

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
<b>Semester One [15 Credits]</b>							
!	MATH 12002 Analytic Geometry and Calculus I	5			■	KMC	
	PHY 12000 Introductory Physics Seminar	1			■		
!	PHY 23101 General University Physics I <sup>1</sup>	5			■	KBS	
	US 10097 Destination Kent State: First Year Experience <sup>2</sup>	1					
	Kent Core Requirement	3					
<b>Semester Two [16 Credits]</b>							
!	MATH 12003 Analytic Geometry and Calculus II	5			■		
!	PHY 23102 General University Physics II <sup>1</sup>	5			■	KBS	
	Kent Core Requirement	3					
	Kent Core Requirement	3					
<b>Semester Three [16 Credits]</b>							
!	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 <sup>3</sup>	4 - 5					
	Kent Core Requirement	3					
<b>Semester Four [16 Credits]</b>							
!	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 <sup>3</sup>	4 - 5					
<b>Semester Five [15 Credits]</b>							
!	CS 13001 Computer Science I-Programming and Problem Solving	4			■		
!	PHY 35101 Classical Mechanics	4	■		■		
!	PHY 36002 Applications of Modern Physics	3	■		■		
!	PHY 45201 Electromagnetic Theory	4	■		■		
<b>Semester Six [15 Credits]</b>							
!	PHY 30020 Intermediate Physics Laboratory <sup>4</sup>	2	■	C	■	WIC	
!	PHY 45301 Thermal Physics	3	■		■		
!	PHY 45403 Data Analysis and Computational Physics Techniques	3	■		■		
!	PHY 46101 Quantum Mechanics	4	■		■		
	Physics elective <sup>5</sup>	3			■		
<b>Semester Seven [14 Credits]</b>							
!	PHY 40092 Internship in Physics <sup>6</sup>	2	■		■	ELR	
	Physics elective <sup>5</sup>	3	■		■		
	Kent Core Requirement	3					
	Kent Core Requirement	3					
	General Electives <sup>7</sup>	3					
<b>Semester Eight [13 Credits]</b>							
!	PHY 40020 Advanced Physics Laboratory <sup>4</sup>	2	■	C	■	WIC	
	Physics elective <sup>5</sup>	3			■		
	Kent Core Requirement	3					
	General Electives <sup>7</sup>	5					

### Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours	Minimum Kent Core Hours	Minimum	
			Major GPA	Overall GPA
120	42	36	2.000	2.000

- 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.
- US 10097 is not required of transfer students with 25 credits or students age 21+ at time of admission.
- Fulfills College General Requirement.
- A minimum C grade must be earned in either PHY 30020 or PHY 40020 in order to fulfill the writing-intensive requirement.
- Minimum 4 upper division credit hours
- 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.
- Credit required depends on meeting minimum 120 credit hours and minimum 42 upper-division credit hours.

**Additional Notes for the Physics major:**

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 Summary**

Type	Categories	Course(s) Satisfying Category	Remaining Requirements
KCM	<b>Kent Core I. Composition</b> Enrollment based on placement test	visit <a href="http://www.kent.edu/catalog/kent-core">www.kent.edu/catalog/kent-core</a>	6
KMC	<b>Kent Core II. Mathematics and Critical Reasoning</b> Enrollment based on placement test	MATH 12002	fulfilled
KHU	<b>Kent Core III. Humanities</b> Minimum one course from humanities in Arts and Sciences; may fulfill diversity requirement	PHIL 21001 is recommended	3
KFA	<b>Kent Core IV. Fine Arts</b> Minimum one course from the fine arts; may fulfill diversity requirement	visit <a href="http://www.kent.edu/catalog/kent-core">www.kent.edu/catalog/kent-core</a>	3
KFH	<b>Kent Core V. Humanities or Fine Arts</b> One additional course from either the humanities or fine arts category, may fulfill diversity requirement.	visit <a href="http://www.kent.edu/catalog/kent-core">www.kent.edu/catalog/kent-core</a>	3
KSS	<b>Kent Core VI. Social Sciences</b> Must be selected from two curricular areas; may fulfill diversity requirement	visit <a href="http://www.kent.edu/catalog/kent-core">www.kent.edu/catalog/kent-core</a>	6
KBS	<b>Kent Core VII. Basic Sciences</b> Must include one laboratory	CHEM 10060, CHEM 10062, PHY 23101	fulfilled
KAD	<b>Kent Core VIII. Additional</b> May fulfill diversity requirement	CHEM 10061, CHEM 10063, PHY 23102	fulfilled
DD	<b>Domestic Diversity Course Requirement</b> Either domestic or global diversity must be from Kent Core	visit <a href="http://www.kent.edu/catalog/diversity">www.kent.edu/catalog/diversity</a>	one course
DG	<b>Global Diversity Course Requirement</b> Either domestic or global diversity must be from Kent Core	PHIL 21001 is recommended	one course
ELR	<b>Experiential Learning Requirement</b> Either course or non-course experience approved by the appropriate faculty member	PHY 40092	fulfilled
WIC	<b>Writing-Intensive Course Requirement</b> Minimum C (2.000) grade	PHY 30020, PHY 40020	fulfilled