

# ASSOCIATE OF APPLIED SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY

The Mechanical Engineering Technology (MET) program is designed as a "two-plus-two" program. Students may earn an Associate of Applied Science degree after two years of full-time study. With this degree, they may begin a career in industry. The associate degree graduate can continue for two more years of full-time study to earn the bachelor's degree.

The associate degree program introduces the student to the principles and practices of machine design, manufacturing processes, testing, and energy conversion. Students are also given a firm foundation in communications, mathematics, and science. Upon completion of the associate degree, graduates may find employment as engineering technicians in a wide variety of industries. They assist engineers in the design, drafting, testing, and support of mechanical products or of the industrial equipment and processes used to manufacture consumer products.

## Program Educational Objectives

Educational objectives for the MET 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.
- Communicate effectively in a professional environment.
- Continue growth in professional knowledge and skills.
- Achieve recognition and/or compensation consistent with their educational achievements.

## Accreditation

The Associate of Applied Science in Mechanical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org/>), under the General Criteria and the Program Criteria for Mechanical Engineering Technology.

Date of last campus visit: October 2017

Accredited through: 2024

Next campus visit: October 2023

COURSE	TITLE	S.H.
<b>FIRST YEAR REQUIREMENT -STUDENT SUCCESS</b>		
YSU 1500	Success Seminar	1-2
or SS 1500	Strong Start Success Seminar	
or HONR 1500	Intro to Honors	
<b>General Education Courses:</b>		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
MATH 1513	Algebra and Transcendental Function	5
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4

PHYS 1501	Fundamentals of Physics 1	4
Select 2 courses from either AH or SS domain		6
<b>Total General Education Credit Hours: 27-28 s.h.</b>		
<b>Courses in Major:</b>		
MATH 1570	Applied Calculus 1	4
ENTC 1505	Engineering Technology Concepts	4
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
MET 1515	Mechanics 1	3
CCET 2604	Properties and Strength of Materials	3
CCET 2614L	Materials Laboratory 1	2
MET 2606	Solid Modeling	4
MET 2616	Mechanics 2	3
MET 3714	Fluid Mechanics	4
MET 3714L	Fluid Mechanics Laboratory	1
MET 2630	Manufacturing Techniques	3
MET 2630L	Manufacturing Techniques Laboratory	1
MET 3706	Machine Design 1	4
<b>Total Major Credit Hours: 40 s.h.</b>		

**Total Semester Hours 66-68**

### Year 1

Fall	S.H.	
YSU 1500	Success Seminar	1
ENTC 1505	Engineering Technology Concepts	4
MATH 1513	Algebra and Transcendental Function	5
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
ENGL 1550	Writing 1	3
<b>Semester Hours</b>		<b>17</b>

### Spring

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

### Year 2

Fall	S.H.	
MET 2616	Mechanics 2	3
MET 3714 & 3714L	Fluid Mechanics and Fluid Mechanics Laboratory	5
PHYS 1501	Fundamentals of Physics 1	4
Arts & Humanities GER <sup>1</sup>		3
<b>Semester Hours</b>		<b>15</b>

### Spring

MET 2630 & 2630L	Manufacturing Techniques and Manufacturing Techniques Laboratory	4
MET 3706	Machine Design 1	4
CHEM 1515 & 1515L	General Chemistry 1 and General Chemistry 1 Laboratory	4
ENGL 1551	Writing 2	3
Social Science GER <sup>1</sup>		3
<b>Semester Hours</b>		<b>18</b>

**Total Semester Hours 66**

<sup>1</sup> 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)

## **PROGRAM OUTCOMES**

### **ASSOCIATE OF APPLIED SCIENCE IN mechanical engineering TECHNOLOGY**

Graduates of the Associate Degree in Mechanical Engineering Technology will possess the following competencies upon graduation:

- an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
- an ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
- an ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
- an ability to function effectively as a member as well as a leader on technical teams