

Technical Studies – Welding, AAS Degree

Purpose

This program is designed to build upon the welding certificate and to create a pathway to upper division studies or a competitive resume advantage for students planning to work as welders in industry, and to provide them with an introduction to the various types of equipment and materials used in welding. AWS, ASME, and other certifications are also available.

Program Learning Outcomes

Students will:

- Demonstrate proficiency in the use of welding tools.
- Safely perform welding techniques using fillers, wires, fluxes, and gases.
- Be able to read and interpret blueprints in the welding industry.
- Demonstrate an understanding of quality control principles.

Program Curriculum and Suggested Sequence of Courses

1st Semester	Credits	Course Options
SDV 101 Student Dev Orientation to Engineering and	1	SDV 100
ENG 111 College Composition I	3	
MTH 130 Mathematics/Natural Science	3	Math 111 See Note 2
SAF 130 Industrial Safety – OSHA 10	1	
IND 103 Industrial Methods	2	
WEL 123 Shielded Metal Arc Welding (basic)	4	
<i>Total Credits</i>	<i>14</i>	
2nd Semester	Credits	Course Options
WEL 130 Inert Gas Welding	4	
WEL 141 Welder Qualification Test I	4	
ENG 115 Technical Writing	3	
ITE 115 Microcomputers/Programming/Software	3	ITE 119
HLT 100 First Aid and CPR	2	Any HLT, PED
<i>Total Credits</i>	<i>16</i>	
3rd Semester		
IND 116 Applied Technology	3	
IND 190 Coordinated Internship I	3	IND 197 See Note 3
<i>Total Credits</i>	<i>6</i>	
4th Semester	Credits	Course Options
HIS 111 History of World Civilization I	3	
WEL 150 Welding, Drawing, and Interpretation	3	
WEL 160 Gas Metal Arc Welding	4	
IND 101 Quality Assurance Technology I	3	
WEL 124 Shielded Metal Arc Welding (advanced)	4	
<i>Total Credits</i>	<i>17</i>	
5th Semester	Credits	Course Options

HIS 112 History of World Civilization II	3	
PHI 220 Ethics	3	
CAD 201 Computer Aided Drafting and Design I	3	See Note 4
IND 137 Team Concepts/Problem Solving	3	
IND 190 Coordinated Internship II	3	IND 197 See Note 3
<i>Total Credits</i>	<i>15</i>	
Total Credits For Program	68	

Notes and Additional Curriculum Options

1. Part-time students should consult their faculty advisors regarding appropriate course sequences.
2. Students who have completed MTH 103 have satisfied this requirement.
3. Internship is a total of 6 credits taken over two semesters.
4. Alternate courses: ETR150, ETR160

Certifications

Courses in this program may help students attain the following license(s) or certification(s):

- EPA Section 608 Technician Certification, U.S. Environmental Protection Agency
- Journeyman Heating, Ventilation & Air Conditioning, Virginia Department of Professional and Occupational Regulation
- Master Heating, Ventilation & Air Conditioning, Virginia Department of Professional and Occupational Regulation