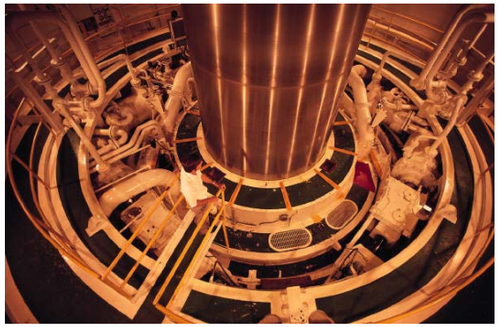
The Mechanical Engineering Technology Program

Mechanical Engineering is a broad and challenging field and the ODU Mechanical Engineering Technology (MET) program offers two option areas that provide an excellent foundation for career success: Manufacturing Systems and Mechanical System Design. These options prepare program graduates are prepared for a wide range of professional and technical positions.

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 are eligible 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 literacy.

Students in the Mechanical Engineering Technology program work with faculty possessing a wealth of industrial experience and this 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.



Degree Completion Options

Engineering Technology students may pursue their studies on the main campus in Norfolk in a traditional four-year program of study. Alternatively, many students complete an Associate in Applied Science (AAS) degree in a community college and finish the last two years of baccalaureate study 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 community colleges and industry locations in Virginia and 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.
- 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 by a number of means including telephone, email, and Internet bulletin boards / study sessions.

Using TELETECHNET, it is possible for distance students to complete the technical content of the BS in ET in three years from AAS completion depending on the semester load taken.

AAS Transfer Credits and Articulation

There are a number of articulation agreements that integrate the BS in Engineering Technology options with a range of AAS degrees. Typically about half (55-60) of the credits toward a baccalaureate degree can be earned through completion of approved AAS degree programs at a community college. Students should consult their community college for details on current transfer/ articulation agreements related to their location and program. Students should also consult closely with the advisors in these AAS programs to select the correct transfer courses in areas such as mathematics, science, and general education.

Option in Manufacturing Systems

Modern manufacturing requires a combination of knowledge and skills from the Engineering and Technology disciplines for successful completion of design and production objectives. Many of these skills focus on the application of technical expertise to achieve product and process improvements. The primary objective of the Manufacturing Systems option is to provide an applied technical foundation that will enable graduates to excel in a career in globally competitive manufacturing.

Graduates of the Manufacturing Systems option are prepared for employment in a wide range of professional and technical positions at both large and small companies in all types of manufacturing. This includes areas such as manufacturing engineering, quality control, production management, test engineering, and materials procurement / management.

This option includes study of advanced topics in computer-aided manufacturing and computer-aided design and drafting. Courses also cover topics in manufacturing planning and management, automated

manufacturing systems, quality control, geometric tolerancing, and robotics. Graduates of the Manufacturing Systems option are prepared to apply fundamental 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.

Courses include the latest computer innovations in mechanical design such as use of solid modeling software, 3-D modeling, and simulation. These computer aided engineering programs are used for analysis, design and manufacture of parts and include the latest technology used in industry. Mechanical Systems Design graduates are employed in positions such as designers, CAE analysts, and plant or test engineers.

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

If you are interested in a program where people and technology come together, the Department of Engineering Technology at Old Dominion University may be the place for you. For further information:

- Visit the ODU distance learning web site: http://www.odu.edu/home/distance.html.
- Discuss program articulation with your local community college. Talk to your TELETECHNET site director if there is a local site.
- Visit the Department of Engineering Technology web site for additional information and course schedules.
- Contact the department or program director and find out more about the options.

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

The following list describes the required courses at the Junior and Senior level for the MET options.

Junior / Senior MET Technical Courses

Core Technical Courses
MTH 211 or CC MTH 173
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
Manufacturing Systems Electives
MET 400 CNC and Robotics
MET 410 Adv. Mfg. Processes
MET 445 CIM Systems
EET 360 Electrical Power and Machinery
MET 480 Quality Control Systems
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

OLD DOMINION UNIVERSITY

MECHANICAL ENGINEERING TECHNOLOGY

Focus on Mechanical Systems Design and Manufacturing Systems