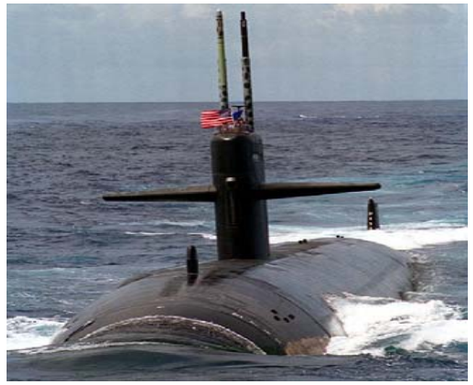
The Mechanical Engineering Technology Program

Mechanical Engineering is a broad and challenging field and the ODU Mechanical Engineering Technology (MET) program offers three option areas that provide an excellent foundation for career success: Manufacturing Systems, Mechanical Systems Design, and Nuclear Engineering Technology. These options prepare graduates for a wide variety of challenging and rewarding career options.

The Mechanical Engineering Technology program leading to the Bachelor of Science in Engineering Technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC of ABET). Graduates of TAC of ABET accredited programs may apply to take the Fundamentals of Engineering (FE) examination in Virginia and in most states. This exam is the first step to obtaining a professional engineer (PE) license.

MET courses provide the broad skill set required for both entry-level success and long term advancement. Core courses include topics such as thermodynamics, dynamics, fluid mechanics, and automation and control systems. Effective written, oral and graphic communications are practiced throughout the curriculum along with computer applications.

Students in the Mechanical Engineering Technology program work with faculty possessing a wealth of industrial experience that is shared in the classroom. A senior capstone design project allows students to apply the practical knowledge they have gained in previous course work by developing designs and completing projects that are often proposed and funded by industry to solve real-world problems.



Special Program for Graduates of Navy Nuclear Power School and Reactor Operator / Control Room Training

The ODU Department of Engineering Technology offers a special program that recognizes the intense and rigorous training in the nuclear power field. Military and civilian students who have completed the Navy's Nuclear Power School (NPS) or similar industry programs, such as Nuclear Control Room Operator or Senior Reactor Operator, may apply for up to 45 credits of advanced standing in the MET program for any of the three MET option areas. For students interested in Electrical Engineering Technology, up to 32 hours are applicable. The following table lists the courses that apply.

Nuclear Training Articulation Table

Course	Credits
PHYS 111 Physics I	4
PHYS 112 Physics II	4
MATH 162M Pre calculus I	3
MATH 163 Pre calculus II	3
Chemistry Elective (for CHEM 115)	3
ENGN 110 Intro to Eng / Tech I	2
ENGN 111 Intro to Eng / Tech II	2
OTS 387 Machine Tool Processes	2
EET 350 Fundamentals of Elec. Tech.	3*
MET 200 Manufacturing Processes	3
MET 300 Thermodynamics	3
MET 320 Design of Machine Elements	3
MET 330 Fluid Mechanics	3
MET 387 Power and Energy Lab	2
MET 450 Energy Systems	3
MET Elective (ME 203 Matl. Sci. Lab.)	1
MET Elective (Additional Chemistry)	1
Total	45

* For approved nuclear industry programs only.

Manufacturing Systems Option

This option focuses on study of advanced topics in computer-aided manufacturing and computer-aided design and drafting including courses in manufacturing planning and management, automated manufacturing systems, quality control, robust engineering, geometric tolerancing, and robotics. Graduates of the Manufacturing Systems option are prepared to apply principles of mechanical design and manufacturing processes to develop new and improve existing production systems.

Option in Mechanical Systems Design

The second option area in the Mechanical Engineering Technology program meets the needs of students who are interested in the design and operation of mechanical systems. The Mechanical Systems Design option provides the skills for career success in designing, building, and installing mechanical systems of all descriptions including thermal and air conditioning systems, automated equipment, and power systems.

Nuclear Engineering Option

This option has been developed for students who are interested in a career in the nuclear power industry. Courses include a two-semester sequence in Nuclear Systems and other courses selected from the manufacturing and systems design options.

Degree Completion Planning

Engineering Technology students may complete their studies on the main campus in Norfolk in a traditional program of study. Alternatively, many students complete lower division requirements in a community college and finish the upper division courses on campus or through the ODU TELETECHNET System.

For career and family bound students who are not able to come to the main campus to complete their degree, the ODU TELETECHNET system, a national leader in distance learning, provides an alternative. Through this system, courses are delivered to sites at military bases, community colleges and industry locations in Virginia, across the

nation, and directly to students at home or in the work place. There are three primary course delivery methods:

- Satellite links are the primary course delivery method and allow students to participate in live classes by television and two-way voice connections at selected sites.
- Streaming video allows students on high - speed Internet connections at home or at work to participate in live or receive archived classes.
- CD-ROM instruction is used to provide supporting information related to lectures delivered by satellite or streaming video.

When students miss class due to travel or business, these methods allow taped or digitized copies of class to be available for viewing at a later time. In all cases, distance students maintain close interaction with faculty.

Transfer Credits

Since ODU's TELETECHNET system offers the technical content for the 300- 400 level courses in the BSET, other degree requirements such as mathematics and general education are often taken at local colleges. Courses typically completed at local and community colleges include:

- General education: 15 credits
- Calculus: 4 credits
- Oral and written communications: 9 credits
- CAD, engineering graphics, and solid modeling: 9 credits
- Statics and strength of materials: 6 credits

Students should consult their local or community college advisor, site advisor or ET department advisor for details on current transfer / articulation agreements related to selection of the transfer courses that integrate with ODU requirements.

Graduate Degree Options

Engineering technology graduates have a number of graduate study alternatives. Many enroll in the ODU Masters in Engineering Management program through TELETECHNET to further their education. Others pursue graduate degrees in an engineering or business field.

Additional Information

For further information:

- Visit the ODU distance learning web site: http://www.odu.edu/home/distance.html.
- Discuss course articulation with your local community college or talk to your TELETECHNET site director.
- Visit the Department of Engineering Technology web site, contact the department or program director:

Department of Engineering Technology
Old Dominion University
214 Kaufman Hall
Norfolk, VA 23529-0243
757-683-3775
www.et.odu.edu

The following table lists the required and elective courses at the Junior and Senior level for the MET options.

Junior / Senior MET Technical Courses

Core Technical Courses
EET 305 System Analysis
EET 350 Electrical Fundamentals
EET 355 Electrical Fundamentals Lab
CET 345 Materials Testing Lab
MET 300 Thermodynamics
MET 310 Dynamics
MET 320 Design of Machine Elements
MET 330 Fluid Mechanics
MET 335 Fluid Mechanics Lab
MET 350 Thermal Systems
MET 360 Geometric Tolerancing
MET 370 Automation & Controls
MET 386 Automation & Controls Lab
MET 387 Power and Energy Lab
MET 435W Senior Project
MET 471 – 472 Nuclear Systems I, II
Manufacturing Systems Electives
MET 400 CNC and Robotics
MET 410 Adv. Mfg. Processes
MET 445 CIM Systems
MET 480 Quality Control Systems
EET 360 Electrical Power and Machinery
Mechanical Systems Design
MET 430 Mechanical Subsystems
MET 440 Heat Transfer
MET 450 Energy Systems
MET 460 Air Conditioning & Refrig.
EET 360 Electrical Power and Machinery

Department of Engineering Technology

OLD DOMINION UNIVERSITY

MECHANICAL ENGINEERING TECHNOLOGY

Special Program for Graduates of:

Navy Nuclear Power School

Nuclear Control Room Operator

Senior Reactor Operator