



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 Div. | Min. Grade | Major GPA | Important Notes |
|--|--------------|------------|------------|-----------|--|
| Semester One: [17 Credit Hours] | | | | | |
| BSCI 10120 Biological Foundations | 4 | | | ■ | Fulfills Kent Core Basic Sciences |
| CHEM 10060 General Chemistry I and (4) CHEM 10062 General Chemistry I Laboratory (1) or CHEM 10960 Honors General Chemistry (5) | 4-5 | | | ■ | Fulfills Kent Core Basic Sciences; take CHEM 10062 if CHEM 10060 is selected |
| MATH 12021 Calculus for Life Sciences | 4 | | | ■ | Approved as proficiency to fulfill Kent Core Mathematics and Critical Reasoning; see note 1 on page 2 |
| US 10097 Destination Kent State: First Year Experience | 1 | | | | Not required for transfer students with 25 credits |
| Kent Core Requirement | 3 | | | | See Kent Core Summary on page 2 |
| Semester Two: [14 Credit Hours] | | | | | |
| CHEM 10061 General Chemistry II (4) and CHEM 10063 General Chemistry II Laboratory (1) or CHEM 10961 Honors General Chemistry (5) | 4-5 | | | ■ | If CHEM 10060 was taken; select CHEM 10061 and 10063; if CHEM 10960 was taken, select CHEM 10961; CHEM 10061 fulfills Kent Core Additional |
| MATH 12022 Probability and Statistics for Life Sciences | 3 | | | ■ | See note 1 on page 2 |
| Kent Core Requirement | 3 | | | | See Kent Core Summary on page 2 |
| Kent Core Requirement | 3 | | | | |
| Semester Three: [15 Credit Hours] | | | | | |
| BSCI 30156 Elements of Genetics | 3 | ■ | | ■ | |
| CHEM 30475 Organic Chemistry Laboratory I | 1 | ■ | | ■ | Offered in fall and summer only |
| CHEM 30481 Organic Chemistry I | 3 | ■ | | ■ | Offered in fall and summer only |
| PHY 13001 General College Physics I | 4 | | | ■ | Fulfills Kent Core Additional |
| PHY 13021 General College Physics Laboratory I | 1 | | | ■ | Fulfills Kent Core Basic Sciences |
| Kent Core Requirement | 3 | | | | See Kent Core Summary on page 2 |
| Semester Four: [15 Credit Hours] | | | | | |
| BSCI 30140 Cell Biology | 4 | ■ | | ■ | |
| CHEM 30301 Inorganic Chemistry I | 2 | ■ | | ■ | Offered in spring only |
| CHEM 30476 Organic Chemistry Laboratory II | 1 | ■ | | ■ | Offered in spring and summer only |
| CHEM 30482 Organic Chemistry II | 3 | ■ | | ■ | Offered in spring and summer only |
| PHY 13002 General College Physics II | 4 | | | ■ | Fulfills Kent Core Basic Sciences |
| PHY 13022 General College Physics Laboratory II | 1 | | | ■ | |
| Semester Five: [14-15 Credit Hours] | | | | | |
| BSCI 40430 Animal Physiology | 3 | ■ | | ■ | |
| CHEM 40567 Basic Concepts of Physical Chemistry | 4 | ■ | | ■ | Offered in fall only |
| Foreign Language (Elementary I) | 4-5 | | | | Fulfills College General Requirement |
| Kent Core Requirement | 3 | | | | See Kent Core Summary on page 2 |
| Semester Six: [16-17 Credit Hours] | | | | | |
| BSCI 30171 General Microbiology | 4 | ■ | | ■ | |
| CHEM 40245 Biochemical Foundations of Medicine | 4 | ■ | | ■ | Typically offered in spring and summer only |
| CHEM 40568 Elementary Physical Chemistry Laboratory | 1 | ■ | | ■ | Offered in spring only |
| Foreign Language (Elementary II) | 4-5 | | | | Fulfills College General Requirement |
| Kent Core Requirement | 3 | | | | See Kent Core Summary on page 2 |



Critical requirements are boldface in shaded areas

| Course Subject and Title | Credit Hours | Upper Div. | Min. Grade | Major GPA | Important Notes |
|--|--------------|------------|------------|-----------|--|
| Semester Seven: [14 Credit Hours] | | | | | |
| CHEM 30105 Analytical Chemistry I | 3 | ■ | | ■ | Offered in fall only |
| CHEM 30107 Analytical Chemistry Laboratory I | 1 | ■ | | ■ | Fulfills writing-intensive course requirement; offered in fall only; see note 2 below |
| CHEM 40248 Advanced Biological Chemistry | 3 | ■ | | ■ | Offered in fall only |
| Concentration Elective | 2 | ■ | | ■ | See note 3 below |
| Kent Core Requirement | 3 | | | | See Kent Core Summary below |
| General Elective | 2 | | | | |
| Semester Eight: [16 Credit Hours] | | | | | |
| CHEM 40251 Advanced Biological Chemistry Laboratory | 2 | ■ | | ■ | Fulfills writing-intensive course requirement offered in spring only; see note 2 below |
| CHEM 40263 Physical Biochemistry | 3 | ■ | | ■ | Offered in spring only |
| Concentration Elective | 3 | ■ | | ■ | See note 3 below |
| General Electives | 8 | | | | Number of credits required depends on meeting minimum 121 credit hours and 42 upper-division hours; see note 4 below |

Graduation Requirements Summary

| Minimum Total Hours | Minimum Upper-Division Hours | Minimum Kent Core Hours | Global / Domestic Diversity Course | Writing-Intensive | Experiential Learning | Minimum Major GPA | Minimum Overall GPA |
|---------------------|------------------------------|-------------------------|------------------------------------|---------------------|--|-------------------|---------------------|
| 121 | 42 | 36 | Kent Core or General Electives | CHEM 30107 or 40251 | Visit www.kent.edu/catalog/elr | 2.000 | 2.000 |

Kent Core Summary

| Kent Core Categories | Important Notes | Remaining Credit Hours |
|--|--|------------------------|
| Composition (6-8 credit hours) <i>ENG 11002, 11011, 21011; HONR 10197, 10297</i> | Enrollment based on placement test | 6-8 |
| Mathematics and Critical Reasoning (3-5 credit hours) | Fulfilled in this major with MATH 12021 | 0 |
| Humanities and Fine Arts (9 credit hours) <i>Minimum one course from humanities in Arts and Sciences and minimum one course from fine arts</i> | Recommended: PHIL 21001 Introduction to Ethics | 9 |
| Social Sciences (6 credit hours) <i>Must be selected from two curricular areas</i> | Recommended: ECON 22060 Principles of Microeconomics; PSYC 11762 General Psychology; SOC 12050 Introduction to Sociology | 6 |
| Basic Sciences (6-7 credit hours) <i>Must include one laboratory</i> | Fulfilled in this major with BSCI 10120, CHEM 10060, CHEM 10062, PHY 13002, PHY 13021 and PHY 13022 | 0 |
| Additional (6 credit hours) | Fulfilled in this major with CHEM 10061 and PHY 13001; | 0 |

Note 1: The following three courses may be taken as a package instead of MATH 12021 and 12022: MATH 12002 Analytic Geometry and Calculus I (5), MATH 12003 Analytic Geometry and Calculus II (5) and MATH 30011 Basic Probability and Statistics (3).

Note 2: A minimum C grade must be earned in either CHEM 30107 or CHEM 40251 to fulfill the writing-intensive requirement.

Note 3: Concentration electives (5 credit hours), choose from the following:

| | | | |
|--|-----|---|-----|
| BSCI 30518 Vertebrate Anatomy ^F | 4 | CHEM 40302 Inorganic Chemistry II ^F | 2 |
| BSCI 40174 Immunology ^S | 3 | CHEM 40365 Biological Inorganic Chemistry | 3 |
| BTEC 40191 Seminar: Recent Developments in Biotechnology | 1 | CHEM 40477 Intermediate Organic Chemistry Laboratory ^F | 1 |
| BTEC 40220 Bioinformatics | 3 | CHEM 40483 Intermediate Organic Chemistry ^F | 1 |
| CHEM 30106 Analytical Chemistry II ^S | 2 | CHEM 40796 Individual Investigation | 1-3 |
| CHEM 40295 Special Topics in Biochemistry | 1-3 | ^F Offered in fall only ^S Offered in spring only | |

Note 4: The following elective courses are recommended: ECON 42086 Economics of Health Care; PSYC 40111 Abnormal Psychology; PSYC 41363 Biopsychology; SOC 42563 Sociology of Health and Health Care

Note: All courses taken from the list of major program requirements are used in the calculation of the major GPA.

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 (2.000) grade. Visit www.kent.edu/catalog/wic for course list.

Experiential Learning Requirement (ELR)

To provide students with direct engagement in learning experiences that promote academic relevance, meaning and an understanding of real-world issues, students must complete this requirement at Kent State, either as a for-credit course or as a non-credit, non-course experience approved by the appropriate faculty member. Visit www.kent.edu/catalog/elr 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.

