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

Critical	Course Subject and Title	Credit Hours	Upper Div.	Min. Grade	Major GPA	Type	Term Taken
Semester One [17 Credits]							
Note: Students who have earned an associate degree will have 34 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.							
	CS 10061 Introduction to Computer Programming *or* DSCI 15310 Computational Thinking and Programming *or* EERT 22003 Technical Computing	3			■		
	MATH 11010 Algebra for Calculus	3				KMC	
	US 10097 Destination Kent State: First Year Experience [1]	1					
	Kent Core Requirement	3					
	Applied Courses from Associate Degree, Minor or Individualized Specialization [2]	7					
Semester Two [18 Credits]							
	MATH 11012 Intuitive Calculus	3				KMC	
	MATH 11022 Trigonometry	3				KMC	
	Kent Core Requirement	3					
	Applied Courses from Associate Degree, Minor or Individualized Specialization [2]	9					
Semester Three [15 or 17 Credits]							
	EERT 21010 Engineering and Professional Ethics *or* TECH 31010 Engineering and Professional Ethics	3			■		
	PHY 12201 Technical Physics I (3) [3] *or* PHY 13001 General College Physics I (4) [3] *and* PHY 13021 General College Physics Laboratory I (1) [3]	3 or 5					
	Kent Core Requirement	3					
	Applied Courses from Associate Degree, Minor or Individualized Specialization [2]	6					
Semester Four [18 or 19 Credits]							
	ENG 20002 Introduction to Technical Writing *or* ITAP 26638 Business Communications	3			■		
	PHY 12202 Technical Physics II (4) [3] *or* PHY 13012 College Physics II (2) [3] *and* PHY 13022 General College Physics Laboratory II (1) [3]	3 or 4					
	Applied Courses from Associate Degree, Minor or Individualized Specialization [2]	12					
Semester Five [13 Credits]							
!	**GAE 32000 Fuel Cell Technology**	**3**	■		■		
	ECON 22060 Principles of Microeconomics	3				KSS	
	ITAP 26636 Project Management for Administrative Professionals	1					
	Green and Alternative Energy Elective [4]	3	■		■		
	Kent Core Requirement	3					
Semester Six [15 Credits]							
!	**TECH 36620 Project Management in Engineering and Technology**	**3**	■		■		
!	**TECH 33363 Metallurgy and Materials Science**	**3**	■		■		
	Green and Alternative Energy Elective [4]	3	■		■		
	Kent Core Requirement	3					
	General Elective [5]	3	■				
Semester Seven [11-12 Credits]							
!	**GAE 42004 Advanced Fuel Cell Technology**	**3**	■		■		
	Green and Alternative Energy Elective [4]	3	■		■		
	Kent Core Requirement	3					
	General Elective [5]	2-3	■				
Semester Eight [11 Credits]							
!	**TAS 47900 Technical and Applied Studies Capstone**	**3**	■	C	■	ELR	
!	**TECH 31000 Cultural Dynamics of Technology** [6] **or TECH 33092 Cooperative Education - Professional Development** [6]	**2-3**	■	C	■	DD/WIC ELR/WIC	
!	**TECH 43080 Industrial and Environmental Safety**	**3**	■		■		
	Green and Alternative Energy Elective [4]	3	■		■		

Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours	Minimum Kent Core Hours	Minimum Major GPA	Minimum Overall GPA
120	39	36	2.000	2.000

1. US 10097 is not required of transfer students with 25 credits or students age 21+ at time of admission.
2. Applied Courses from Associate Degree, Minor or Individualized Specialization (34 credit hours)

Choose from the following:	
Any GAE course	Any EERT course
IERT 12005 Applications in Computer-Aided Design (2)	IERT 22006 Economic Decision Analysis (3)
Any MERT course	Others by program director approval

3. If PHY 12201 is taken in semester three, PHY 12202 must be taken in semester four. If PHY 13001 and PHY 13021 are taken in semester three, PHY 13012 and PHY 13022 must be taken in semester three.

4. Green and Alternative Energy Elective (12 credit hours)

Choose from the following:	
EERT 32005 Instrumentation (3)	TECH 31020 Automated Manufacturing (3)
GAE 42002 Energy Management Systems (3) or TECH 42100 Training Topics in Technology (1 - 4)	MERT 42000 Thermodynamics for Engineering Technology (3)
	TECH 31032 Power Technology (3)
GAE 42003 Lean Manufacturing, Six Sigma and Operations Technology (3)	

5. Credits required depend on meeting minimum 120 credit hours and minimum 39 upper-division credit hours.

6. To fulfill the writing-intensive requirement, either TECH 31000 or TECH 33056 must be earned with minimum C (2.000) grade.

University Requirements Summary

Type	Categories	Course(s) Satisfying Category	Remaining Requirements
KCM	**Kent Core I. Composition** Enrollment based on placement test	visit www.kent.edu/catalog/kent-core	6
KMC	**Kent Core II. Mathematics and Critical Reasoning** Enrollment based on placement test	MATH 11010	fulfilled
KHU	**Kent Core III. Humanities** Minimum one course from humanities in Arts and Sciences; may fulfill diversity requirement	visit www.kent.edu/catalog/kent-core	3
KFA	**Kent Core IV. Fine Arts** Minimum one course from the fine arts; may fulfill diversity requirement	visit www.kent.edu/catalog/kent-core	3
KFH	**Kent Core V. Humanities or Fine Arts** One additional course from either the humanities or fine arts category, may fulfill diversity requirement.	visit www.kent.edu/catalog/kent-core	3
KSS	**Kent Core VI. Social Sciences** Must be selected from two curricular areas; may fulfill diversity requirement	ECON 22060	3
KBS	**Kent Core VII. Basic Sciences** Must include one laboratory	Fulfilled with Physics Sequences	fulfilled
KAD	**Kent Core VIII. Additional** May fulfill diversity requirement	MATH 11012, MATH 11022	fulfilled
DD	**Domestic Diversity Course Requirement** Either domestic or global diversity must be from Kent Core	TECH 31000	fulfilled
DG	**Global Diversity Course Requirement** Either domestic or global diversity must be from Kent Core	visit www.kent.edu/catalog/diversity	one course
ELR	**Experiential Learning Requirement** Either course or non-course experience approved by the appropriate faculty member	TAS 47900, TECH 33092	fulfilled
WIC	**Writing-Intensive Course Requirement** Minimum C (2.000) grade	TECH 31000, TECH 33092	fulfilled