

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	Min. Grade	Major GPA	Attribute	Notes
Semester One [15 Credits]						
!	MATH 12002 Analytic Geometry and Calculus I	5		■	KMC	
!	PHY 12000 Introductory Physics Seminar	1		■	ELR	
!	PHY 23101 General University Physics I ¹	5		■	KBS	
	US 10097 Destination Kent State: First Year Experience ²	1				
	Kent Core Requirement	3				
Semester Two [16 Credits]						
!	MATH 12003 Analytic Geometry and Calculus II	5		■		
!	PHY 23102 General University Physics II ¹	5		■	KBS	
	Kent Core Requirement	3				
	Kent Core Requirement	3				
Semester Three [16 Credits]						
!	CHEM 10060 General Chemistry I	4		■	KBS	
!	CHEM 10062 General Chemistry I Laboratory	1		■	KBS	
!	MATH 32051 Mathematical Methods in the Physical Sciences I	4		■		
	Foreign Language ³	4 - 5				
	Kent Core Requirement	3				
Semester Four [16 Credits]						
!	CHEM 10061 General Chemistry II	4		■	KBS	
!	CHEM 10063 General Chemistry II Laboratory	1		■	KBS	
!	MATH 32052 Mathematical Methods in the Physical Sciences II	4		■		
!	PHY 36001 Introductory Modern Physics	3		■		
	Foreign Language ³	4 - 5				
Semester Five [15 Credits]						
!	CS 13001 Computer Science I-Programming and Problem Solving or CS 13011 Computer Science IA-Procedural Programming (2) ⁴ and CS 13012 Computer Science IB-Object Oriented Programming (2)	4		■		
!	PHY 35101 Classical Mechanics	4		■		
!	PHY 36002 Applications of Modern Physics	3		■		
!	PHY 45201 Electromagnetic Theory	4		■		
Semester Six [15 Credits]						
!	PHY 30020 Intermediate Physics Laboratory	2	C ⁵	■	WIC	
!	PHY 45301 Thermal Physics	3		■		
!	PHY 45403 Data Analysis and Computational Physics Techniques	3		■		
!	PHY 46101 Quantum Mechanics	4		■		
	Physics elective ⁶	3		■		
Semester Seven [14 Credits]						
!	PHY 40092 Internship in Physics ⁷	2		■	ELR	
	Physics elective ⁶	3		■		
	Kent Core Requirement	3				
	Kent Core Requirement	3				
	General Electives ⁸	3				
Semester Eight [13 Credits]						
!	PHY 40020 Advanced Physics Laboratory	2	C ⁵	■	WIC	
	Physics elective ⁶	3		■		
	Kent Core Requirement	3				
	General Electives ⁸	5				

Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours 30000 – 40000 level course	Minimum Kent Core Hours	Minimum	
			Major GPA	Overall GPA
120	42	36	2.000	2.000

1. Credit is not granted for both the PHY 13001/PHY 13002 and the PHY 23101/PHY 23102 series, nor for the PHY 13011/PHY 13012 series.
 2. US 10097 is not required of transfer students with 25 credits (excluding College Credit Plus and dual-enrollment credit) or students age 21+ at time of

admission.

3. Fulfills College General Requirement.
4. A minimum grade of C (2.000) must be earned in CS 13011 in order to take CS 13012
5. A minimum C grade must be earned in either PHY 30020 or PHY 40020 in order to fulfill the writing-intensive requirement.
6. Minimum 4 upper division credit hours
7. With advisor's permission. PHY 40092 may be replaced with PHY 40096 Individual Investigation or PHY 40099 Senior Honors Thesis. If PHY 40096 is taken, a suitable research project should be selected.
8. Credit required depends on meeting minimum 120 credit hours and minimum 42 upper-division credit hours.

Notes:

The following courses may not count towards the major:

- PHY 11030 Seven Ideas that Shook the Universe (3)
- PHY 21040 Physics in The Entertainment and the Arts (3)
- PHY 21041 Physics in The Entertainment and the Arts Laboratory (1)
- PHY 21430 Frontiers in Astronomy (3)
- PHY 21431 Frontiers in Astronomy Laboratory (1)

University Requirements: Bachelor's degree-seeking students must meet Kent Core (general education requirements), diversity, writing-intensive and experiential learning requirements. For more information about these requirements, please read the following sections in the University Catalog: Kent Core – www.kent.edu/catalog/kent-core; Diversity Course Requirement – www.kent.edu/catalog/diversity; Writing-Intensive Course Requirement – www.kent.edu/catalog/wic; Experiential Learning Requirement – www.kent.edu/catalog/elr.

Attribute Legend: **DD** Diversity–Domestic; **DG** Diversity–Global; **ELR** Experiential Learning; **KAD** Kent Core Additional; **KBS** Kent Core Basic Sciences; **KCM** Kent Core Composition; **KFA** Kent Core Fine Arts; **KHU** Kent Core Humanities; **KMC** Kent Core Mathematics and Critical Reasoning; **KSS** Kent Core Social Sciences; **WIC** Writing Intensive