

## Technical and Vocational Programs

### D 50 42 0 Welding Technology – Diploma

### C 50 42 0 I Welding Technology Basic Certificate

### C 50 42 0 II Welding Technology Advanced Certificate

(Offered at COA-Elizabeth City and COA-Dare)  
(Class offerings may vary by semester at each location.)

#### CONCENTRATION OVERVIEW

The Welding Technology curriculum provides students with a sound understanding of the science, technology, and applications essential for successful employment in the welding and metal industry. Instruction includes consumable and non-consumable electrode welding and cutting processes. Courses in math, blueprint reading, metallurgy, welding inspection, and destructive and non-destructive testing provides the student with the industry-standard skills developed through classroom training and practical application.

Upon completion of this concentration, graduates will be able to qualify for employment as entry-level technicians in welding and metalworking industries. Career opportunities also exist in construction, manufacturing, fabrication, sales, quality control, supervision, and welding-related self-employment.

#### Student Learning Outcomes – Upon completion of the program, students will:

1. Weld industrial alloys related to industry standards.
2. Research, interpret and apply codes and welding procedure specifications.
3. Create and interpret conventional generated blueprints specific to the welding trade.
4. Demonstrate knowledge of welding inspection methods and testing of weldments with non-destructive and destructive methods.
5. Demonstrate the ability to set up, program, operate and troubleshoot semi-automated equipment related to the welding industry.
6. Demonstrate the ability to set up, program, operate and troubleshoot SMAW welding equipment related to the industry and complete test coupons.

**Partnership: College of The Albemarle's Welding Program - Diploma Track - is an approved Marine Trades Training (MTT) Welding Course through Newport News Shipbuilding.**

\*This program offers a [Career and College Promise pathway \(CCP\) D35100H](#). Courses within the pathway are highlighted in yellow.



## D 50 42 0 Welding Technology – Diploma

First Year Fall Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
WLD 110 Cutting Processes	Pre-Requisites: None	1	3		4	2
WLD 115 SMAW (Stick) Plate	Pre-Requisites: None	2	9		11	5
WLD 121 GMAW (MIG) FCAW/ Plate	Pre-Requisites: None	2	6		8	4
BPR 111 Print Reading	Pre-Requisites: None	1	2		3	2
Select one of the following: COM 101 Workplace Comm OR COM 110 Intro to Comm OR COM 120 Intro to Interp Comm OR COM 231 Public Speaking	Pre-Requisites: COM 101: None COM 110 : None COM 120: None COM 231: ENG 111	3			3	3
WLD 112 Basic Welding Processes	Pre-Requisites: None	1	3		4	2
<b>TOTAL SEMESTER HOURS</b>		<b>10</b>	<b>23</b>		<b>33</b>	<b>18</b>
First Year Spring Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
WLD 116 SMAW (Stick) Plate/Pipe	Pre-Requisites: WLD 115	1	9		10	4
WLD 122 GMAW (MIG) Plate/Pipe	Pre-Requisites: WLD 121	1	6		7	3
WLD 131 GTAW (TIG) Plate	Pre-Requisites: None	2	6		8	4
Select one of the following: MAT 110 Mathematical Measurement OR MAT 143 Quantitative Literacy OR MAT 171 Precalculus Algebra	Pre-Requisites for MAT 110: None Pre-Requisites for MAT 143: ENG 025 and MAT 025 Pre-Requisites for MAT 171: MAT 035 or MAT 110 or MAT 143 or MAT 152 with a C or higher	2-3	2		4-5	3-4
WBL 110 World of Work or WBL 111 Work-Based Learning I or WBL 112 Work-Based Learning I		0-1		0-20	1-20	1-2
<b>TOTAL SEMESTER HOURS</b>		<b>6-8</b>	<b>23</b>	<b>0-20</b>	<b>30-50</b>	<b>15-17</b>
First Year Summer Semester Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
WLD 141 Symbols & Specifications	Pre-Requisites: None	2	2		4	3
WLD 132 GTAW (TIG) Plate/Pipe	Pre-Requisites: WLD 131	1	6		7	3
<b>TOTAL SEMESTER HOURS</b>		<b>3</b>	<b>8</b>		<b>11</b>	<b>6</b>
<b>TOTAL SEMESTER HOURS REQUIRED FOR DIPLOMA</b>						<b>39-41</b>

## C 50 42 0I Welding Technology – Basic Certificate

Basic Certificate Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
WLD 110 Cutting Processes	Pre-Requisites: None	1	3		4	2
WLD 115 SMAW (Stick) Plate	Pre-Requisites: None	2	9		11	5
WLD 121 GMAW (MIG) FCAW/Plate	Pre-Requisites: None	2	6		8	4
WLD 112 Basic Welding Processes	Pre-Requisites: None	1	3		4	2
<b>TOTAL SEMESTER HOURS</b>		<b>6</b>	<b>21</b>		<b>27</b>	<b>13</b>
<b>TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE</b>						<b>13</b>

## C 50 42 0II Welding Technology – Advanced Certificate

To complete higher level certificates, students may be required to complete coursework offered in the previous certificate to meet all required course pre-requisites.

Advanced Certificate Course Number and Title	Pre-Requisites and Co-Requisites	Class Hours	Lab Hours	Clinical Hours	Total Contact Hours	Total Credit Hours
WLD 116 SMAW (Stick) Plate/Pipe	Pre-Requisites: WLD 115	1	9		10	4
WLD 122 GMAW (MIG) Plate/Pipe	Pre-Requisites: WLD 121	1	6		7	3
WLD 131 GTAW (TIG) Plate	Pre-Requisites: None	2	6		8	4
WLD 141 Symbols & Specifications	Pre-Requisites: None	2	2		4	3
WLD 132 GTAW (TIG) Plate/Pipe	Pre-Requisites: WLD 131	1	6		7	3
<b>TOTAL SEMESTER HOURS</b>		<b>7</b>	<b>29</b>		<b>36</b>	<b>17</b>
<b>TOTAL SEMESTER HOURS REQUIRED FOR CERTIFICATE</b>						<b>17</b>