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.

<table>
<thead>
<tr>
<th>Course Subject and Title</th>
<th>Credit Hours</th>
<th>Upper Division</th>
<th>Min. Grade</th>
<th>Important Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester One: [18 Credit Hours]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 10060 General Chemistry I</td>
<td>4</td>
<td></td>
<td>C</td>
<td>Fulfills Kent Core Basic Sciences</td>
</tr>
<tr>
<td>CHEM 10062 General Chemistry Laboratory I</td>
<td>1</td>
<td></td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>MATH 11010 Algebra for Calculus</td>
<td>3</td>
<td></td>
<td>C</td>
<td>Fulfills Kent Core Mathematics and Critical Reasoning; may be waived by passing the placement exam</td>
</tr>
<tr>
<td>PSYC 11762 General Psychology</td>
<td>3</td>
<td></td>
<td></td>
<td>Fulfills Kent Core Social Sciences and domestic diversity requirement</td>
</tr>
<tr>
<td>US 10097 Destination Kent State: FYE</td>
<td>1</td>
<td></td>
<td></td>
<td>Not required of transfer students with 25 credits</td>
</tr>
<tr>
<td>Kent Core Requirements</td>
<td>6</td>
<td></td>
<td></td>
<td>See Kent Core Summary on page 2</td>
</tr>
</tbody>
</table>

Requirement: successful completion of Praxis I Reading (score 174), Writing (score 172) and Mathematics (score 174)

| CULT 28535 Education in a Democratic Society                                            | 3            |                | C          |                                                          |
| CHEM 10061 General Chemistry II                                                         | 4            |                | C          | Fulfills Kent Core Basic Sciences                         |
| CHEM 10063 General Chemistry Laboratory II                                              | 1            |                | C          |                                                          |
| MATH 11022 Trigonometry                                                                | 2            |                |            |                                                          |
| SOC 12050 Introduction to Sociology                                                     | 3            |                |            | Fulfills Kent Core Social Sciences                         |
| Kent Core Requirements                                                                  | 3            |                |            | See Kent Core Summary on page 2                           |

**Semester Three: [16 Credit Hours]**

Requirement: minimum cumulative 2.75 GPA by end of term; minimum C grade and 2.6 GPA required in content area coursework

| EPSY 29255 Educational Psychology                                                      | 3            |                | C          |                                                          |
| MATH 12002 Analytic Geometry and Calculus I                                            | 5            |                |            | Fulfills Kent Core Additional                             |
| PHY 23101 General University Physics I                                                 | 5            |                | C          | Fulfills Kent Core Additional                             |
| Kent Core Requirement                                                                  | 3            |                |            | See Kent Core Summary on page 2                           |

**Semester Four: [18 Credit Hours]**

Requirement: apply and be accepted for Advanced Study. 2.75 minimum cumulative GPA required

| PHY 23102 General University Physics II                                                | 5            |                | C          |                                                          |
| BSCI 10120 Biological Foundations                                                    | 4            |                | C          | Fulfills Kent Core Basic Sciences                         |
| CHEM 20481 Basic Organic Chemistry I                                                   | 4            |                | C          |                                                          |
| MATH 12003 Analytical Geometry and Calculus II                                         | 5            |                | C          |                                                          |

**Semester Five: [16 Credit Hours]**

Requirement: apply for student teaching

| ADED 32142 Principles of Teaching Adolescents                                        | 3            |                | C          | Fulfills writing intensive requirements; offered in fall only |
| ITEC 19525 Educational Technology                                                    | 3            |                | C          |                                                          |
| CHEM 10105 Analytical Chemistry I                                                     | 3            |                | C          |                                                          |
| CI 47330 Reading and Writing in Adolescence                                           | 3            |                | C          |                                                          |
| PHIL 11001 Introduction to Philosophy                                               | 3            |                |            | Fulfills Kent Core Humanities                             |
| SPED 23000 Introduction to Exceptionalities                                          | 3            |                | C          | Fulfills domestic diversity requirement                   |
Critical requirements are boldface in shaded areas

<table>
<thead>
<tr>
<th>Course Subject and Title</th>
<th>Credit Hours</th>
<th>Upper Division</th>
<th>Min. Grade</th>
<th>Important Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester Six: [17 Credit Hours]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADED 32277 Teaching Science in Secondary Schools</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHEM 30301 Inorganic Chemistry I</td>
<td>2</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHEM 30284 Introduction to Biological Chemistry</td>
<td>4</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>PHY 21430 Frontiers in Astronomy or PHY 24001 Astronomy</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td>Fulfills Kent Core Basic Sciences</td>
</tr>
<tr>
<td>PHY 30020 Intermediate Physics Laboratory</td>
<td>2</td>
<td>■</td>
<td>C</td>
<td>Fulfills writing-intensive course requirement</td>
</tr>
<tr>
<td>PHY 36001 Introduction to Modern Physics</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td><strong>Semester Seven: [16-17 Credit Hours]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements: apply for graduation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADED 42277 Topics in Secondary School Science</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ADED 42292 Field Work Practicum</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHEM 40567 Basics of Physical Chemistry</td>
<td>4</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>GEOG 31062 Meteorology</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>PHY 32511 Electronics or PHY 36002 Applications of Modern Physics</td>
<td>3-4</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td><strong>Semester Eight: [12 Credit Hours]</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADED 42357 Secondary Student Teaching</td>
<td>9</td>
<td>■</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>ADED 49525 Inquiry into Professional Practice</td>
<td>3</td>
<td>■</td>
<td>C</td>
<td></td>
</tr>
</tbody>
</table>

**Graduation Requirements Summary**

<table>
<thead>
<tr>
<th>Minimum Total Hours</th>
<th>Minimum Upper-Division Hours</th>
<th>Minimum Kent Core Hours</th>
<th>Diversity Course Global / Domestic</th>
<th>Writing-Intensive</th>
<th>Minimum Major GPA</th>
<th>Minimum Overall GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>131</td>
<td>39</td>
<td>36</td>
<td>SPED 23000 / PHIL 11001</td>
<td>ADED 32142</td>
<td>2.6</td>
<td>2.75</td>
</tr>
</tbody>
</table>

**Kent Core Summary**

<table>
<thead>
<tr>
<th>Kent Core Categories</th>
<th>Important Notes</th>
<th>Remaining Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional (6 credit hours)</td>
<td>Fulfilled in this major with MATH 12002; and PHY 21430 or 24001</td>
<td>0</td>
</tr>
<tr>
<td>Basic Sciences (6-7 credit hours)</td>
<td>Fulfilled in this major with CHEM 10060 and 10062; and PHY 23101</td>
<td>0</td>
</tr>
<tr>
<td>Composition (6-8 credit hours)</td>
<td>Enrollment based on placement test; minimum grade of C must be earned in both courses</td>
<td>6-8</td>
</tr>
<tr>
<td>Humanities and Fine Arts (9 credit hours)</td>
<td>3 credit hours fulfilled in this major with PHY 11001</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and Critical Reasoning (3-5 credit hours)</td>
<td>Fulfilled in this major with MATH 11010</td>
<td>0</td>
</tr>
<tr>
<td>Social Sciences (6 credit hours)</td>
<td>Fulfilled in this major with PSYC 11762 and SOC 12050</td>
<td>0</td>
</tr>
</tbody>
</table>

**Note on Licensure:**

1. Successful complete Praxis II “Principles of Learning and Teaching” and Praxis II specialty test “Chemistry–Content Knowledge” (passing score 152) and “Physics–Content Knowledge” (passing score 132) by the end of second semester.
2. Apply for teaching license (pick up licensure packet in 304 White Hall).

**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](http://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](http://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](http://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.