TECHNOLOGY AND INNOVATION

The Program
The Department of Technology and Innovation offers:

- Entrepreneurial and Innovation Graduate Certificate (https://catalog.millersville.edu/graduate/college-science-technology/technology-innovation/entrepreneurial-innovation-graduate-certificate/)
- Technology and Innovation, M.S. (https://catalog.millersville.edu/graduate/college-science-technology/technology-innovation/technology-innovation-ms/)
- Technology and Innovation, M.S., Education Concentration (https://catalog.millersville.edu/graduate/college-science-technology/technology-innovation/technology-innovation-ms-education-concentration/)
- Technology and Innovation, M.S., Enterprise Concentration (https://catalog.millersville.edu/graduate/college-science-technology/technology-innovation/technology-innovation-ms-enterprise-concentration/)
- Technology Education K-12, Post Baccalaureate Certification (https://catalog.millersville.edu/graduate/college-science-technology/technology-innovation/technology-education-k-12-post-baccalaureate-certification/)

Graduate Faculty
John Haughery, Ph.D., Iowa State University, 2020, Electronics

AENG 500: 3-12 s.h.
Co-Op Ed Experience in AENG

AENG 515: 3 s.h.
Adv Prob:
Resources, processes and outcomes of selected technical areas in technology education. Technical area emphasized (e.g., computer-aided drafting and design, computer numerical control, desktop publishing, digital electronics, manufacturing, photography and robotics) varies with the course offering. Laboratory experiences focus on technological problem solving. 2 hrs. lec., 3 hrs. lab.

AENG 525: 3 s.h.
Adv Prob:
Resources, processes and outcomes of selected technical areas in technology education. Technical area emphasized (e.g., computer-aided drafting and design, computer numerical control, desktop publishing, digital electronics, manufacturing, photography and robotics) varies with the course offering. Laboratory experiences focus on technological problem solving. 2 hrs. lec., 3 hrs. lab.

AENG 535: 3 s.h.
Adv Prob:
Resources, processes and outcomes of selected technical areas in technology education. Technical area emphasized (e.g., computer-aided drafting and design, computer numerical control, desktop publishing, digital electronics, manufacturing, photography and robotics) varies with the course offering. Laboratory experiences focus on technological problem solving. 2 hrs. lec., 3 hrs. lab.

AENG 579: 3 s.h.
Experimental
Experimental

AENG 586: 1-3 s.h.
Special Topics:
Investigation of one or more topics of current interest in technology and innovation. Topics vary according to needs and interests of students and faculty involved. Offered periodically.

AENG 587: 1-3 s.h.
Special Topics:
Investigation of one or more topics of current interest in technology and innovation. Topics vary according to needs and interests of students and faculty involved. Offered periodically.

AENG 588: 1-3 s.h.
Special Topics:
Investigation of one or more topics of current interest in technology and innovation. Topics vary according to needs and interests of students and faculty involved. Offered periodically.

AENG 589: 1-3 s.h.
Special Topics:
Investigation of one or more topics of current interest in technology and innovation. Topics vary according to needs and interests of students and faculty involved. Offered periodically.

EDTE 586: 1-3 s.h.
Topics in Industry & Tech
Investigation of one or more topics of current interest in industry and technology. Topics vary according to needs and interests of students and faculty involved.

EDTE 587: 1-3 s.h.
Topics in Industry & Tech
Investigation of one or more topics of current interest in industry and technology. Topics vary according to needs and interests of students and faculty involved.
EDTE 588: 1-3 s.h.
Sp Topics in Industry & Tech
Investigation of one or more topics of current interest in industry and technology. Topics vary according to needs and interests of students and faculty involved.

EDTE 589: 1-3 s.h.
Sp Topics in Industry & Tech
Investigation of one or more topics of current interest in industry and technology. Topics vary according to needs and interests of students and faculty involved.

EDTE 603: 3 s.h.
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. Whether it is during the ideation, development, use, modification and updating, or disposal of the artifact or system of technology, design is the overarching force that is present through each stage. Students will also explore the latest theories on creativity as well as the ways that a designer uses creativity and design thinking toward solving problems in an increasingly technologically complex world. Design-based thinking skills such as problem solving, decision making, researching, designing and creating, will be emphasized. The course is appropriate for all graduate students especially those in education, technological fields, and entrepreneurship.

EDTE 604: 3 s.h.
Engineering Principles and Concepts for the Non-Engineer
The innovations and inventions of engineering design are vital toward enhancing the standards of living for humanity. In this course, which is intended for the non-engineer, students will learn what engineers do and how they do it. The connections between the engineering profession and society will be examined. This will include a review of engineering organizations and their standards, problem solving techniques and the methods of modeling systems.

EDTE 605: 3 s.h.
Applying Critical Thinking and Decision Making
An exploration of the nature and application of critical thinking toward acts of decision making. Students will learn how to understand, facilitate, and practice the techniques of disciplined critical thinking and decision-making while avoiding the pitfalls of thinking traps such as biases and irrational tendencies. The course has been designed to address a variety of audiences including all teachers at all levels as well as entrepreneurs and individuals from business and industry, the sciences and the technological fields.

EDTE 646: 3 s.h.
Writing the Professional Paper
Development of competencies for identifying and developing graduate research topics and for publishing in professional literature. Emphasis on research methods, organization and effective writing. The satisfactory completion of this course is required before pursuit of EDTE 698 Research and Development in Technical Areas or EDTE 699 Thesis.

EDTE 679: 1-3 s.h.
Experimental