ENGINEERING TECHNOLOGY - B.S.

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

About This Program

The Bachelor of Science in Engineering Technology program prepares you for a career in the dynamic field of engineering. With a curriculum focused on the latest trends and technologies in engineering, you'll gain the skills and knowledge needed to succeed in a variety of roles. Enroll now and take the first step toward a fulfilling career in engineering. Read more...

Contact Information

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

Program Delivery

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

Examples of Possible Careers

- Applications Engineer
- Controls Engineer
- Design Engineer
- Electrical Engineer
- Engineering Project Coordinator
- Electrical/Systems Engineer
- Manufacturing Engineer
- Product Engineer
- Quality Engineer

Accreditation

The Bachelor of Science degree in Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

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.

First-Year Students on the Kent Campus: First-year admission policy on the Kent Campus is selective. Admission decisions are based upon cumulative grade point average, strength of high school college preparatory curriculum and grade trends. Students not admissible to the Kent Campus may be administratively referred to one of the seven regional campuses to begin their college coursework. For more information, visit the admissions website for first-year students.

First-Year Students on the Regional Campuses: First-year admission to Kent State's campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, is open to anyone with a high school diploma or its equivalent. For more information on admissions, contact the Regional Campuses admissions offices.

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 Academic score, or by completing the ELS level 112 Intensive Program. For more information, visit the admissions website for international students.

Transfer Students: Students who have attended any other educational institution after graduating from high school must apply as undergraduate transfer students. For more information, visit the admissions website for transfer students.

Former Students: Former Kent State students or graduates who have not attended another college or university since Kent State may complete the reenrollment or reinstatement form on the University Registrar's website.

Admission policies for undergraduate students may be found in the University Catalog's Academic Policies.

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 program's Coursework tab.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
CS 10051	COMPUTER SCIENCE PRINCIPLES (KMCR)	3-4
or EERT 32003	TECHNICAL COMPUTING	
or IT 20001	C++ PROGRAMMING	
or IT 20011	JAVA PROGRAMMING	
ENG 20002	INTRODUCTION TO TECHNICAL WRITING	3
or OTEC 26638	BUSINESS COMMUNICATIONS	
ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) [1]	3
or ENGR 33092	COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	
ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS	3
ENGR 33700	QUALITY TECHNIQUES	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
ENGT 43099	ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
ENGT 43363	MATERIALS SCIENCE AND TECHNOLOGY	3
Additional Requirements (courses do not count in major GPA)		
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	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, choose from the following:		3-5
PHY 12201	TECHNICAL PHYSICS I (KBS) (KLAB)	
PHY 13001 & PHY 13021	GENERAL COLLEGE PHYSICS I (KBS) and GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (must be from two disciplines)		3
General Electives (total credit hours depends on earning 120 credit hours, including 39 upper-division credit hours) [2]		13
Concentrations		
Choose from the following:		45
Electrical/Electronics		
Green and Alternative Energy		
Integrated Engineering Technology		
Mechanical/Systems		
Minimum Total Credit Hours:		**120**

[1] A minimum C grade must be earned to fulfill the writing-intensive requirement.

[2] A maximum of 3 credit hours of the following course ENGT 43092 may be used to fulfill the general electives.

Electrical/Electronics Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
ENGT 30000	ADVANCED MANUFACTURING	3
or ENGT 43700	COMPUTER-INTEGRATED MANUFACTURING	
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
or ENGR 33031	PROGRAMMABLE LOGIC CONTROLLERS	
Concentration Electives, choose from the following:		9
EERT 32005	INSTRUMENTATION	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33016	PC/NETWORK ENGINEERING AND TROUBLESHOOTING	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGR 33223	ELECTRONIC COMMUNICATION	
ENGT 33225	INDUSTRIAL CONTROL SYSTEMS	
ENGT 42003	LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING	
ENGR 43220	ELECTRICAL MACHINERY	
GAE 31032	ENERGY AND POWER GENERATION	
GAE 32000	FUEL CELL TECHNOLOGY	
GAE 42002	ENERGY MANAGEMENT SYSTEMS	
GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	
Applied Electives, choose from the following: [1]		27
MERT 12000	ENGINEERING DRAWING	
Electrical/Electronic and Related Technologies (EERT) Electives		
Other courses as approved by program director		
Additional Requirements (courses do not count in major GPA)		
Physics Elective, choose from the following:		3-5
PHY 12202	TECHNICAL PHYSICS II (KBS) (KLAB)	
PHY 13002 & PHY 13022	GENERAL COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
PHY 13012 & PHY 13022	COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
Minimum Total Credit Hours:		**45**

[1] Students who have earned an associate degree in the Electrical and Electronic Engineering Technology program will have 27 credits of technical coursework articulate to the bachelor's degree program and will not have to take the electives for a minor or individualized specialization.

Green and Alternative Energy Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
GAE 32000	FUEL CELL TECHNOLOGY	3
GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	3
Concentration Electives, choose from the following:		9
EERT 32005	INSTRUMENTATION	
ENGT 30000	ADVANCED MANUFACTURING	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGT 42003	LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING	
ENGT 42195	TRAINING TOPICS IN TECHNOLOGY	
or GAE 42002	ENERGY MANAGEMENT SYSTEMS	
GAE 31032	ENERGY AND POWER GENERATION	
MERT 42000	THERMODYNAMICS FOR ENGINEERING TECHNOLOGY	
Applied Electives, choose from the following: [1]		27
Electrical/Electronic and Related Technologies (EERT) Electives		
Green and Alternate Energy (GAE) Electives		
Mechanical Engineering and Related Technologies (MERT) Electives		
Other courses as approved by program director		
Additional Requirements (courses do not count in major GPA)		
Physics Elective, choose from the following:		3-5
PHY 12202	TECHNICAL PHYSICS II (KBS) (KLAB)	
PHY 13002 & PHY 13022	GENERAL COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
PHY 13012 & PHY 13022	COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
Minimum Total Credit Hours:		**45**

[1] Students who have earned an associate degree in the Electrical and Electronic Engineering Technology or Mechanical Engineering Technology program will have 27 credits of technical coursework

articulate to the bachelor's degree program and will not have to take the electives for a minor or individualized specialization.

Integrated Engineering Technology Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	3
ENGT 42003	LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING	3
Concentration Electives, choose from the following:		9
Construction Management Technology (CMGT) Upper-Division Electives (30000 or 40000 level)		
Electrical/Electronic Engineering Technology (EERT) Upper-Division Electives (30000 or 40000 level)		
Engineering (ENGR) Upper-Division Electives (30000 or 40000 level)		
Engineering Technology (ENGT) Upper-Division Electives (30000 or 40000 level)		
Green and Alternative Energy (GAE) Upper-Division Electives (30000 or 40000 level)		
Mechanical Engineering Technology (MERT) Upper-Division Electives (30000 or 40000 level)		
Applied Electives, choose from the following: [1]		27
Electrical/Electronic Engineering Technology (EERT) Electives		
Engineering Technology (ENGT) Electives		
Green and Alternate Energy (GAE) Electives		
Mechanical Engineering Technology (MERT) Electives		
Other courses as approved by program director		
Additional Requirements (courses do not count in major GPA)		
Kent Core Basic Sciences		3
Minimum Total Credit Hours:		**45**

[1] Students who have earned an associate degree in the Engineering Technology program will have 27 credits of technical coursework articulate to the bachelor's degree program and will not have to take the electives for a minor or individualized specialization.

Mechanical/Systems Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
ENGT 30000	ADVANCED MANUFACTURING	3
or ENGT 43700	COMPUTER-INTEGRATED MANUFACTURING	
MERT 32004	MACHINE DESIGN	3
or MERT 42000	THERMODYNAMICS FOR ENGINEERING TECHNOLOGY	
Mechanical/Systems Concentration Electives, choose from the following:		9
EERT 32005	INSTRUMENTATION	
ENGR 43220	ELECTRICAL MACHINERY	
ENGT 32101	POLYMERS I	
ENGT 33016	PC/NETWORK ENGINEERING AND TROUBLESHOOTING	
ENGT 33225	INDUSTRIAL CONTROL SYSTEMS	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGT 42003	LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING	
ENGR 33031	PROGRAMMABLE LOGIC CONTROLLERS	
GAE 31032	ENERGY AND POWER GENERATION	
GAE 32000	FUEL CELL TECHNOLOGY	
GAE 42002	ENERGY MANAGEMENT SYSTEMS	
GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	
MERT 34002	ADVANCED SOLID MODELING	
MERT 42000	THERMODYNAMICS FOR ENGINEERING TECHNOLOGY	
Applied Electives, choose from the following: [1]		27
EERT 22014	MICROPROCESSORS AND ROBOTICS	
Any Mechanical Engineering and Related Technologies (MERT) Course		
Other courses as approved by program director		
Additional Requirements (courses do not count in major GPA)		
Physics Elective, choose from the following:		3-5
PHY 12202	TECHNICAL PHYSICS II (KBS) (KLAB)	
PHY 13002 & PHY 13022	GENERAL COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
PHY 13012 & PHY 13022	COLLEGE PHYSICS II (KBS) and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	
Minimum Total Credit Hours:		**45**

[1] Students who have earned an associate degree in the Mechanical Engineering Technology program will have 27 credits of technical coursework articulate to the bachelor's degree program and will not have to take the electives for a minor or individualized specialization.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

- Students may declare more than one concentration in the Engineering Technology major, provided that there are minimum 18 credit hours of upper-division coursework in the subsequent concentration. These credit hours must be in one of the Engineering Technology disciplines of EERT, ENGR, MERT, GAE. Students must also complete all of the other concentration requirements specific to each concentration, in addition to differentiating their major elective courses across the two concentrations. Students who declare the Integrated Engineering Technology concentration may not elect any other concentration. Likewise, students who select any of the other Engineering Technology concentrations may not elect the Integrated Engineering Technology concentration.
- Students electing a dual concentration must meet with an advisor to plan an individualized plan of study that meets these requirements before the dual concentration option will be approved for that student. Any changes made to the program of study also must be approved by an advisor, or the student may not be allowed to graduate with this option.

Roadmap

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.

Electrical/Electronics Engineering Technology 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
UC 10001	FLASHES 101	1
Applied Electives		7
Kent Core Requirement		3
	Credit Hours	**14**
Semester Two		
ENG 20002 or OTEC 26638	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS	3
MATH 11022	TRIGONOMETRY (KMCR)	3
Applied Electives		7
Kent Core Requirement		3
	Credit Hours	**16**
Semester Three		
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
Physics Elective		3-5
Applied Electives		7
Kent Core Requirement		3
	Credit Hours	**16**
Semester Four		
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
Physics Elective		3-5
Applied Electives		6
General Elective		3
	Credit Hours	**14**
Semester Five		
CS 10051 or EERT 32003 or IT 20001 or IT 20011	COMPUTER SCIENCE PRINCIPLES (KMCR) or TECHNICAL COMPUTING or C++ PROGRAMMING or JAVA PROGRAMMING	3-4
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS	3
ENGR 33700	QUALITY TECHNIQUES	3
ENGT 30000 or ENGT 43700	ADVANCED MANUFACTURING or COMPUTER-INTEGRATED MANUFACTURING	3
	Credit Hours	**15**
Semester Six		
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING	3
Concentration Elective		3
Kent Core Requirement		3
General Elective		6
	Credit Hours	**15**
Semester Seven		
ENGT 33000 or ENGR 33031	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS or PROGRAMMABLE LOGIC CONTROLLERS	3
ENGT 43363	MATERIALS SCIENCE AND TECHNOLOGY	3
Concentration Elective		3
Kent Core Requirement		3
General Elective		3
	Credit Hours	**15**
Semester Eight		
ENGR 31000 or ENGR 33092	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
ENGT 43099	ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
Concentration Elective		3
Kent Core Requirement		3
	Credit Hours	**15**
	Minimum Total Credit Hours:	**120**

Green and Alternative Energy 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
	UC 10001	FLASHES 101	1
	Applied Electives		7
	Kent Core Requirement		3
		Credit Hours	**14**
	Semester Two		
	MATH 11022	TRIGONOMETRY (KMCR)	3
	Applied Electives		6
	Kent Core Requirement		6
		Credit Hours	**15**
	Semester Three		
	MATH 11012	INTUITIVE CALCULUS (KMCR)	3
	Physics Elective		3-5
	Applied Electives		6
	General Elective		3
		Credit Hours	**15**
	Semester Four		
	ENG 20002 or OTEC 26638	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS	3
	Physics Elective		3-5
	Applied Electives		8
		Credit Hours	**15**
	Semester Five		
	CS 10051 or EERT 32003 or IT 20001 or IT 20011	COMPUTER SCIENCE PRINCIPLES (KMCR) or TECHNICAL COMPUTING or C++ PROGRAMMING or JAVA PROGRAMMING	3-4
	ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
	ENGR 33700	QUALITY TECHNIQUES	3
!	GAE 32000	FUEL CELL TECHNOLOGY	3
	OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
	Concentration Elective		3
		Credit Hours	**16**
	Semester Six		
	ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS	3
	ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING	3
	Kent Core Requirement		3
	General Elective		6
		Credit Hours	**15**
	Semester Seven		
!	GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	3
	ENGT 43363	MATERIALS SCIENCE AND TECHNOLOGY	3
	Concentration Elective		3
	Kent Core Requirement		3
	General Elective		3
		Credit Hours	**15**
	Semester Eight		
	ENGR 31000 or ENGR 33092	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
	ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
	ENGT 43099	ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
	Concentration Elective		3
	Kent Core Requirement		3
		Credit Hours	**15**
		Minimum Total Credit Hours:	**120**

Integrated Engineering Technology 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
UC 10001	FLASHES 101		1
Applied Electives			6
Kent Core Requirement			3
General Elective			3
		Credit Hours	**16**
Semester Two			
MATH 11022	TRIGONOMETRY (KMCR)		3
Applied Electives			9
Kent Core Requirement			3
		Credit Hours	**15**
Semester Three			
MATH 11012	INTUITIVE CALCULUS (KMCR)		3
Applied Electives			6
Physics Elective			3-5
Kent Core Requirement			3
		Credit Hours	**15**
Semester Four			
ENG 20002 or OTEC 26638	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS		3
Applied Electives			6
Kent Core Requirement			3
General Elective			3
		Credit Hours	**15**
Semester Five			
CS 10051 or EERT 32003 or IT 20001 or IT 20011	COMPUTER SCIENCE PRINCIPLES (KMCR) or TECHNICAL COMPUTING or C++ PROGRAMMING or JAVA PROGRAMMING		3-4
ENGR 33700	QUALITY TECHNIQUES		3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS		1
Concentration Elective			3
Kent Core Requirement			3
		Credit Hours	**13**
Semester Six			
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)		3
ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS		3

ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING	3
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	3
Kent Core Requirement		3
	Credit Hours	**15**
Semester Seven		
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
ENGT 42003	LEAN AND SIX SIGMA FOR COMPETITIVE MANUFACTURING	3
ENGT 43363	MATERIALS SCIENCE AND TECHNOLOGY	3
General Elective		4
Kent Core Requirement		3
	Credit Hours	**16**
Semester Eight		
ENGR 31000 or ENGR 33092	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
ENGT 43099	ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
Concentration Electives		6
General Elective		3
	Credit Hours	**15**
	Minimum Total Credit Hours:	**120**

Mechanical/Systems 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
UC 10001	FLASHES 101	1
Applied Electives		6
Kent Core Requirement		3
General Elective		3
	Credit Hours	**16**
Semester Two		
MATH 11022	TRIGONOMETRY (KMCR)	3
Applied Electives		9
Kent Core Requirement		3
	Credit Hours	**15**
Semester Three		
ENG 20002 or OTEC 26638	INTRODUCTION TO TECHNICAL WRITING or BUSINESS COMMUNICATIONS	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
Physics Elective		3-5
Applied Electives		6
	Credit Hours	**15**
Semester Four		
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
Physics Elective		3-5
Applied Electives		6
Kent Core Requirement		3
General Elective		3
	Credit Hours	**17**
Semester Five		
CS 10051 or EERT 32003 or IT 20001 or IT 20011	COMPUTER SCIENCE PRINCIPLES (KMCR) or TECHNICAL COMPUTING or C++ PROGRAMMING or JAVA PROGRAMMING	3-4
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENGT 30000 or ENGT 43700	ADVANCED MANUFACTURING or COMPUTER-INTEGRATED MANUFACTURING	3
Concentration Elective		3
	Credit Hours	**12**
Semester Six		
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING	3
MERT 32004 or MERT 42000	MACHINE DESIGN or THERMODYNAMICS FOR ENGINEERING TECHNOLOGY	3
Concentration Electives		6
Kent Core Requirement		3
	Credit Hours	**15**
Semester Seven		
ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS	3
ENGR 33700	QUALITY TECHNIQUES	3
ENGT 43363	MATERIALS SCIENCE AND TECHNOLOGY	3
Kent Core Requirement		3
General Elective		3
	Credit Hours	**15**
Semester Eight		
ENGR 31000 or ENGR 33092	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
ENGT 43099	ENGINEERING TECHNOLOGY CAPSTONE (ELR)	3
Kent Core Requirement		3
General Elective		3
	Credit Hours	**15**
	Minimum Total Credit Hours:	**120**

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.

Flashes 101 (UC 10001)	1 credit hour
Course is not required for students with 30+ 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 credit hours
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 credit hours
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate.	
Total Credit Hour Requirement	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
Total Credit Hours:	**36-37**

Program Learning Outcomes

Graduates of this program will be able to:

1. Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering and technology to solve broadly-

defined engineering problems appropriate to the disciplines in engineering technology.
2. Design systems, components or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.
3. Apply written, oral and graphical communication in broadly-defined technical and non-technical environments; identify and use appropriate technical literature.
4. Conduct standard tests, measurements and experiments; analyze and interpret the results to improve processes.
5. Function effectively as a member as well as a leader on technical teams.
6. Understand professional engineering and ethical responsibilities.

Full Description

The Bachelor of Science degree in Engineering Technology focuses primarily on the applied aspects of science and engineering and prepares graduates for practice in that portion of the technological spectrum closest to product improvement, manufacturing, construction and engineering operational functions.

The Engineering Technology major comprises the following concentrations:

- The **Electrical/Electronics** concentration allows seamless articulation with technical associate degrees for students who wish to advance their careers in the electrical/electronic engineering field. Electrical engineers and technologists design, develop, test and supervise the manufacturing of electrical equipment, such as electric motors, radar and navigation systems, communications systems, and power generation equipment. Electronics engineers design and develop electronic equipment, such as broadcast and communications systems-from portable music players to global positioning systems (GPS).
- The **Green and Alternative Energy** concentration refers to energy sources that have no undesired consequences, for example, fossil fuels or nuclear energy. Alternative energy sources are renewable and are thought to be "free" energy sources. They all have lower carbon emissions, compared to conventional energy sources. These include biomass energy, wind energy, solar energy, geothermal energy, and hydroelectric energy sources. Combined with the use of recycling, the use of clean alternative energies such as the home use of solar power systems will help ensure man's survival into the 21st century and beyond. By 2050, one-third of the world's energy will need to come from solar, wind, and other renewable resources, according to British Petroleum and Royal Dutch Shell, two of the world's largest oil companies.
- The **Integrated Engineering Technology** concentration permits graduates from a variety of associate degree backgrounds to formulate a program of advanced study in upper-division technical courses, chosen with a faculty advisor, to gain additional technical depth or breadth.
- The **Mechanical/Systems** concentration allows seamless articulation with technical associate degrees for students who wish to advance their careers in the mechanical or manufacturing field. Mechanical engineering technology is one of the broadest engineering disciplines. Mechanical engineers and technologists design, develop, build and test mechanical and thermal devices, including tools, engines and machines. Graduates of this program can expect to work mostly in engineering services, research and development, manufacturing industries and the federal government.