

# Industrial Technology Welding/Metal Fabrication

## An Associate of Applied Science Degree Program

### PROGRAM DESCRIPTION

The Welding/Metal Fabrication program prepares individuals as welders or metal fabricators. The curriculum focuses on the development of knowledge and skills in Oxy-fuel welding, brazing and cutting, plasma arc cutting and carbon arc cutting, Flux-Core Arc Welding (FCAW), Gas Metal Arc Welding (GMAW) (MIG), Gas Tungsten Arc Welding (GTAW) (TIG), and Shielded Metal Arc Welding (SMAW).

*The Industrial Technology Welding/Metal Fabrication program is accredited by the Association of Technology, Management, and Applied Engineering (ATMAE).*

PMB219  
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North Huntingdon, PA 15642  
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### TYPICAL PROGRAM OF STUDY

Course No.	Course Title	Credit
<b>FALL</b>		
EDUC 1030	College and Lifelong Learning	3
ENGL 1010	English Composition I	3
MATH 1050	Trigonometric Applications	4
WELD 1060	General Welding	4
WELD 1070	Applied Welding	4
<b>SPRING</b>		
ENST 1350	Industrial Safety	3
PHYS 1030	Survey of Physics	4
or		
PSCI 1010	Principles of Physical Science	4
WELD 1130	Fabrication Tools and Processes	3
WELD 1210	Welding Blueprints	3
WELD 2110	Inert Gas Arc Welding	3
<b>FALL</b>		
Elective	Behavioral/Social Science Elective (an approved elective from the general education core)	3
INTC 1010	Quality and Inspection	3
INTC 1030	Industrial Concepts	3
WELD 1010	Pattern Development	3
WELD 2120	Pipe Welding	4
<b>SPRING</b>		
Elective	Humanities Elective (an approved elective from the general education core)	3
COMM 2025	Fundamentals of Communication	3
or		
COMM 2045	Public Speaking	3
WELD 1410	Metallurgy and Materials Testing	2
WELD 2220	Pipe Welding II	3
WELD 2150	Properties of Special Materials	2
Total Credit Hours		63

Additional learning support courses may be required for degree completion.

## APPLICATION PROCEDURE

A student desiring to enroll in the Associate of Applied Science degree program in Industrial Technology – Concentration: Welding/Metal Fabrication must:

1. Submit the Northeast State Application for Admission to the Office of Admissions and Records.
2. Indicate Industrial Technology – Concentration: Welding/Metal Fabrication as the desired major on the Northeast State application form.
3. See a faculty advisor from the Welding/Metal Fabrication program prior to registering for classes.

## TYPICAL JOB OPPORTUNITIES

**Combination Welder:** Produces a variety of welds using different welding processes.

**Welding Fabricator:** Assists engineers in designing, fabricating, inspecting, and installing welding fabrications.

**Pipe Welder:** Performs welding on different types of pipe using a variety of welding processes.

## PROGRAM COMPETENCIES

The graduate is competent to:

1. Perform arc and GTAW welds according to industry code requirements on ferrous and non-ferrous metals.
2. Design, construct, and fabricate products using pattern development techniques, triangulation, and radial line principles.
3. Prepare special metals with plasma cutting and the use of GTAW, GMAW and special processes including preheat, pre-purge, weld, post purge and post heat.
4. Use welding terminology, procedures and joint designs meeting AWS D1.1 structural, ASME IX, and API 1104 Code requirements.
5. Upon completion of the program, all students will demonstrate critical thinking skills for inquiry and analysis, assimilation of facts and knowledge, and problem solving.

## Five-Year Job Placement Rate

94%

## Median Salary\*

\$30,690

### \*Source:

Bureau of Labor Statistics, Occupational Employment Statistics Survey; Tennessee Department of Labor and Workforce Development, Labor Market Information

## FOR FURTHER INFORMATION CONTACT:

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Northeast State Community College is part of the Tennessee Board of Regents system, Tennessee's largest higher education system, governing 40 post-secondary educational institutions with over 200 teaching locations. The TBR system includes 13 two-year colleges, 27 colleges of applied technology, and TN eCampus, providing programs to students across the state, country, and world.

Northeast State Community College does not discriminate on the basis of race, color, religion, creed, ethnic or national origin, sex, disability, age status as a protected veteran or any other class protected by Federal or State laws and regulations and by Tennessee Board of Regents policies with respect to employment, programs, and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Linda W. Calvert, Vice President for Institutional Advancement and Culture, AffAct@NortheastState.edu, P.O. Box 246, Blountville, TN 37617-0246, 423.323.0222.

Northeast State Community College's policy on nondiscrimination can be found at <https://apps.northeaststate.edu/ie/policymanual/pol.asp?p=254>.

Northeast State Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Northeast State also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of Northeast State Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)).