

Millersville University

*Welcomes you*

Department of

**Applied Engineering  
Safety & Technology**



# AEST Master's Degrees

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- **M.S. in Technology & Innovation**
  - **Two Concentrations**
    - Education Concentration
    - Enterprise Concentration
  - **Three degree completion options for each concentration**
    - Thesis – 30 credit hours
    - Technical Project – 33 credit hours
    - Course Work – 36 credit hours

# Program of Study

## Technology & Innovation Program Common Core

EDTE 603: Fostering Creativity by Design (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDTE 604: Engineering Principles and Concepts for the Non-Engineer (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDTE 605: Applying Critical Thinking & Decision Making (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDTE 646: Writing the Professional Paper (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

*(Select One of the Following Program Completion Concentrations)*

### Education Concentration

### Enterprise Concentration

#### Education Core

**Research Area** EDEN 601: Methods of Research (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
**Social – Foundations Area** EDEN 511: Comparative Ed. (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDEN 590: Soc. Found. of Ed. (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDEN 603: Philosophy of Ed. (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 (Select One) EDEN 604: Ed.& Public Policy (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
**Psychology Area** PSYC 525: Ad. Dev. Psychology (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 PSYC 526: Ad. Adolescent Psyc (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 (Select One) PSYC 625: Human Growth & Dev (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 EDEN 545: Ad. Ed. Psychology (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

*(Select One Degree Completion Option)*

#### Enterprise Core

**Business Courses** BUAD 670: Strategy & Policy (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 BUAD 653: Operations Management (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 (Both Required)  
**Analytics /Statistics Courses** MATH 503: Prob. & Stats. for Teachers (4) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 MATH 535: Statistical Methods I (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 MATH 610: Problem Solving Seminar (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 (Select One)

*(Select One Degree Completion Option)*

#### Degree Completion Option 1: Thesis

**[Total 30 s.h.]**

EDTE 699: Thesis (6) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

#### Degree Completion Option 1: Thesis

**[Total 30 s.h.]**

EDTE 699: Thesis (6) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

#### Degree Completion Option 2: R & D Technical Project

**[Total 33 s.h.]**

EDTE 698: R & D Report (6) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 1 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 2 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

#### Degree Completion Option 2: R & D Technical Project

**[Total 33 s.h.]**

EDTE 698: R & D Report (6) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 1 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 2 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

#### Degree Completion Option 3: Course Work

**[Total 36 s.h.]**

Elective 1 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 2 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 3 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 4 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 5 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

#### Degree Completion Option 3: Course Work

**[Total 36 s.h.]**

Elective 1 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 2 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 3 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 4 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_  
 Elective 5 \_\_\_\_\_ (3) Sem \_\_\_\_\_ Grade \_\_\_\_\_

Date Completed \_\_\_\_\_

- Culminating Experience \_\_\_\_\_
- Field Experience \_\_\_\_\_
- Advancement to Candidacy \_\_\_\_\_

Date Completed \_\_\_\_\_

- Culminating Experience \_\_\_\_\_
- Practicum Experience \_\_\_\_\_
- Advancement to Candidacy \_\_\_\_\_

\* All electives must be 500+ level courses and approved by the program coordinator.

# Common Core Courses

## **EDTE 603: FOSTERING CREATIVITY BY DESIGN**

This course will expose students to the concept of how creativity, within the context of the technological world, is manifested through design. The course is appropriate for all graduate students especially those in education, technological fields, and entrepreneurship. Prerequisites: Graduate student standing. Offered biennially.

## **EDTE 604: ENGINEERING PRINCIPLES AND CONCEPTS FOR THE NON-ENGINEER**

In this course, which is intended for the non-engineer, students will learn what engineers do and how they do it. Prerequisites: Graduate student standing. Offered biennially.

## **EDTE 605: APPLYING CRITICAL THINKING AND DECISION-MAKING**

This course is an exploration of the nature and application of critical thinking toward acts of decision-making. Prerequisites: Graduate student standing. Offered biennially.

## **EDTE 646: WRITING THE PROFESSIONAL PAPER**

Development of competencies for identifying and developing graduate research topics and for publishing in professional literature. Prerequisites: Graduate student standing. Offered biennially.

# Specialized Interest Areas

This degree offers opportunities for students to take courses in a variety of programs which address the range of student interests. In addition to allowing the transfer of up to 9 credits of graduate course work from other accredited colleges and universities, students can take courses from other graduate programs at Millersville which include, but are not limited to:

- Applied Engineering
- Art & Design
- Business and Management
- Education Foundations
- Early Childhood Education
- Emergency Management
- English
- Entrepreneurship
- Gifted Education
- Integrative Science Applications
- Mathematics
- Psychology
- Sports Management
- STEM Education
- Technology & Engineering Education



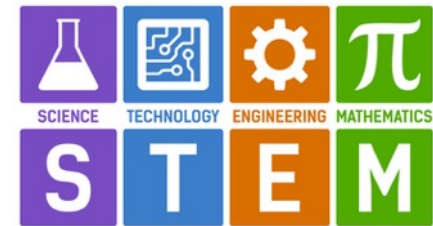
# Additional Credentials Available

While you are earning your graduate degree in Technology & Innovation you can also earn additional credentials/certificates in other specialized interest areas including, but not limited to:

## Innovation and Entrepreneurship



## STEM Education



## Gifted Education



## Online Teaching



AEST offers a wide range of hands-on, applied engineering courses which graduate students can also take. These courses come from all seven of the technical concentrations listed below.

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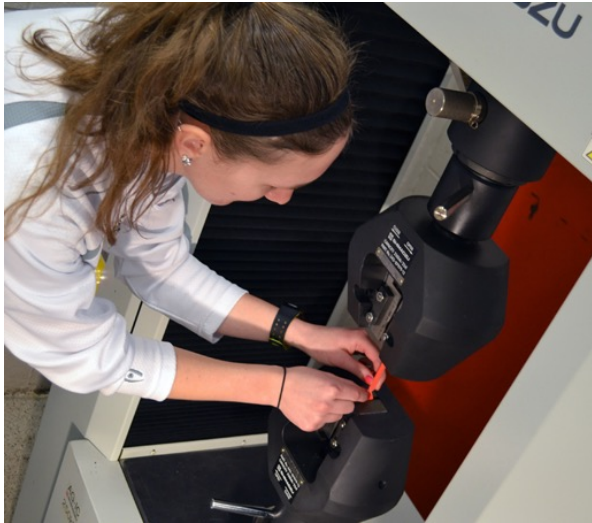
- Advanced Manufacturing
  - Construction Management
  - Computer-Aided Drafting & Design
  - General Technology
  - Graphic Communication
  - Nanofabrication Manufacturing
  - Robotics & Control Systems
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AEST

# Advanced Manufacturing

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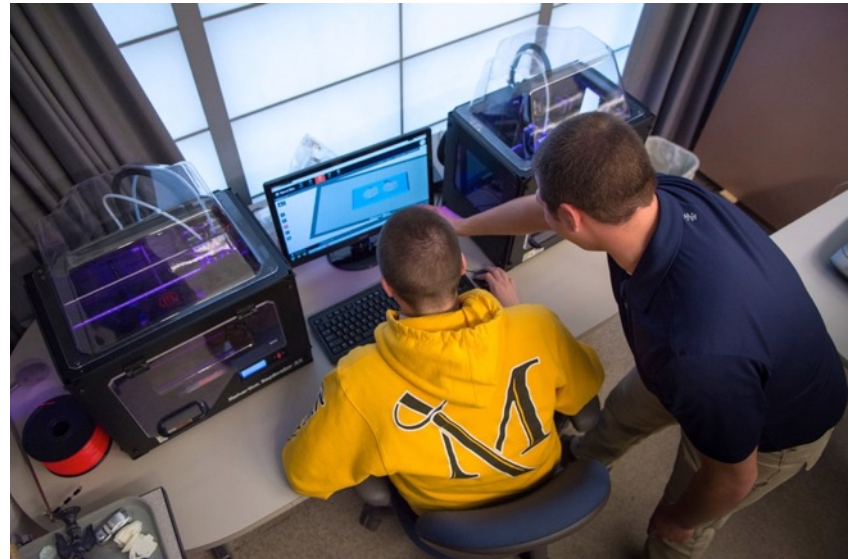
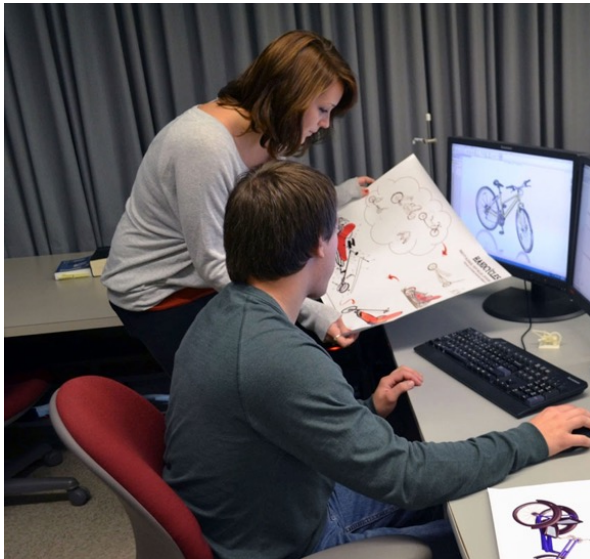




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# Computer-Aided Drafting & Design

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# Construction Management

## Construction Technology

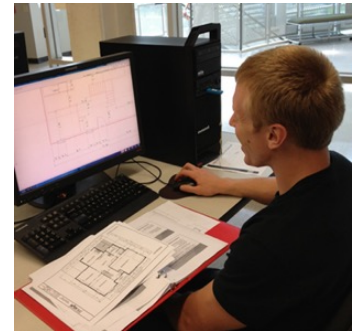




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# General Technology

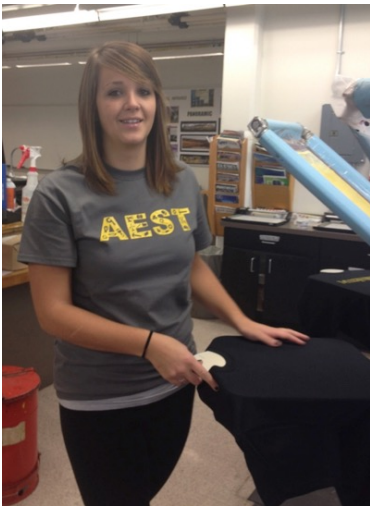
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# Graphic Communication

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# Nanofabrication Manufacturing Technology

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Hands-on Lab  
Experiences at  
Millersville

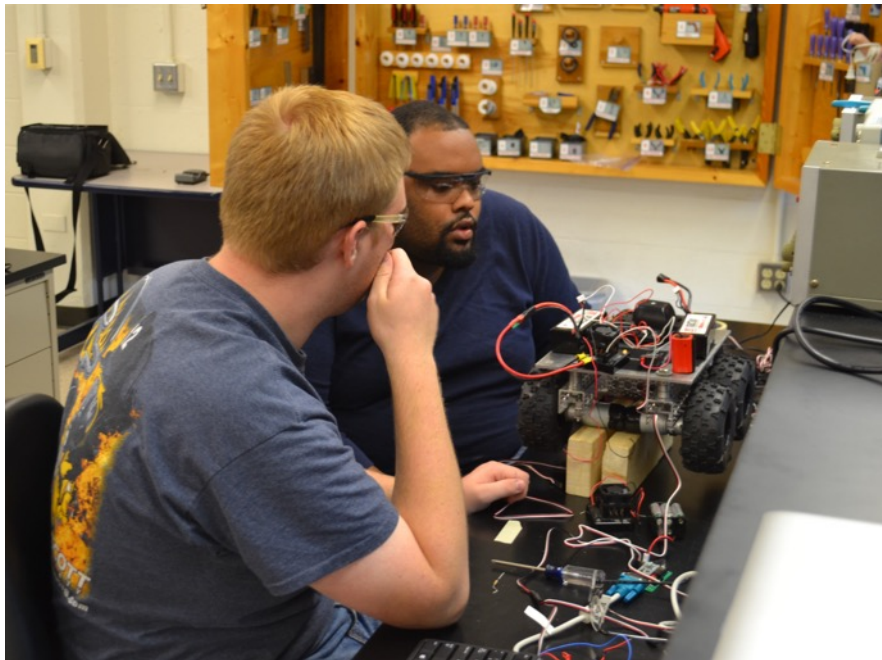


and at Penn State in  
their Nanofabrication  
Laboratory



# Robotic Control Systems

## Control Systems Technology



# Automation & Intelligent Robotics Engineering Technology

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# Student Life at MU

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Graduate students can also be members of any of the student organizations in the department and across campus.

- **American Society of Safety Engineers**
- **Association of Technology, Management, & Applied Engineering**
- **Marauder Graphics**
- **Society of Manufacturing Engineers**
- **Submersible Research Team**
- **Technology & Engineering Education Collegiate Association**
- **Graduate Student Association, and**
- **Any one of the 216 student run organizations recognized by MU!**



# Opportunities

## Why Consider a M.S. in Technology & Innovation at MU?

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- **Highly customizable to your professional development needs!**
- **Lots of opportunity for student-student and student-teacher interaction by using both face-to-face and blended delivery of courses!!**
- **All courses are taught by instructors with expertise in the subject who have terminal degrees!!!**
- **Diversity in the students and the faculty provide an enriching experience and a wider perspective for everyone!!!!**
- **We will change the way you think about your own thinking!!!!**