BACHELOR OF SCIENCE IN APPLIED SCIENCE IN
MECHANICAL ENGINEERING TECHNOLOGY

Students who have earned the associate degree may elect to complete the bachelor's degree on either a full- or part-time basis. Courses in the bachelor's degree program further develop technical, communication, and managerial skills. Upon successful completion of the coursework, graduates are awarded the Bachelor of Science in Applied Science degree and are prepared for greater levels of responsibility and greater career advancement.

Graduates of the BSAS degree program obtain employment as engineering technologists or engineering designers for government agencies, consulting engineers and architects, industry and manufacturing, and contractors. Because their education is more extensive, they are prepared for more responsibility and more-rapid advancement. BSAS engineering technologists and designers plan, design, inspect, and direct construction, production, and maintenance activities.

Based on an evaluation of their work, transfer students who have a related associate degree from a regionally accredited institution may be admitted to the bachelor's degree program at the junior level.

Program Educational Objectives

Educational objectives for the mechanical engineering technology programs have been developed by faculty and the program industrial advisory committee to support the university, the college, and the School of Engineering Technology missions. Graduates of the MET associate degree program function as assistants in the design, drafting and testing of mechanical products, equipment and processes. Bachelor's degree graduates assume greater responsibility in the design and testing of mechanical products, processes, and equipment.

During their first few years after completion of the mechanical engineering technology program at YSU, graduates will have demonstrated the ability to:

• Work competently in technical and professional careers related to the field of mechanical engineering technology, with a path to the BSAS degree.
• Communicate effectively in a professional environment.
• Continue growth in professional knowledge and skills.
• Achieve recognition and/or compensation consistent with their educational achievements.

Accreditation and Registration

The mechanical engineering technology bachelor program is accredited by the ETAC Accreditation Commission of ABET, http://www.abet.org. In most states, including Ohio, West Virginia and Pennsylvania, bachelor’s degree graduates are qualified to take the Fundamentals of Engineering (FE) exam, and, with sufficient work experience, the Professional Engineers (PE) exam. Graduates are also qualified to apply to the National Institute for Certification in Engineering Technologies (NICET) for certification procedures in various specialty areas, depending on academic major and employment area.

Date of last campus visit: October, 2017
Accredited through: 2024
Next campus visit: 2023
Link to accrediting body: ABET (http://www.abet.org)

Bachelor of Science in Applied Science in Mechanical Engineering Technology

COURSE TITLE S.H.
General Education Courses:
MATH 2670 Applied Calculus 2 5
CMST 1545 Communication Foundations 3
GER SPA 3
GER SPA 3
GER SS 3
GER AH 3

Total GER Credit Hours: 20 s.h.

Courses in the Major:
MET 3720 Mechanisms 3
MET 3707 Machine Design 2 3
EEI 3725 Electromechanical Systems 4 & 3725L and Electromechanical Systems Lab
MET 3705 Thermodynamics 4
CCET 3705 Computing for Technologists 3
MET 4860 Robotics Technology 3 & 4860L and Robotics Technology Laboratory
MET Elective (2 Required) 6
MET 3710 Tool Design
MET 4812 Numerical Control & 4812L and Numerical Control Lab
MET 4890 Special Topics in Mechanical Engineering Technology
ENTC 4895 Independent Engineering Technology Project
MET 3711 Heat and Power Cycles 4
MET 4810 Manufacturing Systems Analysis 3
ISEN/MGT Elective 3
ISEN 3720 Statistical Quality Control
MGT 3725 Fundamentals of Management
MGT 2604 Legal Environment of Business 1
ENT 3700 Entrepreneurship New Venture Creation
MET 4870 Applied Finite Element Method 3
MET 4820 Machine Systems 3

Total Major Credit Hours: 42 s.h.

Year 1
Fall S.H.
ENTC 1501 Introduction to Engineering Technology 2
ENTC 1505 Engineering Technology Concepts 4
MATH 1513 Algebra and Transcendental Function 5
ENGL 1550 Writing 1 3
CCET 1503 CAD Technology 2
CCET 1504 Drafting and Plan Reading 2
Semester Hours 18

Spring
MET 1515 Mechanics 1 3
CCET 2604 Properties and Strength of Materials 3
CCET 2614L Materials Laboratory 2
MATH 1570 Applied Calculus 1 4
MET 2606 Solid Modeling 4
Semester Hours 16

Year 2
Fall
MET 2616 Mechanics 2 3
MET 3714 Fluid Mechanics & 3714L and Fluid Mechanics Laboratory
PHYS 1501 Fundamentals of Physics 1 4


### Electives

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
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<tbody>
<tr>
<td><strong>MET Electives</strong></td>
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<td>Select two of the following:</td>
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<tr>
<td>MET 3710</td>
<td>Tool Design</td>
<td>2-8</td>
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<tr>
<td>MET 4812</td>
<td>Numerical Control</td>
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<tr>
<td>MET 4812L</td>
<td>Numerical Control Lab</td>
<td>4</td>
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<td>MET 4890</td>
<td>Special Topics in Mechanical Engineering Technology</td>
<td>4</td>
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<tr>
<td>EET 4880</td>
<td>Electrical and Mechanical Facilities Design</td>
<td>4</td>
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<tr>
<td>ENTC 4895</td>
<td>Independent Engineering Technology Project</td>
<td>3</td>
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<tr>
<td><strong>ISEN/MGT Electives</strong></td>
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<td>Select one of the following:</td>
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<td>ISEN 3720</td>
<td>Statistical Quality Control</td>
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<tr>
<td>ISEN 3724</td>
<td>Engineering Economy</td>
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<td>MGT 3725</td>
<td>Fundamentals of Management</td>
<td>3</td>
</tr>
<tr>
<td>MGT 2604</td>
<td>Legal Environment of Business 1</td>
<td>3</td>
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**Total Semester Hours**: 5-11

### Program Outcomes

**Bachelor of Science in Applied Science in Mechanical Engineering Technology**

Graduates of the Bachelor’s Degree in Mechanical Engineering Technology will possess the following competencies upon graduation:

- mastery of knowledge, skills, and tools of the discipline
- ability to apply knowledge to solve engineering problems
- ability to conduct, analyze, and interpret experiments
- ability to be creative in design
- ability to work effectively in teams
- ability to identify, analyze, and solve technical problems
- ability to communicate effectively
- recognition of the need to engage in lifelong learning
- ability to understand professional, ethical, and social responsibilities
- respect for diversity, professional, societal, and global issues
- commitment to quality, timeliness, and continuous improvement

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1. Choose two of MET 3710 Tool Design, MET 4812 Numerical Control/MET 4812L Numerical Control Lab, MET 4890 Special Topics in Mechanical Engineering Technology, EET 4880 Electrical and Mechanical Facilities Design, ENTC 4895 Independent Engineering Technology Project

2. Choose one ISEN 3720 Statistical Quality Control, ISEN 3724 Engineering Economy, MGT 3725 Fundamentals of Management, or MGT 2604 Legal Environment of Business 1

3. General Education Requirement: see "Schedule of Classes" for details

SPA = Social & Personal Awareness (2 required for BSAS)

SS = Social Sciences (2 required for BSAS)

AH = Arts & Humanities (2 required for BSAS)