

# MECHANICAL ENGINEERING TECHNOLOGY - A.A.S.

College of Applied and Technical Studies  
www.kent.edu/cats

## About This Program

Looking to jump-start your career in engineering? The Associate of Applied Science in Mechanical Engineering Technology provides you with the technical skills and knowledge needed to succeed in a wide range of mechanical engineering roles. With hands-on training, experienced faculty, and industry-standard tools, you'll gain practical experience and be ready to hit the ground running in the industry. Read more...

## Contact Information

- Program Coordinator: **Paul Dykshoorn** | pdykshoo@kent.edu | 330-308-7475
- Speak with an Advisor
- Chat with an Admissions Counselor

## Program Delivery

- **Delivery:**
  - In person
- **Location**
  - Tuscarawas Campus

## Examples of Possible Careers\*

### Calibration technologists and technicians and engineering technologists and technicians, except drafters, all other

- 2.1% slower than the average
- 91,600 number of jobs
- \$64,190 potential earnings

### Electro-mechanical and mechatronics technologists and technicians

- 3.0% about as fast as the average
- 14,600 number of jobs
- \$59,800 potential earnings

### Mechanical drafters

- -8.3% decline
- 57,500 number of jobs
- \$58,270 potential earnings

### Mechanical engineering technologists and technicians

- 3.1% about as fast as the average
- 43,500 number of jobs
- \$58,230 potential earnings

## Additional Careers

- Engineering technician
- Design specialist
- Mechanical Designer
- Project Engineer

## Accreditation

The A.A.S. degree in Mechanical Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>.

\* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

## Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students who graduated from high school three or more years ago.

Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, and the Twinsburg Academic Center, have open enrollment admission for students who hold a high school diploma, GED or equivalent.

Some programs may require that students meet certain requirements before progressing through the program. For programs with progression requirements, the information is shown on the Coursework tab.

For more information on admissions, contact the Regional Campuses admissions offices.

## Program Requirements

### Major Requirements

Code	Title	Credit Hours
<b>Major Requirements (courses count in major GPA)</b>		
EERT 22014	MICROPROCESSORS AND ROBOTICS	3
ENGT 23099	ENGINEERING TECHNOLOGY DESIGN PROJECT (ELR)	3
MERT 12000	ENGINEERING DRAWING	3
MERT 12001	COMPUTER-AIDED DESIGN	3
MERT 12004	MANUFACTURING PROCESSES	3
MERT 12005	PROPERTIES OF MATERIALS	3
MERT 22012	FLUID POWER	3
<b>Additional Requirements (courses do not count in major GPA)</b>		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
ENG 20002 or OTEC 26638	INTRODUCTION TO TECHNICAL WRITING BUSINESS COMMUNICATIONS	3
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
MATH 11022	TRIGONOMETRY (KMCR)	3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
UC 10001	FLASHES 101	1

Physics Elective A, choose from the following:	3-5
PHY 12201 TECHNICAL PHYSICS I (KBS) (KLAB)	
PHY 13001 GENERAL COLLEGE PHYSICS I (KBS) & PHY 13021 and GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	
Physics Elective B, choose from the following:	3-5
PHY 12202 TECHNICAL PHYSICS II (KBS) (KLAB)	
PHY 13002 GENERAL COLLEGE PHYSICS II (KBS) & PHY 13022 and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
PHY 13012 COLLEGE PHYSICS II (KBS) & PHY 13022 and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
Kent Core Composition	3
Kent Core Humanities and Fine Arts	3
Kent Core Social Sciences	3
<b>Concentrations</b>	
Choose from the following:	9-10
General	
Mechatronics	

**Minimum Total Credit Hours: 62-63**

### General Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
MERT 22003	COMPUTER-AIDED TOOL DESIGN	3
MERT 22005	STATICS	3
MERT 22007	STRENGTH OF MATERIALS	3
<b>Minimum Total Credit Hours:</b>		<b>9</b>

### Mechatronics Concentration Requirements

Code	Title	Credit Hours
<b>Concentration Requirements (courses count in major GPA)</b>		
EERT 12000	ELECTRIC CIRCUITS I	4
EERT 12001	ELECTRIC CIRCUITS II	3
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
<b>Minimum Total Credit Hours:</b>		<b>10</b>

### Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

## Roadmaps

### General Concentration

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

Semester One		Credits
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
!	MERT 12000 ENGINEERING DRAWING	3
!	MERT 12004 MANUFACTURING PROCESSES	3
UC 10001	FLASHES 101	1
Kent Core Requirement		3

Kent Core Requirement		Credit Hours
		<b>16</b>
<b>Semester Two</b>		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
MATH 11022	TRIGONOMETRY (KMCR)	3
!	MERT 12001 COMPUTER-AIDED DESIGN	3
!	MERT 12005 PROPERTIES OF MATERIALS	3
MERT 22012	FLUID POWER	3
		<b>Credit Hours 15</b>
<b>Semester Three</b>		
!	EERT 22014 MICROPROCESSORS AND ROBOTICS	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
!	MERT 22003 COMPUTER-AIDED TOOL DESIGN	3
!	MERT 22005 STATICS	3
Physics Elective A		3-5
		<b>Credit Hours 15</b>
<b>Semester Four</b>		
ENG 20002	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS	3
or	OTEC 26638	
ENGT 23099	ENGINEERING TECHNOLOGY DESIGN PROJECT (ELR)	3
!	MERT 22007 STRENGTH OF MATERIALS	3
Physics Elective B		3-5
Kent Core Requirement		3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
		<b>Credit Hours 16</b>
		<b>Minimum Total Credit Hours: 62</b>

### Mechatronics Concentration

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

Semester One		Credits
EERT 12000	ELECTRIC CIRCUITS I	4
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
!	MERT 12000 ENGINEERING DRAWING	3
!	MERT 12004 MANUFACTURING PROCESSES	3
UC 10001	FLASHES 101	1
Kent Core Requirement		3
		<b>Credit Hours 17</b>
<b>Semester Two</b>		
EERT 12001	ELECTRIC CIRCUITS II	3
!	MERT 12001 COMPUTER-AIDED DESIGN	3
!	MERT 12005 PROPERTIES OF MATERIALS	3
MATH 11022	TRIGONOMETRY (KMCR)	3
Kent Core Requirement		3
		<b>Credit Hours 15</b>
<b>Semester Three</b>		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
!	EERT 22014 MICROPROCESSORS AND ROBOTICS	3
ENG 20002	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS	3
or	OTEC 26638	

MATH 11012	INTUITIVE CALCULUS (KMCR)	3
Physics Elective A		3-5
<b>Credit Hours</b>		<b>15</b>
<b>Semester Four</b>		
ENGT 23099	ENGINEERING TECHNOLOGY DESIGN PROJECT (ELR)	3
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
! MERT 22012	FLUID POWER	3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
Physics Elective B		3-5
Kent Core Requirement		3
<b>Credit Hours</b>		<b>16</b>
<b>Minimum Total Credit Hours:</b>		<b>63</b>

## Program Learning Outcomes

Graduates of this program will be able to:

1. Apply the knowledge, techniques, skills and modern tools of mathematics, science, engineering and technology to solve mechanical engineering technology problems that require limited application of principles but extensive practical knowledge.
2. Design solutions for well-defined mechanical engineering technology problems and assist with the design of systems, components or processes for solving broad mechanical engineering technology problems.
3. Apply written, oral and graphical communication in both technical and non-technical environments, and proficiently use technical reference material.
4. Conduct standard tests, measurements and experiments and analyze and interpret the results.
5. Function effectively as a member of a technical team.
6. Understand and commit to address professional and ethical responsibilities, including a respect for diversity.

## Full Description

The Associate of Applied Science degree in Mechanical Engineering Technology provides students with knowledge and skills in the manufacturing areas related to computer-controlled equipment and integrated manufacturing. Students learn drafting, materials testing, robotics applications and computer-aided design (CAD) and computer-aided manufacturing (CAM) software for design and design documentation.

The Mechanical Engineering Technology major comprises the following concentrations:

- The **General** concentration includes coursework in microprocessors and robotics, manufacturing processes, computer-aided tool design and professional ethics.
- The **Mechatronics** concentration is cross-disciplinary and provides students with skills in electrical and electronic devices, hydraulics and pneumatics and programmable logic controllers

The degree program articulates into Kent State's Bachelor of Science degree in Engineering Technology.