers
- Control and Valve Installers and Repairers, Except Mechanical Door
- Electro-Mechanical Technicians

- Certified Welding Inspectors (CWI)

What is the salary range for welders in CT?

For information on salary ranges in CT, please go to:

<http://www1.ctdol.state.ct.us/jcc/profile.asp?sstrOccupationCode=514121>

What are the career requirements for welders, cutters and welder fitters?

Please go to the O*Net Online site for more information on the requirements for the job:

<http://www.onetonline.org/link/summary/51-4121.06>

Is there available lab time?

Open welding lab time is available for students. It may be reserved in blocks of 15 hours on a space available basis. Please contact the Program Coordinator for more information.

Do I need to buy any materials, or safety gear?

All materials, textbooks, safety gear, and practice plates are supplied during class. You will need to bring work boots.

I would like to become a Certified Welding Inspector (CWI). Do you offer this course?

Please contact the American Welding Society (<http://www.aws.org/certification/CWI/>), for more information on this certification.

Is there financial aid available?

We offer Payment Plans. For more information about these, please contact our Registration office at 203-575-8029, or go to our website, www.nv.edu/nc.

At this time there is no financial aid for non-credit courses. The Northwest Regional Workforce Investment Board (NRWIB) will help students who qualify for assistance. To determine if you qualify for assistance, please contact your local Department of Labor. This process should be started early. There is also Veteran's Assistance, please call 203-575-8006 to inquire.

You may also want to check with your banking institution to see if there is an available loan program for training.

For more information on the welding field:

- Please go to: http://www.careersinwelding.com/why_welding.php
- Or, if you would like to see the different techniques in welding, you may do a video search online for TIG, MIG and Stick. Below are some sample videos.
 - GMAW: <http://www.youtube.com/watch?v=DEDHR-Nst6E>
 - GTAW: http://www.youtube.com/watch?v=tNYmo2_DI6c
 - SMAW: http://www.youtube.com/watch?v=W_fZKZKZiOk