

Program Review

Executive Summary

Welding & Metal Fabrication

Majors Reviewed:

- *Welding & Fabrication Engineering Technology (BWE), B.S.*
- *Welding Technology (WA), A.A.S.*
- *Metal Fabrication Technology (MF), A.A.S.*
- *Welding Technology (WE), Certificate*

AY2021-22



**Pennsylvania
College of Technology**

A Penn State Affiliate

The Pennsylvania College of Technology's Welding program is well suited to address the growing need for welding professionals across a diverse set of industries. The program has recently been accredited by the Engineering Technology Accreditation Commission of ABET, the global accreditor of college and university programs in engineering technology. This accreditation will open additional pathways to new employers who seek graduates from ABET-accredited programs.

Since the first bachelor's degree in Welding Engineering Technology student was enrolled 30 years ago, the program has grown in terms of total student enrollment, full-time faculty, available technologies, and physical laboratory space. Supported by a common set of core classes, the Welding & Fabrication Engineering Technology (BWE), B.S.; Welding Technology (WA), A.A.S.; and the Welding (WE) certificate programs cover the most common welding and cutting processes used in the welding industry today.

Funding provided through the U.S. Department of Commerce's Economic Development Administration (EDA) has allowed for a 35,000-square foot expansion of the fabrication facilities that was completed in 2020 allowing for the enrollment of up to 60 additional welding students annually. The facility houses state-of-the-art technologies including robots, CNC plasma cutters, and an E-beam Welding machine, believed to be the only such device available for educational purposes in North America.

The department has been able to expand its program to meet the demand for non-destructive testing professionals. The number of students pursuing the Non-Destructive Testing minor has continued to rise since its inception in 2018. For the first time in Fall 2022, students were enrolled in a new associate's degree in Non-Destructive Testing. This program was established using funding from the National Science Foundation (NSF).

The high demand for our welding students is evidenced in the 95% and 94% placement rates for the BWE and WA graduates. The highly skilled faculty currently provide welding testing for outside businesses and the program serves as an American Welding Society (AWS) accredited test site. The program supports students from various areas across the College including Automotive, Diesel, and HVAC. A recent collaboration with the Automated Manufacturing department led to the creation of a cross-curricular Metal Fabrication (MF) Degree. This associate's degree combines training in machining and welding to give students specialized fabrication skills that are highly sought after in industry. Over 140 high-school students participate in dual enrollment courses and can accelerate the completion of their welding degrees based on the training received through this dual enrollment program.

The program is currently at capacity and experienced a wait-list status starting in Summer 2022. The continued growth and development of the welding program will require expanding the faculty and developing efficient scheduling methods and curriculum implementation. The diversity of the welding market will continue to drive growth in curriculum and the acquisition of new equipment to better prepare students for the challenges of a rapidly advancing, technological workplace.