

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

Course Subject and Title	Credit Hours	Upper Division	Min. Grade	Important Notes
Semester One: [17 Credit Hours]				
CS 10051 Introduction to Computer Science	4			Fulfills Kent Core Additional
MATH 12002 Analytic Geometry and Calculus I	5			Fulfills Kent Core Mathematics and Critical Reasoning; prerequisites: MATH 11010 and 11022 may be bypassed with sufficient background
PHY 12000 Introductory Physics Seminar	1			
US 10097 Destination Kent State: FYE	1			Not required for transfer students with 25 credits
Kent Core Requirement	6			See Kent Core Summary on page 2
Semester Two: [14 Credit Hours]				
CS 23021 Computer Science I: Programming and Problem Solving	4			
MATH 12003 Analytic Geometry and Calculus II	5			
PHY 23101 General University Physics I	5			Fulfills Kent Core Basic Sciences
Semester Three: [16-17 Credit Hours]				
Requirement: declare the Computer Science minor				
CS 23022 Discrete Structures	3			
MATH 32051 Mathematical Methods in Physical Sciences I	4	■		
PHY 23102 General University Physics II	5			Fulfills Kent Core Basic Sciences
Foreign Language (Elementary I)	4-5			
Semester Four: [14-15 Credit Hours]				
MATH 32052 Mathematical Methods in the Physical Sciences II	4	■		
PHY 36001 Introductory Modern Physics	3	■		
Foreign Language (Elementary II)	4-5			
Kent Core Requirement	3			See Kent Core Summary on page 2
Semester Five: [16 Credit Hours]				
PHY 30020 Intermediate Physics Laboratory	2	■		Fulfills writing-intensive course requirement; see note 1 on page 2
PHY 35101 Classical Mechanics	4	■		
PHY 36002 Applications of Modern Physics	3	■		
PHY 45201 Electromagnetic Theory	4	■		
Kent Core Requirement	3			See Kent Core Summary on page 2
Semester Six: [15 Credit Hours]				
CS 33001 Computer Science II: Data Structures and Abstraction	3	■		
Kent Core Requirement	6			See Kent Core Summary on page 2
CS Elective (upper division)	3	■		
General Elective (lower or upper division)	3			Recommended: MATH 21011

Critical requirements are boldface in shaded areas

Course Subject and Title	Credit Hours	Upper Division	Min. Grade	Important Notes
Semester Seven: [15 Credit Hours]				
CHEM 10060 General Chemistry I	4			Fulfills Kent Core Basic Sciences
CHEM 10062 General Chemistry Laboratory I	1			Fulfills Kent Core Basic Sciences
CS 42201 Introduction to Numerical Computing I	3	■		Prerequisites: MATH 12003 and 21001
PHY 40020 Advanced Physics Laboratory	2	■		Fulfills writing-intensive course requirement; see note 1 below
PHY 40092 Internship in Physics	2	■		See note 2 below
Kent Core Requirement	3			See Kent Core Summary below
Semester Eight: [14 Credit Hours]				
CHEM 10061 General Chemistry II	4			Fulfills Kent Core Additional
CHEM 10063 General Chemistry Laboratory II	1			Fulfills Kent Core Basic Sciences
CS Elective (upper division)	3	■		
PHY Elective (upper division)	3	■		
General Elective (lower or upper division)	3			Number of credits required depends on meeting minimum 121 credit hours and minimum 42 upper-division credit hours

Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours	Minimum Kent Core Hours	Diversity Course Global / Domestic	Writing-Intensive	Minimum Major GPA	Minimum Overall GPA
121	42	36*	Kent Core or General Electives	PHY 30020 or PHY 40020	2.0	2.0

* In addition to the Kent Core, the College of Arts and Sciences requires for all its BS programs a minimum 8 credit hours of a foreign language.

Kent Core Summary

Kent Core Categories	Important Notes	Remaining Credit Hours
Additional (6 credit hours) <i>Must be selected from two Kent Core categories</i>	Fulfilled in this major with CHEM 10061 and CS 10051	0
Basic Sciences (6-7 credit hours) <i>Must include one laboratory</i>	Fulfilled in this major with CHEM 10060, CHEM 10062, CHEM 10063, PHY 23101, PHY 23102	0
Composition (6-8 credit hours) <i>ENG 11002, 11011, 21011; HONR 10197, 10297</i>	Enrollment based on placement test	6-8
Humanities and Fine Arts (9 credit hours) <i>Minimum one course from humanities in Arts and Sciences category and minimum one course from fine arts category</i>	May fulfill diversity requirement	9
Mathematics and Critical Reasoning (3-5 credit hours)	Fulfilled in this major with MATH 12002	0
Social Sciences (6 credit hours) <i>Must be selected from two curricular areas</i>	May fulfill diversity requirement	6

Note 1: A minimum C grade must be earned in either PHY 30020 or PHY 40020 in order to fulfill the writing-intensive requirement.

Note 2: 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.

Additional Notes for the Physics major:

1. The following courses fulfill the Kent Core Basics Sciences category; however, they **may not** count towards the major:

PHY 11030 Seven Ideas that Shook the Universe	3	PHY 21430 Frontiers in Astronomy	3
PHY 21040 Physics in The Entertainment and the Arts	3	PHY 24001 Astronomy	3
PHY 21041 Physics in The Entertainment and the Arts Laboratory	1		

2. 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.

Kent Core

Students must complete a minimum 36 credit hours of the Kent Core. Certain courses required in programs and in student's major field may also fulfill the Kent Core. Honors equivalents shall satisfy the Kent Core. None of the courses on the Kent Core list may be taken with a pass/fail grade. Visit www.kent.edu/catalog/kent-core for course list.

Diversity Course Requirement

Students must complete a two-course diversity requirement, consisting of one with a domestic (U.S.) focus and one with a global focus. One course must come from the Kent Core. The second course may be taken as a second Kent Core, within a major or minor, or as a general elective; or, with dean's approval, by completing one semester of study in another country. Visit www.kent.edu/catalog/diversity for course list.

Writing-Intensive Course Requirement

Students must complete a one-course writing-intensive requirement in their major and earn minimum C (2.00) grade. Visit www.kent.edu/catalog/wic for course list.

Upper-Division Requirement

Students must complete a minimum 39 upper-division (numbered 30000 to 49999) credit hours of coursework. Programs in the College of Arts and Sciences require a minimum of 42 hours of upper-division coursework.

Foreign Language

Visit www.kent.edu/catalog/foreign-languages for course list.

