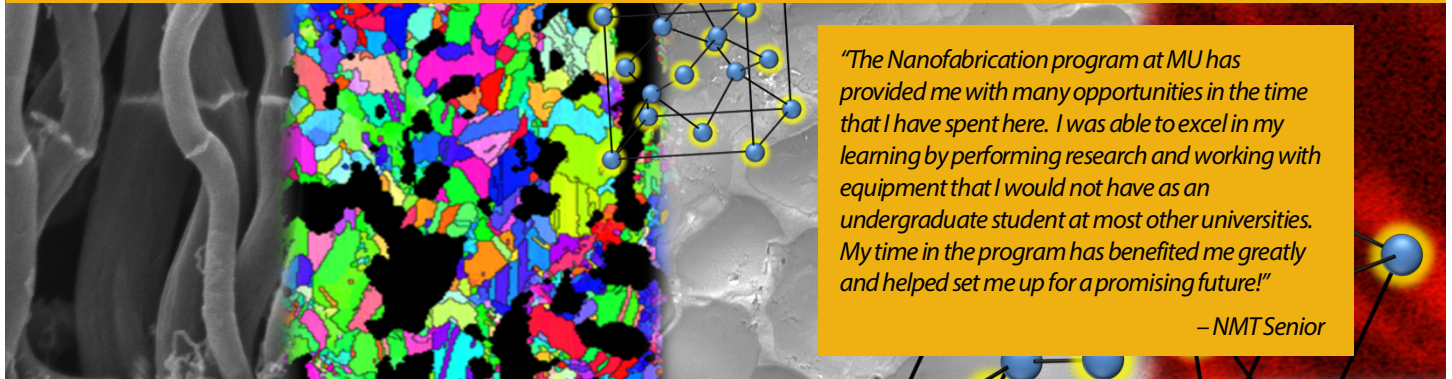


NANOFABRICATION MANUFACTURING



"The Nanofabrication program at MU has provided me with many opportunities in the time that I have spent here. I was able to excel in my learning by performing research and working with equipment that I would not have as an undergraduate student at most other universities. My time in the program has benefited me greatly and helped set me up for a promising future!"

– NMT Senior

Nanotechnology is helping to considerably improve, even revolutionize, many technology and industry sectors: information technology, energy, environmental science, medicine, homeland security, food safety, and transportation, among many others. Most benefits of nanotechnology depend on the fact that it is possible to tailor the essential structures of materials at the nanoscale to achieve specific properties, thus greatly extending the well-used toolkits of materials science. (Source: US National Nanotechnology Initiative, nano.gov)

DEGREE

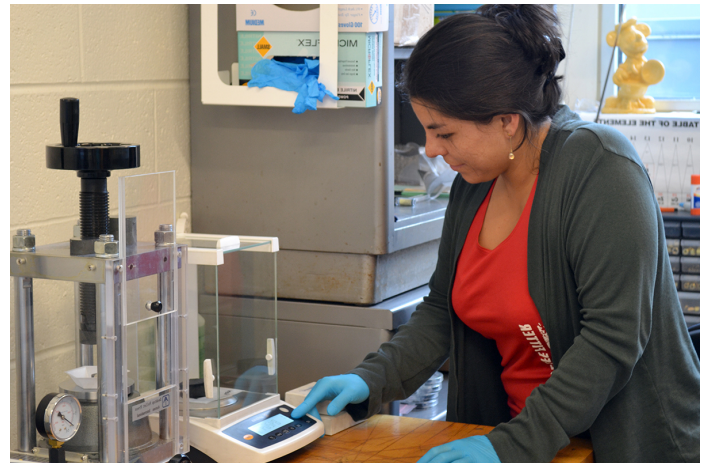
BACHELOR OF SCIENCE (B.S.)

The **Applied Engineering and Technology Management (AETM)** program prepares students for the forefront of technological innovation. Nanotechnology can be applied to nearly any industry, and therefore, there are abundant possibilities in where this degree can be used. As the demands for faster computers, tailored healthcare and energy efficiency increase, nanoscale science and engineering are more important than ever. A well-trained workforce will be critical to filling the need.

Students in **Nanofabrication Manufacturing Technology** complete 18 credits of technical courses in nanoscale science and engineering at Pennsylvania State University's Center for Nanotechnology Education and Utilization (CNEU). In this program, students work on a variety of projects in multi-million dollar facilities using cutting-edge equipment. The skills gained are directly transferable to industry and include cleanroom training and nanomaterials assessment and production, such as silicon processing, electron microscopy and other techniques for producing and analyzing nanoscale structures.

ASSOCIATE OF TECHNOLOGY (A.T.)

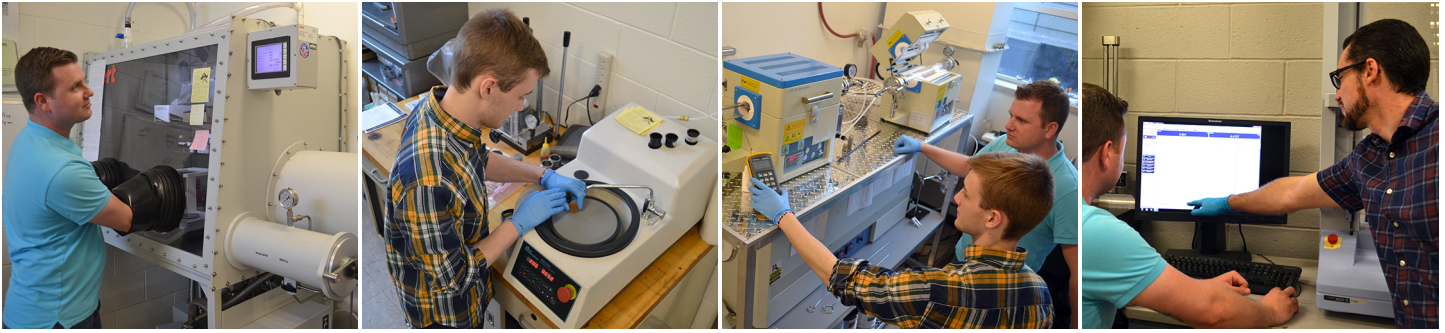
The **Applied Engineering and Technology (AET)** associate degree prepares students equally well for technical proficiency in modern nanofabrication manufacturing environments. The curriculum mirrors the AETM program, but does not include the same depth of business and management coursework. Transfer into the AETM program is seamless if desired later on.



Top 3 Reasons to choose Nanofabrication Manufacturing Technology

AT MILLERSVILLE UNIVERSITY

1. Extensive hands-on research opportunities
2. Individual project funding and professional development available
3. Get a broad range of skills and experiences that make you highly employable



CLUBS & ACTIVITIES

- **SME** – Millersville University. SME (**formerly the Society of Manufacturing Engineers**) is an organization for individuals, students, educators and companies involved in all facets of manufacturing. Founded in 1932, it is dedicated to advancing and educating the manufacturing industry. SME focuses its efforts on several areas of manufacturing: aerospace and defense, energy, medical and motorized vehicles.
- **Epsilon Pi Tau (EPT)** – Beta Phi Chapter. EPT is an international honor society for professions in technology, which includes Technology & Engineering Education. There are a number of benefits to membership, including opportunities for awards based on achievements or service.



The hands-on experiences in the NMT option have allowed students to present at conferences, co-author scientific articles and pursue their own research projects.

FOR INFORMATION CONTACT:

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AEST@millersville.edu

717-871-7237

FACILITIES

This program is supplemented by specialized facilities on Penn State's main campus. On-site laboratory facilities include a variety of specialized processing and characterization equipment related to nanomaterials and the assessment of their properties. Specific competencies include:

Nanostructured Materials Lab

- Chemical Vapor Deposition
- Mechanical Alloying
- Powder Consolidation
- Inert Environment Processing

Materials Testing and Analysis

- Metallography and Microscopy
- Rockwell, Brinell and Microindentation
- Mechanical Analysis in Tension, Compression and Cyclic Testing

ABOUT OUR GRADUATES

Nanofabrication Manufacturing Technology graduates can fulfill a diverse range of needs in fields directly studying or supported by nanoscience. Job duties include a range of opportunities in technical, scientific and management roles. A sampling of job titles held by Nanofabrication Manufacturing Technology graduates includes the following:

- Production Scientist
- Quality Control Technician
- Materials Research Technologist
- Scanning Electron Microscopist
- Nanomaterials Research Associate
- Cleanroom Technician
- Nanotechnologist
- Microfabrication Technician
- Engineering Technician
- Failure Analysis Technician