

# Welding Technology



## Why Welding?

Students in the Welding Technology degree program develop a variety of technical skills and knowledge of industry norms that are informed by theory and built on an academic foundation that includes mathematics and communication.

Graduates of this program will be prepared with marketable skills in a variety of welding processes for entry into the workforce.

## Program Outcomes

Students who graduate from this program will be able to:

- Possess basic competency in the four major welding processes
- Demonstrate basic concepts and practices of technical drawing and blueprint reading in accordance with industry standards
- Articulate safety guidelines and use of machine tools
- Produce drawings using Computer Aided Drafting (CAD) software
- Refine skills to meet code requirements for heavy plate and pipe welding
- Demonstrate knowledge of materials structures, heat treatment processes, the composition of ferrous and non-ferrous alloys and the effects of heat treatments on metals
- Articulate industrial quality control procedures
- Demonstrate fabrication techniques, cost estimation and principles of applied statics and strength of materials

## Admission Requirements:

In addition to college-wide requirements, students must place into MATH111M or MATH111XM, Numerical Geometry or Numerical Geometry - Corequisite and ENGL110XM or ENGL110M, College Composition I with Corequisite or College Composition I.

## Technical Standards:

- Normal vision for reading instructions and for performing tasks (adaptive equipment acceptable).
- Manual dexterity with both hands; good hand and eye coordination.

### (Technical Standards, continued)

- Ability to visualize and portray ideas graphically.
- The physical strength to maneuver and/or lift heavy objects.
- Ability to stand for long periods of time while welding and or torch cutting.
- *Pacemaker wearers* — High frequency welding may cause Interference with Pacemaker operation.
- Welding and Torch cutting is a High heat process that may at times cause students to be uncomfortable.

## Potential Jobs

- Cutter
- Machine Operators
- Machine Setter
- Machine Tenders
- Solderer and Brazier
- Welder

## Potential Salary\*

There is a wide range of jobs in the welding industry. See below for the average annual salary range in NH for a **Welder**.

ENTRY LEVEL	MID-RANGE	EXPERIENCED
\$38,106	\$49,442	\$56,410

\*New Hampshire Occupational Employment & Wages 2021, published by the NH Economic + Labor Market Information Bureau — Salaries are based on 40 hours of work, not including overtime.

## Transfer Opportunities

- Granite State College
  - Ferris State University
  - Southern NH University
- ...and many more!

A wave of retirements nationwide have created a shortage of approximately 300,000 qualified welders.

# Degree & Certificate Requirements

## Welding Technology Degree

### Degree Program - First Year

First Year	Fall Semester	TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas/Arc Welding Lab	0	10	4
WELD112M	Gas/Arc Welding Theory	3	0	3
WELD113M	Technical Blueprint Reading	0	3	1
ENGL110XM or ENGL110M	College Composition I with Corequisite or College Composition I	4	0	4
FYE100M	MCC Essentials	1	0	1
<b>Total</b>		<b>11</b>	<b>13</b>	<b>16</b>
First Year	Spring Semester	TH	LAB	CR
WELD121M	MIG/TIG Welding Lab	0	10	4
WELD122M	MIG/TIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Technology	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
MATH111M or MATH111XM	Numerical Geometry or Numerical Geometry - Corequisite	3	0	3
<b>Total</b>		<b>10</b>	<b>16</b>	<b>16</b>

### Degree Program - Second Year

Second Year	Fall Semester	TH	LAB	CR
WELD211M	Structural Code Welding Lab	0	10	4
WELD212M	Code Welding Theory	3	0	3
WELD213M	Metallurgy	2	2	3
MATH135M	Numerical Algebra and Trigonometry	3	0	3
	Social Science Elective	3	0	3
<b>Total</b>		<b>11</b>	<b>12</b>	<b>16</b>
Second Year	Spring Semester	TH	LAB	CR
WELD220M	Fabrication Techniques and Estimating	2	2	3
WELD221M	Pipe Code Welding Lab	0	10	4
WELD224M	Intermediate GTAW of Pipe	0	4	2
	Science Elective	3	0	3
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
<b>Total</b>		<b>8</b>	<b>16</b>	<b>15</b>
<b>Total Credits - 63</b>				

## Welding Technology Professional Certificate

The Professional Certificate in Welding Technology meets entry-level employment objectives for non-code welding and includes the courses required for the first year of the degree program.

		TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas/Arc Welding Lab	0	10	4
WELD112M	Gas/Arc Welding Theory	3	0	3
WELD113M	Technical Blueprint Reading	0	3	1
WELD121M	MIG/TIG Welding Lab	0	10	4
WELD122M	MIG/TIG Welding Theory	3	0	3
WELD125M	Manufacturing and Repair Technology	0	3	1
WELD186M	Blueprint Reading for Welders	3	0	3
CAD113M	Applied CAD for Industry	1	3	2
ENGL110XM or ENGL110M	College Composition I with Corequisite or College Composition I	4	0	4
MATH111M or MATH111XM	Numerical Geometry or Numerical Geometry - Corequisite	3	0	3
FYE100M	MCC Essentials	1	0	1
<b>Total Credits - 32</b>				

## Welding Technology Certificate

Successful completion of this program gives you the necessary welding skills required for employment as a combination welder or welder's helper.

		TH	LAB	CR
WELD101M	Fundamentals of Welding	3	0	3
WELD111M	Gas/Arc Welding Lab	0	10	4
WELD112M	Gas/Arc Welding Theory	3	0	3
WELD113M	Technical Blueprint Reading	0	3	1
WELD121M	MIG/TIG Welding Lab	0	10	4
WELD122M	MIG/TIG Welding Theory	3	0	3
WELD186M	Blueprint Reading for Welders	3	0	3
<b>Total Credits - 21</b>				

All courses and degree requirements are subject to change. For the most current information on MCC programs, visit [mccnh.edu](http://mccnh.edu).