



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
<b>Semester One: [14 Credit Hours]</b>					
<b>CHEM 10060 General Chemistry I</b> <i>or</i> <b>CHEM 10960 Honors General Chemistry</b>	4-5			■	<b>Fulfills Kent Core Basic Sciences</b>
<b>CHEM 10062 General Chemistry I Laboratory</b>	0-1			■	<b>Take only if CHEM 10060 is selected</b>
<b>MATH 11010 Algebra for Calculus</b>	3			■	<b>Fulfills Kent Core Mathematics and Critical Reasoning</b>
<b>MATH 11022 Trigonometry</b>	2			■	
US 10097 Destination Kent State: FYE	1				Not required for transfer students with 25 credits
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Two: [16 Credit Hours]</b>					
<b>CHEM 10061 General Chemistry II</b> <i>or</i> <b>CHEM 10961 Honors General Chemistry</b>	4-5			■	<b>If CHEM 10060 was taken; select CHEM 10061; If CHEM 10960 was taken, select CHEM 10961</b>
<b>CHEM 10063 General Chemistry II Laboratory</b>	0-1			■	<b>Take only if CHEM 10061 is selected</b>
<b>MATH 12002 Analytic Geometry and Calculus I</b>	5			■	<b>Fulfills Kent Core Additional</b>
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				
<b>Semester Three: [16-18 Credit Hours]</b>					
<b>CHEM 20481 Basic Organic Chemistry I</b> <i>or</i> <b>CHEM 30481 Organic Chemistry I</b>	3-4			■	<b>CHEM 20481 typically offered in fall and summer only; CHEM 30481 offered in fall only</b>
<b>CHEM 30475 Organic Chemistry Laboratory I</b>	1	■		■	
<b>PHY 13001 General College Physics I</b>	4			■	<b>Fulfills Kent Core Additional</b>
<b>PHY 13021 General College Physics Laboratory I</b>	1			■	<b>Fulfills Kent Core Basic Sciences</b>
Foreign Language (Elementary I)	4-5				Fulfills College General Requirement
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Four: [14-16 Credit Hours]</b>					
<b>CHEM 20482 Basic Organic Chemistry II</b> <i>or</i> <b>CHEM 30482 Organic Chemistry II</b>	2-3			■	<b>If CHEM 20481 was taken; select CHEM 20482; If CHEM 30481 was taken; select CHEM 30482; both are typically offered in spring only</b>
<b>CHEM 30301 Inorganic Chemistry I</b>	2	■		■	<b>Offered in spring only</b>
<b>CHEM 30476 Organic Chemistry Laboratory II</b>	1	■		■	<b>Offered in spring only</b>
<b>PHY 13002 General College Physics II</b>	4			■	<b>Fulfills College General Requirement</b>
<b>PHY 13022 General College Physics Laboratory II</b>	1			■	
Foreign Language (Elementary II)	4-5				Fulfills College General Requirement
<b>Semester Five: [17-19 Credit Hours]</b>					
<b>CHEM 40567 Basic Concepts of Physical Chemistry</b>	4	■		■	<b>Offered in fall only</b>
CHEM 30105 Analytical Chemistry I	3	■		■	Offered in fall only
CHEM 30107 Analytical Chemistry Laboratory I	1	■	C	■	Fulfills writing-intensive course requirement; offered in fall only
Foreign Language (Intermediate I)	3-5				Fulfills College General Requirement
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				
<b>Semester Six: [14-16 Credit Hours]</b>					
CHEM 30284 Introductory Biological Chemistry	4	■		■	Offered in spring only
CHEM 40568 Elementary Physical Chemistry Laboratory	1	■		■	Offered in spring only
Foreign Language (Intermediate II)	3-5				Fulfills College General Requirement
Kent Core Requirement	3				See Kent Core Summary on page 2
College General Requirement	3				Must be from Kent Core Social Science; see note 2 on page 2



**Critical requirements are boldface in shaded areas**

Course Subject and Title	Credit Hours	Upper Div.	Min. Grade	Major GPA	Important Notes
<b>Semester Seven: [15-16 Credit Hours]</b>					
<b>CHEM 40302 Inorganic Chemistry II</b>	<b>2</b>	<b>■</b>		<b>■</b>	<b>Offered in fall only</b>
CHEM Electives (upper division)	1-3	■		■	See note 1 below
General Electives (upper division)	12	■			
<b>Semester Eight: [15 Credit Hours]</b>					
General Electives (upper division)	15	■			Number of credits required depends on meeting minimum 121 credit hours and 42 upper-division 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	CHEM 30107	2.0	2.0

**Kent Core Summary**

Kent Core Categories	Important Notes	Remaining Credit Hours
<b>Composition (6-8 credit hours)</b> <i>ENG 11002, 11011, 21011; HONR 10197, 10297</i>	Enrollment based on placement test	6-8
<b>Mathematics and Critical Reasoning (3-5 credit hours)</b>	Fulfilled in this major with MATH 11010	0
<b>Humanities and Fine Arts (9 credit hours)</b> <i>Minimum one course from humanities in Arts and Sciences and minimum one course from fine arts</i>	May fulfill diversity requirement	9
<b>Social Sciences (6 credit hours)</b> <i>Must be selected from two curricular areas</i>	May fulfill diversity requirement	6
<b>Basic Sciences (6-7 credit hours)</b> <i>Must include one laboratory</i>	Fulfilled in this major with CHEM 10060 (or CHEM 10960), PHY 13001 and PHY 13021	0
<b>Additional (6 credit hours)</b> <i>Must be selected from two Kent Core categories</i>	Fulfilled in this major with MATH 12002 and PHY 13001	0

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

**Note 1:** **CHEM electives (1-3 credit hours), choose from the following:**

CHEM 30050 Introduction to Materials Chemistry	2	CHEM 40477 Intermediate Organic Chemistry Laboratory <sup>F</sup>	1
CHEM 30106 Analytical Chemistry II <sup>S</sup>	2	CHEM 40483 Intermediate Organic Chemistry <sup>F</sup>	1
CHEM 40248 Advanced Biological Chemistry <sup>F</sup>	3	CHEM 40796 Individual Investigation	1-2
CHEM 40303 Inorganic Chemistry III <sup>S</sup>	2	CHEM department-approved electives	1-3

<sup>F</sup> Offered in fall only    <sup>S</sup> Offered in spring only

**Note 2:** One additional course taken from the Kent Core Social Sciences courses in the following Arts and Sciences disciplines: Anthropology (ANTH), Applied Conflict Management (CACM), Geography (GEOG), Criminology and Justice Studies (JUS), Political Science (POL), Psychology (PSYC) or Sociology (SOC). The course may not be from the student's major.

**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.

**Foreign Language**

Visit [www.kent.edu/catalog/foreign-languages](http://www.kent.edu/catalog/foreign-languages) for course list.