MINORS IN APPLIED ENGINEERING, SAFETY & TECHNOLOGY

> *"I am confident that the education I received is genuinely world-class, with the best instructors and facilities. I lean on the skills and knowledge I developed at Millersville every single day in my career."*
>
> – AEST graduate

Employers are looking for well-educated professionals to meet the needs of today's global society. With the rapid pace of technological change, you can be better prepared to meet the challenges of your profession with a minor from the Department of Applied Engineering, Safety & Technology (AEST).

ADVANCED MANUFACTURING TECHNOLOGY

Manufacturing is the largest sector in Pennsylvania's economy, and currently there are over 565,000 people employed in manufacturing positions throughout the Commonwealth. The Advanced Manufacturing Technology option will provide you with significant experiences in materials processing and manufacturing processes. A minor in Advanced Manufacturing Technology gives students a technical skill set that is highly valued in industry. Skills such as computer numerical machining and materials science are highly sought-after by many companies.

COMPUTER-AIDED DRAFTING & DESIGN

Those who work in computer-aided drafting use their skills to create two- and three-dimensional computer drawings for various industries. This minor provides practical laboratory experiences using advanced 2D and 3D Computer-aided design applications. The coursework provides an introduction to manufacturing process and design of products, 3D printing, architecture and machine tools where collaborative projects enhance problem-solving and analytical skills. The technical course offerings are from the computer-aided drafting and design concentration.

CONTROL SYSTEMS TECHNOLOGY

The Controls Systems Technology minor requires students to complete six courses from the offerings in the Automation & Robotics Engineering Technology (ARET) program. Three of these courses are core ARET classes: Electronic Systems, Semiconductor Electronics, and Power Conversion & Control. To complete the minor, students must choose three additional courses from nine options: Production Materials & Processes, Drafting Communications, Fluid Power, Computer-Aided Engineering Drawing, Digital Electronics, Industrial Robotic Systems, Programmable Logic Controllers, Wireless Communication Systems, and Mobile Electronics. A Control Systems minor can help students become knowledgeable about, and skilled in, practices involved in controls engineering technology.

CONSTRUCTION TECHNOLOGY

The Construction Technology minor is intended for students interested in careers and programs related to the construction industry, including architecture, interior design, mechanical, civil engineering and business administration. This minor will enhance the understanding of the design-build process and make students more competent participants in the increasingly complex construction business environment.

WHY CHOOSE A MINOR IN AEST?

One way to increase your future career opportunities is to complete a six-course minor as a part of your program of studies while at Millersville. Many students have found that adding an AEST minor has given them an edge when seeking employment in competitive job markets. AEST majors command among the highest starting salaries of all MU graduates. A minor in AEST could help you acquire some of those same marketable skills.

Millersville University

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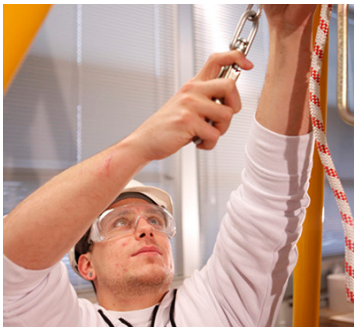
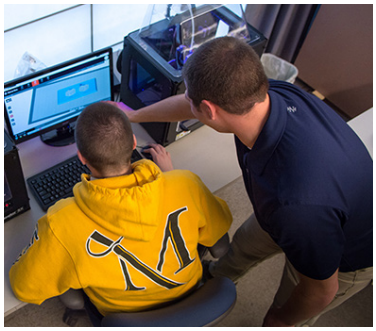


GENERAL APPLIED ENGINEERING & TECHNOLOGY

The General Track option is the most flexible of all minors offered within the AEST department. It is built from a foundation of three broad-based introductory technical courses that provide students with a basic technical background in various technologies. After completing these three courses, students are able to choose three more advanced technical courses offered within the department. This provides students with the opportunity to concentrate in a specific area such as materials processing, manufacturing, communications or automation, or take a variety of courses from different areas to customize their minor for their own specific needs and interests. Perhaps you plan to start your own business and you would like to know more about desktop publishing and web publishing. Perhaps you would like to enhance your skills in technical areas like machining or woodworking, or computer-aided drafting and design. Whatever your desire, your minor advisor will work with you to ensure that you take the most appropriate courses necessary to meet your personal needs.

GRAPHIC COMMUNICATION TECHNOLOGY

A Graphic Communication Technology minor can help you become skilled in using creative software applications and knowledgeable about practices involved in printing, packaging, publishing and other graphic communication industries. Graphic Communication (GC) minors complete three core Graphic & Packaging Technology courses—Communication & Information Systems, Print Media Systems, and Web Publishing Systems—and then choose three technical courses from topics like digital imaging, desktop publishing, packaging, research and development, and contemporary printing. Develop your communication skills and increase your appeal in the job market with a minor in Graphic Communication Technology.

INTEGRATIVE STEM EDUCATION METHODS

(Only for Early Childhood [ERCH AND ECSP] Majors)

The Integrative STEM Education Methods (ISEM) minor is specifically designed for MU students in the Early Childhood Education (ERCH) major or the Early Childhood Education and Special Education dual major (ECSP). STEM is the acronym for Science, Technology, Engineering and Mathematics, and it is a hot topic in education today. There is a growing interest in integrative learning approaches at the elementary level, especially as they relate to STEM education. They are becoming increasingly popular in schools as educators strive to help their students achieve new standards and become literate consumers and citizens. This approach is a good fit for the elementary school classroom because there are many opportunities to integrate curriculum across all subject areas when there is usually only one teacher of the students.

OCCUPATIONAL SAFETY

The OSEH minor is designed for persons interested in the safety and environmental health professions. This minor places emphasis on the core studies in the technical and managerial aspects of occupational safety and health. The six core courses required to complete the minor will provide you with sufficient technical skills to function in any safety and health role. Graduates of this program typically work as safety and health managers, loss-control consultants, compliance officers and environmental safety specialists. The OSEH minor should be an attribute to majors in biology, business administration, chemistry, applied engineering and technology management, political science and nursing. A minor in OSEH will enable you to function in multiple roles in your professional career if you wish to do so.

TECHNOLOGY & ENGINEERING EDUCATION

The Technology & Engineering Education minor is designed for students majoring in other educator preparation programs to provide them with a technical and pedagogical background in Technology & Engineering Education and STEM Education. This minor will help students prepare for the Praxis subject area specialty examination in Technology Education and make dual certification possible as better prepared teachers. Graduates with certifications in other areas (e.g., science, math, social studies, English, early childhood education) could apply for certification in Technology Education in Pennsylvania, and many other states as well.

ACCREDITATION

Applied Engineering & Technology Management degrees are accredited by the Association of Technology Management and Applied Engineering (ATMAE). The Technology & Engineering Education program is accredited by CAEP.

FOR INFORMATION, CONTACT:

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AEST NEWS BLOG | blogs.millersville.edu/aest