

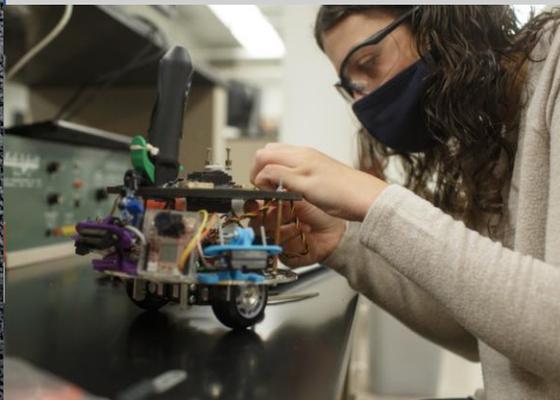
The Department of

# Applied Engineering, Safety & Technology

*Millersville University of Pennsylvania*



Leadership ■ Innovation ■ Professionalism ■ Teamwork



# Applied Engineering, Safety & Technology Bachelor's Degrees



**TECE**

Technology &  
Engineering Education



**AETM**

Applied Engineering &  
Technology Management



**OSEH**

Occupational Safety &  
Environmental Health



**AURO**

Automation & Robotics  
Engineering Technology



**MFET**

Manufacturing  
Engineering Technology



## Technology & Engineering Education

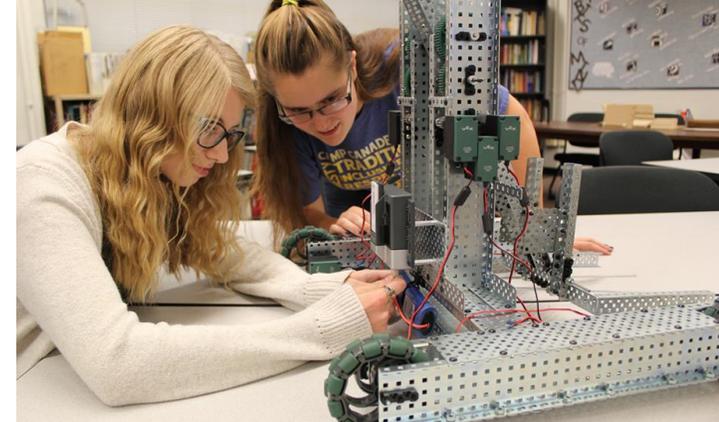
- 4-year program for students who are seeking Pennsylvania certification to teach Technology & Engineering Education.
- Pre-K through grade 12 certification earned in Technology & Engineering Education and STEM Education.

### Concentrations:

- Standard Technology & Engineering Education Certification.
- Engineering Design Education (deeper emphasis in STEM Education).

### Top three reasons to choose Technology & Engineering Education:

- Humongous number of jobs available for Technology & Engineering Education teachers with more positions offered than there are graduates to fill them!
- Teachers make a difference. A good Technology & Engineering Education teacher can positively influence thousands of students in a lifetime.
- Technology & Engineering Education teachers work in a creative and dynamic learning environment with opportunities to solve problems, build solutions, and inspire others.





# Computer-Aided Drafting & Design

- The 4-year Bachelor's (AETM) program provides students with theoretical and practical skills in drafting & design.
- The 2-year Associate's (AET) program provides the same basic technical coursework, but without the management courses.
- An 18 credit minor is available.

### Emphases:

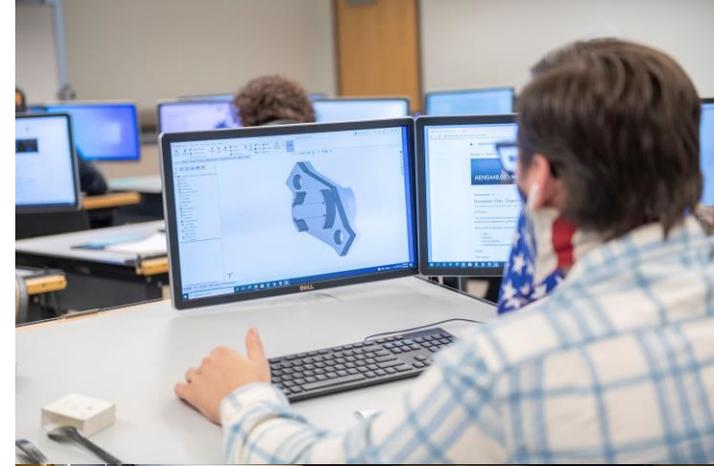
- Drafting & Design
- Technical Freehand Drawing
- Design Methodology
- Design for Manufacture
- Technical Illustration & Rendering
- 3D Printing (additive manufacturing)

### Sample Job Titles:

- CAD Designer
- Drafting Engineer
- Mechanical Design Engineer
- Product Designer
- Product Specialist
- Project Design Engineer
- Senior Design Engineer
- Tooling Design Engineer

### Top three reasons to choose Computer-Aided Drafting & Design:

- Enjoy a blend of theoretical, technical and hands on education.
- Become highly competent in multiple industry standard CADD software applications.
- Obtain excellent employment opportunities in various engineering industries.





# Construction Management

- The 4-year Bachelor's (AETM) program provides students with theoretical knowledge and leadership skills for success in construction management.
- The 2-year Associate's (AET) in construction technology provides the same basic technical coursework, but without the management courses.
- An 18 credit minor is available.

## Emphases:

- Computer-Aided Drafting & Design
- Architectural Design
- Construction Methods
- Construction Planning
- Construction Scheduling
- Supervision
- Estimation
- Construction Contracts

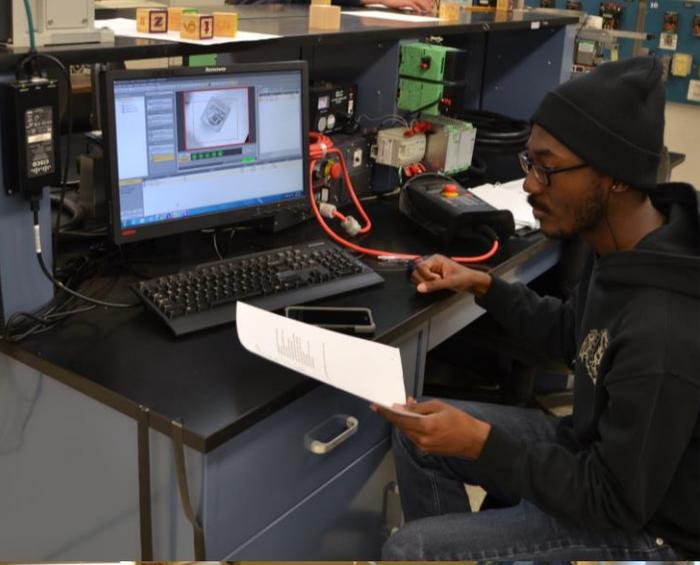
## Sample Job Titles:

- Assistant Project Manager
- Estimator
- Market Coordinator
- Project Manager
- Remodeling Contractor
- Specialty Service Manager

## Top three reasons to choose Construction Management:

- Construction careers incorporate a wide range of skills and challenge workers to think creatively and solve problems.
- Construction employment is growing!
- According to Associated General Contractors of America, Pennsylvania added 12,700 construction jobs during the past year.





## General Technology

- The 4-year Bachelor's (AETM) program provides students with practical skills in broad-based industrial technologies.
- Courses included in this option provide survey experiences in electricity/electronics, mechanics, manufacturing, drafting/design, and graphic communication technologies.

### **Emphases:**

- Drafting & Design
- Product Design
- Graphic Design
- Manufacturing Processes
- Electrical/Electronics Systems
- Fluid Systems
- Control Systems
- Troubleshooting

### **Sample Job Titles:**

- Process Engineer
- R&D Engineering Technician
- Sales Engineer
- Applications Engineer
- Mechanical Engineer
- Tool Design Engineer

### **Top three reasons to choose General Technology:**

- Generalist positions in industry are important, sought-after career choices.
- Good choice for people who know they want to work in technical management but are unsure of which specialty area.
- Ideal option for those who wish to pursue self-employment in a technical area in a technical area we do not offer.





## Graphics & Packaging Technology

- The 4-year Bachelor's (AETM) program provides students with theoretical knowledge and practical skills relevant for careers in graphic communication and packaging industries.
- The 2-year Associate's (AET) program provides the same basic technical coursework without the management courses.
- An 18 credit minor is available.

### Emphases:

- Print Media
- Web-based Publishing
- Color Theory
- Digital Imaging
- Package Prototyping
- Graphic and Structural Design
- Print for Packaging
- Industry Regulations

### Sample Job Titles:

- Design Engineer
- Director of Sales
- Graphic Services Coordinator
- Prepress Technician
- Print Support Manager
- Project Manager
- Service Quality Analyst
- Structure & Graphic Engineer

### Top three reasons to choose Graphics & Packaging Technology:

- Pennsylvania is one of the top-ten leading states in total number of graphic communication employees.
- Printing is the second largest manufacturing industry in the United States with regard to number of establishments.
- The graphic communication and packaging industry offer competitive starting salary packages compared to other fields.





# Occupational Safety & Environmental Health

- The 4-year Bachelor's (OSEH) program strives to develop well-rounded professionals uniquely capable of protecting employees and the general public from work-related injuries and illnesses, while also protecting company assets and interests.
- OSEH majors may enroll for a fully funded minor from the Lombardo College of Business.

### Emphases:

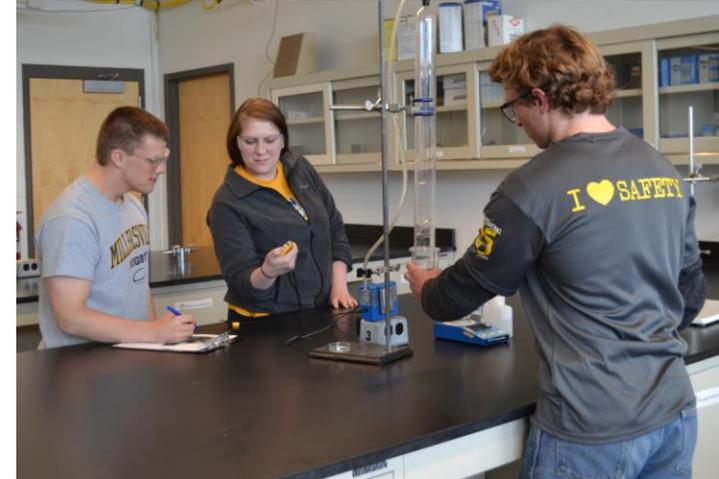
- Injury and Illness Prevention
- Environmental Protection
- Ergonomics
- Fire Protection
- Industrial Hygiene
- Safety Engineering
- System Safety
- Safety Management

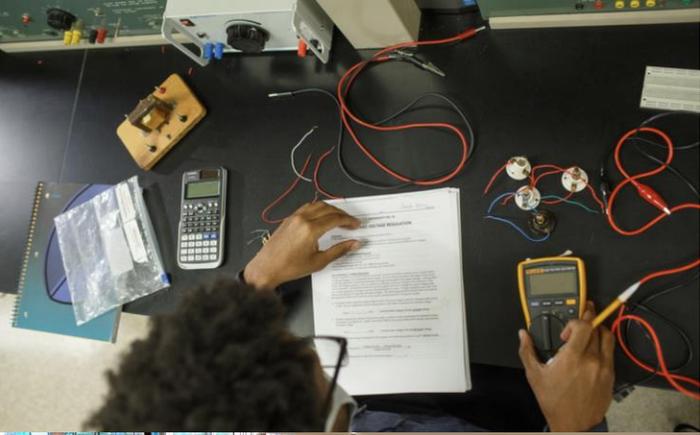
### Sample Job Titles:

- Health & Safety Manager
- Risk Manager
- Safety Representative
- Safety Manager
- Safety Engineer
- Industrial Hygienist
- Safety & Health Consultant
- Ergonomist

### Top three reasons to choose OSEH:

- An opportunity to protect people and the environment. If you enjoy working with people, you will find a home in OSEH.
- High job satisfaction with built-in flexibility. You can work in any industry, including; construction, manufacturing, healthcare, insurance.
- Excellent employment opportunities and high starting salaries - \$70K





# Automation & Robotics Engineering Technology

- The 4-year Bachelor's (AURO) program introduces students to the fundamentals of power, electronic systems and formal programming techniques common in industry.
- The curriculum is supported jointly by the departments of Applied Engineering, Safety & Technology and Computer Science.

### Emphases:

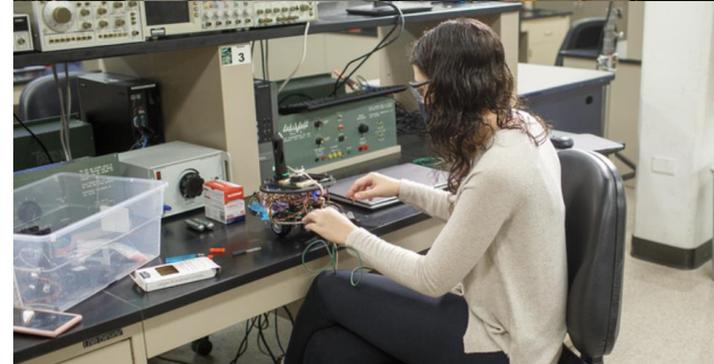
- Electronics & Controls
- Automation & Robotics
- Mechanical/Fluid Systems
- Machine Vision
- Industrial Networking
- Computer/Software Programming

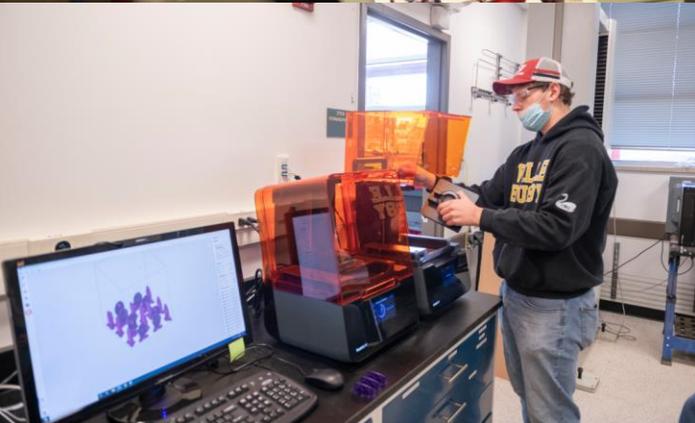
### Sample Job Titles:

- Automation Engineer
- Control Systems Engineer
- Process Control Engineer
- Plant Service Engineer
- Project Manager
- Software Application Engineer
- Validation Lead
- Engineering Supervisor

### Top three reasons to choose Automation & Robotics Engineering Technology:

- Learn relevant, in-demand automation, robotics, artificial intelligence, computer programming and system control engineering skills.
- The demand for robots has never been stronger, as more industries look to automation to increase productivity.
- Among the highest starting salaries after graduation!





## Manufacturing Engineering Technology

- The 4-year Bachelor's (MFET) program introduces students to the fundamentals of engineering, materials, and production processes used within industry.
- The program provides in-depth technical content in advanced manufacturing with an emphasis on automated manufacturing and computer integrated manufacturing.

### **Emphases:**

- Industrial Materials
- Manufacturing Processes
- Robotics
- Electronics & Controls
- Material Selection
- Design for Manufacturing

### **Sample Job Titles:**

- Director of Manufacturing
- Engineering Technician
- Fabrication Manager
- Project Engineer
- Purchasing Supervisor
- Quality Manufacturing Supervisor
- Safety Supervisor
- Systems Engineer

### **Top three reasons to choose Manufacturing Engineering Technology:**

- The National Association of Manufacturers estimates there are 12 million jobs in manufacturing in the U.S., with a forecasted need for 2.1 million additional positions by the year 2030.
- Manufacturing in PA accounts for 12% of the state output, employing 10% of all Pennsylvanians.
- Regional demand for the skill sets of MFET graduates is exceptional!



# Applied Engineering, Safety & Technology

## Other opportunities...

### Associate Degrees & Minors

#### Associate's Degrees:

- Advanced Manufacturing
- CADD Technology
- Control Systems
- Construction Technology
- Graphic Communication
- Safety Technology

#### Minors Available:

- Advanced Manufacturing
- CADD Technology
- Construction Technology
- Control Systems
- Graphic Communication
- Integrative STEM Methods
- Occupational Safety

### Graduate Studies

Master of Science in Technology & Innovation

#### **Concentrations:**

- Education (for teachers)
- Enterprise (for everybody)

*Stay on after your Bachelor's degree and earn your Master's Degree while you're here!*

**Graduate Assistantships Available!**

### Industrial Internships

*We work with regional companies to arrange internships for motivated students.*

#### **Some examples:**



# Applied Engineering, Safety & Technology

## Getting you employed

### *AEST wants you to be successful!*

- Internships are available for most motivated students, and often result in full-time employment after graduation.
- Local companies regularly visit AEST for lunch-and-learn recruiting events and live interview sessions.
- AEST faculty members are familiar with regional employers and can be an amazing resource.
- Millersville University's Career Services counselors are always available to help you prepare to land your perfect job!

## INSTITUTIONAL EMPLOYMENT DATA

Department of AEST	College of Science & Tech	Millersville University
<b>FULL-TIME EMPLOYMENT</b>		
<b>100%</b>	100%	100%
<b>FULL-TIME EMPLOYMENT IN YOUR MAJOR</b>		
<b>93.6%</b>	89.9%	81.3%
<b>AVERAGE ANTICIPATED STARTING SALARY</b>		
<b>\$65K</b>	\$49K	\$39K
<b>EMPLOYMENT ACCEPTED PRIOR TO GRADUATION</b>		
<b>23.3%</b>	12.1%	10.5%

# Student Organizations

**AEST has a variety of student organizations**

- America Society of Safety Professionals Student Section
- Association of Technology Management & Applied Engineering Student Chapter
- CADD Club
- Construction Club
- Marauder Graphics
- National Society for Black Engineers
- Society of Manufacturing Engineers
- Technology & Engineering Education Collegiate Association



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Thank you for coming to preview AEST today!

*A tour of Osburn Hall will begin shortly.*

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## Next Steps:

- **Ask questions:** your tour guide or any staff member will be happy to assist you.
- **Get to know us:** visit the AEST Web site.  
[millersville.edu/aest](http://millersville.edu/aest)
- **Start the application process:** visit the MU admissions page and follow the instructions.  
[millersville.edu/admissions](http://millersville.edu/admissions)
- **Come back and see us again:** in-person tours are available. Please email us at [AEST@millersville.edu](mailto:AEST@millersville.edu)



Millersville University

Applied Engineering  
Safety & Technology