

ENGINEERING TECHNOLOGY - B.S.

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

Contact Information

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- Speak with an Advisor
- Chat with an Admissions Counselor

Fully Offered

- Tuscarawas Campus

Examples of Possible Careers*

Mechanical engineers

- 3.9% about as fast as the average
- 316,300 number of jobs
- \$90,160 potential earnings

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

Electrical engineers

- 4.6% about as fast as the average
- 193,100 number of jobs
- \$100,830 potential earnings

Electrical and electronic engineering technologists and technicians

- 1.5% slower than the average
- 125,800 number of jobs
- \$67,550 potential earnings

Industrial engineers

- 10.1% much faster than the average
- 295,800 number of jobs
- \$88,950 potential earnings

*Note

Source of occupation titles and labor data is 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.

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.

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.

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 first-year students.

Freshman Students on the Regional Campuses: Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, 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, minimum 48 PTE score or minimum 100 DET 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. Apply knowledge of mathematics, science and engineering to a various areas of the engineering technology fields.
2. Use modern engineering tools and techniques to design and test systems, components, or processes in response to user requirements particularly in the engineering technology field.
3. Identify, analyze, and solve broadly-defined engineering technology problems.
4. Function effectively as a member or leader on a multi-functional technical team.
5. Apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.
6. Understand professional engineering and ethical responsibilities.
7. Understand contemporary issues and the impact of engineering technology solutions in a global/social context and a respect for diversity.
8. Commit to quality, timeliness and continuous improvement.
9. Understand the need for and an ability to engage in self-directed continuing professional development and lifelong learning.

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
Total Credit Hours:	36-37

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
CS 10051	INTRODUCTION TO COMPUTER SCIENCE (KMCR)	3-4
or EERT 32003	TECHNICAL COMPUTING	
or IT 20001	C++ PROGRAMMING	
or IT 20011	JAVA PROGRAMMING	
EERT 21010	ENGINEERING AND PROFESSIONAL ETHICS	3
or ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS	
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 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
ENGR 33700	QUALITY TECHNIQUES	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3

TAS 47999	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR)	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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	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		9
Kent Core Social Sciences		3
General Elective (total credit hours depends on earning 120 credit hours including 39 upper-division credit hours)		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.

Electrical/Electronics Concentration Requirements

Code	Title	Credit Hours
Concentration Requirements (courses count in major GPA)		
ENGT 30000	ADVANCED MANUFACTURING	3
or ENGR 43700	COMPUTER-INTEGRATED MANUFACTURING	
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS ¹	3
Concentration Electives, choose from the following:		9
EERT 32005	INSTRUMENTATION	
ENGR 31032	POWER TECHNOLOGY	
ENGR 33016	PC/NETWORK ENGINEERING AND TROUBLESHOOTING	
ENGR 33223	ELECTRONIC COMMUNICATION	
ENGR 33225	INDUSTRIAL CONTROL SYSTEMS	
ENGR 43220	ELECTRICAL MACHINERY	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGT 42003	LEAN MANUFACTURING, SIX SIGMA AND OPERATIONS TECHNOLOGY	
GAE 32000	FUEL CELL TECHNOLOGY	
GAE 42002	ENERGY MANAGEMENT SYSTEMS	
GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	
Applied Electives, choose from the following: ²		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

- Students may substitute ENGT 33000 with ENGR 33031.
- Applied courses should be chosen from an approved associate degree or a declared minor or individualized specialization selected in consultation with an advisor. Students who have earned an associate degree 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	
ENGR 31032	POWER TECHNOLOGY	
ENGR 42100	TRAINING TOPICS IN TECHNOLOGY	
or GAE 42002	ENERGY MANAGEMENT SYSTEMS	
ENGT 30000	ADVANCED MANUFACTURING	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGT 42003	LEAN MANUFACTURING, SIX SIGMA AND OPERATIONS TECHNOLOGY	
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 Applied courses should be chosen from an approved associate degree or a declared minor or individualized specialization selected in consultation with an advisor. Students who have earned an associate degree 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 MANUFACTURING, SIX SIGMA AND OPERATIONS TECHNOLOGY	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
ACTT 11000	ACCOUNTING I: FINANCIAL	
BMRT 11000	INTRODUCTION TO BUSINESS	
BMRT 11009	INTRODUCTION TO MANAGEMENT TECHNOLOGY	
BMRT 21011	FUNDAMENTALS OF FINANCIAL MANAGEMENT	
BMRT 21050	FUNDAMENTALS OF MARKETING TECHNOLOGY	
IT 20011	JAVA PROGRAMMING	
IT 21010	WORKGROUP PRODUCTIVITY SOFTWARE	
IT 21092	COMPUTER PRACTICUM (ELR)	
IT 21095	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	
OTEC 26638	BUSINESS COMMUNICATIONS	
Animation Game Design (AGD) Electives		
Electrical/Electronic Engineering Technology (EERT) 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 Applied electives should be chosen from an approved associate degree or a declared minor or individualized specialization selected in consultation with an advisor. Students who have earned an associate degree 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)		
ENGR 33870 or MERT 32004	FACILITY DESIGN AND MATERIAL HANDLING MACHINE DESIGN	3
ENGR 43700 or ENGT 30000	COMPUTER-INTEGRATED MANUFACTURING ADVANCED MANUFACTURING	3
Mechanical/Systems Concentration Electives, choose from the following:		9
EERT 32005	INSTRUMENTATION	
ENGR 31032	POWER TECHNOLOGY	
ENGR 32101	POLYMERS I	
ENGR 33016	PC/NETWORK ENGINEERING AND TROUBLESHOOTING	
ENGR 33225	INDUSTRIAL CONTROL SYSTEMS	
ENGR 43220	ELECTRICAL MACHINERY	
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS ¹	
ENGT 33095	SPECIAL TOPICS IN ENGINEERING TECHNOLOGY	
ENGT 42003	LEAN MANUFACTURING, SIX SIGMA AND OPERATIONS TECHNOLOGY	
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: ²		27
EERT 22014	MICROPROCESSORS AND ROBOTICS	
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 may substitute ENGT 33000 with ENGR 33031.

² Applied courses should be chosen from an approved associate degree or a declared minor or individualized specialization selected in consultation with an advisor. Students who have earned an associate degree 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.

Roadmaps

- Electrical/Electronics Concentration
 - Green and Alternative Energy Concentration
 - Integrated Engineering Technology Concentration
 - Mechanical/Systems Concentration
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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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Applied Electives		7
Kent Core Requirement		3
Credit Hours		14
Semester Two		
ENG 20002	INTRODUCTION TO TECHNICAL WRITING or or BUSINESS COMMUNICATIONS OTEC 26638	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		
EERT 21010	ENGINEERING AND PROFESSIONAL ETHICS or or ENGINEERING AND PROFESSIONAL ENGR 31010 ETHICS	3
Physics Elective		3-5
Applied Electives		6
General Elective		3
Credit Hours		16
Semester Five		
CS 10051	INTRODUCTION TO COMPUTER SCIENCE (KMCR) or or TECHNICAL COMPUTING EERT 32003 or C++ PROGRAMMING or IT 20001 or JAVA PROGRAMMING or IT 20011	3-4
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENGR 33700	QUALITY TECHNIQUES	3
ENGR 43700	COMPUTER-INTEGRATED MANUFACTURING or or ADVANCED MANUFACTURING ENGT 30000	3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
Credit Hours		13
Semester Six		
ENGR 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
Concentration Elective		3
Kent Core Requirement		3
General Elective		3
Credit Hours		15

Semester Seven		
ENGT 33000	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
Concentration Elective		3
Kent Core Requirement		3
General Elective		6
Credit Hours		15
Semester Eight		
ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD) or or COOPERATIVE EDUCATION - ENGR 33092 PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
TAS 47999	TECHNICAL AND APPLIED STUDIES 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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	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		
EERT 21010 or ENGR 31010	ENGINEERING AND PROFESSIONAL ETHICS or ENGINEERING AND PROFESSIONAL ETHICS	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
Physics Elective		3-5
Applied Electives		6
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	INTRODUCTION TO COMPUTER SCIENCE (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 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
Kent Core Requirement		3
General Elective		6
Credit Hours		15
Semester Seven		
! GAE 42004	ADVANCED FUEL CELL TECHNOLOGY	3
Concentration Elective		3
Kent Core Requirement		3
General Elective		6
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
TAS 47999	TECHNICAL AND APPLIED STUDIES 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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	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	INTRODUCTION TO COMPUTER SCIENCE (KMCR) or TECHNICAL COMPUTING or C++ PROGRAMMING or JAVA PROGRAMMING	3-4
ENGR 33700	QUALITY TECHNIQUES	3
ENGT 42003	LEAN MANUFACTURING, SIX SIGMA AND OPERATIONS TECHNOLOGY	3
Concentration Elective		3
Kent Core Requirement		3
Credit Hours		15

Semester Six

EERT 21010	ENGINEERING AND PROFESSIONAL ETHICS	3
or	or ENGINEERING AND PROFESSIONAL	
ENGR 31010	ETHICS	
ENGR 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
ENGT 32006	ECONOMIC DECISION ANALYSIS FOR ENGINEERING TECHNOLOGY	3
Kent Core Requirement		3
Credit Hours		16

Semester Seven

ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
General Elective		4
Kent Core Requirement		3
Credit Hours		13

Semester Eight

ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD)	3
or	(WIC)	
ENGR 33092	or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	
TAS 47999	TECHNICAL AND APPLIED STUDIES 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 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	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	INTRODUCTION TO TECHNICAL WRITING or or BUSINESS COMMUNICATIONS OTEC 26638	3
MATH 11012	INTUITIVE CALCULUS (KMCR)	3
Physics Elective		3-5
Applied Electives		6
Credit Hours		15
Semester Four		
Physics Elective		3-5
Applied Electives		6
Kent Core Requirement		3
General Elective		3
Credit Hours		16
Semester Five		
CS 10051	INTRODUCTION TO COMPUTER SCIENCE (KMCR) or or TECHNICAL COMPUTING EERT 32003 or C++ PROGRAMMING or IT 20001 or JAVA PROGRAMMING or IT 20011	3-4
ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3
ENGR 43700	COMPUTER-INTEGRATED MANUFACTURING or or ADVANCED MANUFACTURING ENGT 30000	3
OTEC 26636	PROJECT MANAGEMENT FOR ADMINISTRATIVE PROFESSIONALS	1
Concentration Elective		3
Credit Hours		13
Semester Six		
ENGR 33363	MATERIALS SCIENCE AND TECHNOLOGY	3
ENGR 36620	PROJECT MANAGEMENT IN ENGINEERING AND TECHNOLOGY	3
Concentration Electives		6
Kent Core Requirement		3
Credit Hours		15
Semester Seven		
EERT 21010	ENGINEERING AND PROFESSIONAL ETHICS or or ENGINEERING AND PROFESSIONAL ENGR 31010 ETHICS	3
ENGR 33700	QUALITY TECHNIQUES	3

ENGR 33870	FACILITY DESIGN AND MATERIAL HANDLING or or MACHINE DESIGN MERT 32004	3
Kent Core Requirement		3
General Elective		3
Credit Hours		15
Semester Eight		
ENGR 31000	CULTURAL DYNAMICS TECHNOLOGY (DIVD) (WIC) or ENGR 33092 or COOPERATIVE EDUCATION - PROFESSIONAL DEVELOPMENT (ELR) (WIC)	3
ENGR 43080	INDUSTRIAL AND ENVIRONMENTAL SAFETY	3
! TAS 47999	TECHNICAL AND APPLIED STUDIES CAPSTONE (ELR)	3
Kent Core Requirement		3
General Elective		3
Credit Hours		15
Minimum Total Credit Hours:		120