

# Program Review

## Executive Summary

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### Automated Manufacturing & Machining

Majors Reviewed:

- *Manufacturing Engineering Technology, B.S. (BAF)*
- *Automated Manufacturing Technology, A.A.S. (AF)*
- *Machine Tool Technology, A.A.S. (MY)*
- *CNC Machinist, Certificate (CNC)*

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**Pennsylvania**  
**College of Technology**  
A Penn State Affiliate

The Automated Manufacturing & Machining department's goal is to prepare its graduates to meet the critical needs of the manufacturing industry. The program's reputation continues to grow among prospective students and employers. The interest from prospective students has risen to a level that required the program to be put on a waitlist for the 2023-24 academic year for the first time in over a decade. Generous support from Larry A. Ward and the Gene Haas Foundation allowed for the upgrading and modernization of equipment and facilities across the program, which continues to aid in attracting more employers and students to the program.

The high level of skills attained by our students can be attributed to the significant hours of hands-on learning taking place under the guidance of faculty with extensive industrial experience. Multiple programs are offered to meet industry demands and prepare our students for sustainable careers.

- Manufacturing Engineering Technology (B.S.): This bachelor's degree is structured to support manufacturing operations in which engineers pass projects to mid-management personnel, who then must carry out the planning and delivery of manufacturing projects.
- Automated Manufacturing / Machine Tool Technology (A.A.S.): These associate degrees prepare students with the experience for employment as a technician in a computer-enhanced manufacturing process including job routing and scheduling.
- CNC Machinist (Certificate): This program of study provides students with a working knowledge of computer numerical control (CNC) operations, programming, and set-up on mills, lathes, metrology equipment, and other metalworking processes.

Graduates not only are heavily recruited, but also carry a high standard of job performance as they enter the workforce. With experience gained through coursework and internships, graduates are quick to become productive employees in their field. Many graduates are promoted to manager and various positions of advanced responsibilities within a year or two of employment.

As a result of this program review, the department has identified the following as areas for improvement moving forward:

- Curriculum: Revise and update the curriculum to provide students with access to new and developing technologies and monitor the effectiveness of recent curriculum changes. This includes refining the Metal Fabrication degree that has recently been moved into the program.
- Laboratory Spaces: Expand and develop the additive manufacturing space and implement cross-curricular laboratory procedures to support providing access to students from multiple content areas. Update the equipment in the metallurgy lab.
- Develop and expand new programs: Develop and implement an additive manufacturing minor. Continue to encourage enrollment in the new robotics and manufacturing minors and monitor the impact on student employment opportunities. Investigate implementing a micro-credential in Geometric Dimensioning & Tolerancing (GD&T)/Metrology.