

# MECHANICAL ENGINEERING TECHNOLOGY - B.S.

**College of Aeronautics and Engineering**  
 Aeronautics and Technology Building  
 Kent Campus  
 330-672-2892  
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## Description

The Bachelor of Science degree in Mechanical Engineering Technology teaches design, operation, installation, maintenance and analysis of machinery. The program prepares students to become highly technical professionals in current and emerging fields using mechanical and computer-aided engineering. Students learn to develop innovative solutions to problems encountered in manufacturing.

### Fully Offered At:

- Kent Campus

## 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.

**Freshman Students on the Kent Campus:** The freshman admission policy on the Kent Campus is selective. Admission decisions are based upon the following: cumulative grade point average, ACT and/or SAT scores, strength of high school college preparatory curriculum and grade trends. The Admissions Office at the Kent Campus may defer the admission of students who do not meet admissions criteria but who demonstrate areas of promise for successful college study. Deferred applicants may begin their college coursework at one of seven regional campuses of Kent State University. For more information on admissions, including additional requirements for some academic programs, visit the admissions website for new freshmen.

**Freshman Students on the Regional Campuses:** Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Regional Academic Center in Twinsburg, have open enrollment admission for students who hold a high school diploma, GED or equivalent.

**English Language Proficiency Requirements for International Students:** All international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning a minimum 525 TOEFL score (71 on the Internet-based version), minimum 75 MELAB score, minimum 6.0 IELTS score or minimum 48 PTE score, or by completing the ESL level 112 Intensive Program. For more information on international admission, visit the Office of Global Education's admission website.

**Transfer, Transitioning and Former Students:** For more information about admission criteria for transfer, transitioning and former students, please visit the admissions website.

## Program Learning Outcomes

Graduates of this program will be able to:

1. Use the techniques, skill and modern engineering tools necessary for engineering practice.
2. Apply knowledge of mathematics, science and engineering.
3. Design a system, component or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.

## University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

**NOTE:** University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Destination Kent State: First Year Experience	1
Course is not required for students with 25 transfer credits, excluding College Credit Plus, or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 (or 42)
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate. Students in a B.A. and/or B.S. degree in the College of Arts and Sciences must complete 42 upper-division credit hours.	
Total Credit Hour Requirement	120
Some bachelor's degrees require students to complete more than 120 credit hours.	

## Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
<b>Total Credit Hours:</b>	<b>36-37</b>

## Program Requirements

### Major Requirements

Code	Title	Credit Hours
<b>Major Requirements (courses count in major GPA)</b>		
TECH 13580	ENGINEERING GRAPHICS I	3
TECH 20001	ENERGY/POWER	3

TECH 20002	MATERIALS AND PROCESSES	3
TECH 21020	SURVEY OF ELECTRICITY AND ELECTRONICS	3
TECH 21022	SURVEY OF ELECTRICITY AND ELECTRONICS LABORATORY	1
TECH 23581	COMPUTER-AIDED ENGINEERING GRAPHICS	3
TECH 26010	INTRODUCTION TO COMPUTER ENGINEERING TECHNOLOGY	3
TECH 26200	PROGRAMMING FOR ENGINEERS I	3
TECH 31000	CULTURAL DYNAMICS OF TECHNOLOGY (DIVD) (WIC) <sup>1</sup>	3
TECH 33031	PROGRAMMABLE LOGIC CONTROLLERS	3
TECH 33033	HYDRAULICS/PNEUMATICS	3
TECH 33111	STATICS AND STRENGTH OF MATERIALS	3
TECH 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
TECH 34002	ADVANCED COMPUTER-AIDED DESIGN II	3
TECH 36200	PROGRAMMING FOR ENGINEERS II	3
TECH 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
TECH 43550	COMPUTER-AIDED MANUFACTURING	3
TECH 43580	COMPUTER-AIDED MACHINE DESIGN	3
TECH 43800	APPLIED ENGINEERING TECHNOLOGY SEMINAR (ELR)	3
Technical Electives, choose from the following:		12
TECH 31065	CAST METALS	
or TECH 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	
TECH 33040	CONTROL SYSTEMS	
TECH 43030	MECHATRONICS	
TECH 43031	MECHATRONICS II	
TECH 43096	INDIVIDUAL INVESTIGATION IN APPLIED SCIENCE AND TECHNOLOGY	
TECH 43700	COMPUTER INTEGRATED MANUFACTURING	
TECH 47200	SYSTEMS ENGINEERING	
TECH 47210	SUSTAINABLE ENERGY I	
TECH 47211	SUSTAINABLE ENERGY II	
<b>Additional Requirements (courses do not count in major GPA)</b>		
ACCT 23020	INTRODUCTION TO FINANCIAL ACCOUNTING	3
CHEM 10050	FUNDAMENTALS OF CHEMISTRY (KBS)	3
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENG 20002	INTRODUCTION TO TECHNICAL WRITING	3
MATH 11022	TRIGONOMETRY (KMCR)	3
MATH 12002	ANALYTIC GEOMETRY AND CALCULUS I (KMCR)	5
PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (cannot be ECON)		3
General Elective (total credit hours depends on earning 120 credit hours, including 39 upper-division credit hours)		1
Minimum Total Credit Hours:		120

<sup>1</sup> A minimum C grade must be earned to fulfill the writing-intensive requirement.

## Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.250	2.000

## Roadmap

Semester One		Credits
MATH 11022	TRIGONOMETRY (KMCR)	3
TECH 13580	ENGINEERING GRAPHICS I	3
TECH 26010	INTRODUCTION TO COMPUTER ENGINEERING TECHNOLOGY	3
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		16
Semester Two		Credits
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
MATH 12002	ANALYTIC GEOMETRY AND CALCULUS I (KMCR)	5
PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
TECH 23581	COMPUTER-AIDED ENGINEERING GRAPHICS	3
Credit Hours		16
Semester Three		Credits
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
TECH 20002	MATERIALS AND PROCESSES	3
Kent Core Requirement		3
Credit Hours		14
Semester Four		Credits
ACCT 23020	INTRODUCTION TO FINANCIAL ACCOUNTING	3
ENG 20002	INTRODUCTION TO TECHNICAL WRITING	3
TECH 21020	SURVEY OF ELECTRICITY AND ELECTRONICS	3
TECH 21022	SURVEY OF ELECTRICITY AND ELECTRONICS LABORATORY	1
TECH 26200	PROGRAMMING FOR ENGINEERS I	3
Kent Core Requirement		3
Credit Hours		16
Semester Five		Credits
CHEM 10050	FUNDAMENTALS OF CHEMISTRY (KBS)	3
TECH 20001	ENERGY/POWER	3
TECH 33111	STATICS AND STRENGTH OF MATERIALS	3
TECH 33031	PROGRAMMABLE LOGIC CONTROLLERS	3
TECH 36200	PROGRAMMING FOR ENGINEERS II	3
Credit Hours		15
Semester Six		Credits
TECH 31000	CULTURAL DYNAMICS OF TECHNOLOGY (DIVD) (WIC)	3
TECH 33033	HYDRAULICS/PNEUMATICS	3
TECH 33363	MATERIALS SCIENCE AND TECHNOLOGY	3

TECH 34002	ADVANCED COMPUTER-AIDED DESIGN II	3
Technical Elective		3
Credit Hours		15
<b>Semester Seven</b>		
TECH 43550	COMPUTER-AIDED MANUFACTURING	3
TECH 43580	COMPUTER-AIDED MACHINE DESIGN	3
Technical Elective		3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		15
<b>Semester Eight</b>		
TECH 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
TECH 43800	APPLIED ENGINEERING TECHNOLOGY SEMINAR (ELR)	3
Technical Electives		6
General Elective		1
Credit Hours		13
Minimum Total Credit Hours:		120