

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 [15 Credits] | | | | | | | |
| ! | MATH 12002 Analytic Geometry and Calculus I ¹ | 5 | | | ■ | KMC | |
| ! | PHY 12000 Introductory Physics Seminar | 1 | | | ■ | | |
| ! | PHY 23101 General University Physics I ² | 5 | | | ■ | KBS | |
| | US 10097 Destination Kent State: First Year Experience ³ | 1 | | | | | |
| | Kent Core Requirement | 3 | | | | | |
| Semester Two [16 Credits] | | | | | | | |
| ! | MATH 12003 Analytic Geometry and Calculus II | 5 | | | ■ | | |
| ! | PHY 23102 General University Physics II ² | 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 ⁴ | 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 ⁴ | 4 - 5 | | | | | |
| Semester Five [15 Credits] | | | | | | | |
| ! | 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 | ■ | | ■ | | |
| Semester Six [14 Credits] | | | | | | | |
| ! | PHY 22564 Introduction to Materials Physics | 3 | | | ■ | | |
| ! | PHY 30020 Intermediate Physics Laboratory ⁵ | 2 | ■ | C | ■ | WIC | |
| ! | PHY 45403 Data Analysis and Computational Physics Techniques | 3 | ■ | | ■ | | |
| | Kent Core Requirement | 3 | | | | | |
| | Physics electives ⁶ | 3 | | | ■ | | |
| Semester Seven [15 Credits] | | | | | | | |
| ! | PHY 32511 Electronics | 4 | ■ | | ■ | | |
| ! | PHY 40092 Internship in Physics ⁷ | 2 | ■ | | ■ | ELR | |
| | Kent Core Requirement | 3 | | | | | |
| | Kent Core Requirement | 3 | | | | | |
| | General Electives ⁸ | 3 | | | | | |
| Semester Eight [13 Credits] | | | | | | | |
| ! | PHY 40020 Advanced Physics Laboratory ⁵ | 2 | ■ | C | ■ | WIC | |
| ! | PHY 45501 Electromagnetic Waves and Modern Optics | 3 | ■ | | ■ | | |
| | Physics electives ⁶ | 3 | ■ | | ■ | | |
| | General Electives ⁸ | 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 |

1. Enrollment based on placement tests; prerequisites: MATH 11010 and 11022 may be bypassed with sufficient background.
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.
3. US 10097 is not required of transfer students with 25 credits or students age 21+ at time of admission.

4. Fulfills College General Requirement.
5. A minimum C (2.000) grade must be earned in PHY 30020 or PHY 40020 to fulfill the writing-intensive requirement.
6. With advisor's permission, these courses may be replaced with physics-related electives selected from mathematics or the natural sciences.
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.

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 | 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 12002 | 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 | visit www.kent.edu/catalog/kent-core | 6 |
| KBS | Kent Core VII. Basic Sciences Must include one laboratory | CHEM 10060, CHEM 10062, PHY 23101, | fulfilled |
| KAD | Kent Core VIII. Additional May fulfill diversity requirement | CHEM 10061, CHEM 10063, PHY 23102 | fulfilled |
| DD | Domestic Diversity Course Requirement Either domestic or global diversity must be from Kent Core | visit www.kent.edu/catalog/kent-core | one course |
| DG | Global Diversity Course Requirement Either domestic or global diversity must be from Kent Core | visit www.kent.edu/catalog/kent-core | one course |
| ELR | Experiential Learning Requirement Either course or non-course experience approved by the appropriate faculty member | PHY 40092 | fulfilled |
| WIC | Writing-Intensive Course Requirement Minimum C (2.000) grade | PHY 30020 or PHY 40020 | fulfilled |