



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			■	Fulfills Kent Core Basic Sciences
<b>CHEM 10062 General Chemistry I Laboratory</b>	0-1			■	Take only if CHEM 10060 is selected
<b>MATH 12002 Analytic Geometry and Calculus I</b>	5			■	Fulfills Kent Core Mathematics and Critical Reasoning
US 10097 Destination Kent State: FYE	1				Not required of 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			■	If CHEM 10060 was taken; select CHEM 10061; If CHEM 10960 was taken, select CHEM 10961
<b>CHEM 10063 General Chemistry II Laboratory</b>	0-1			■	Take only if CHEM 10061 is selected
<b>MATH 12003 Analytic Geometry and Calculus II</b>	5			■	
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				
<b>Semester Three: [16 Credit Hours]</b>					
<b>CHEM 30475 Organic Chemistry Laboratory I</b>	1	■		■	
<b>CHEM 30481 Organic Chemistry I</b>	3	■		■	Offered in fall only
<b>MATH 22005 Analytic Geometry and Calculus III</b>	4			■	
<b>PHY 23101 General University Physics I</b>	5			■	Fulfills Kent Core Additional
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Four: [16 Credit Hours]</b>					
<b>CHEM 30050 Introduction to Materials Chemistry</b>	2	■		■	
<b>CHEM 30301 Inorganic Chemistry I</b>	2	■		■	Offered in spring only
<b>CHEM 30476 Organic Chemistry Laboratory II</b>	1	■		■	Offered in spring only
<b>CHEM 30482 Organic Chemistry II</b>	3	■		■	Offered in spring only
<b>PHY 23102 General University Physics II</b>	5			■	Fulfills Kent Core Basic Sciences
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Five: [15-16 Credit Hours]</b>					
<b>CHEM 30105 Analytical Chemistry I</b>	3	■		■	Offered in fall only
<b>CHEM 40302 Inorganic Chemistry II</b>	2	■		■	Offered in fall only
<b>CHEM 40451 Organic Materials Chemistry</b>	3	■		■	Offered every other year: 2013, 2015, 2017
<b>CHEM 40555 Elementary Physical Chemistry</b>	3	■		■	Offered in fall only
Foreign Language Elementary I	4-5				Fulfills College General Requirement
<b>Semester Six: [16-17 Credit Hours]</b>					
<b>CHEM 40303 Inorganic Chemistry III</b>	2	■		■	Offered in spring only
<b>CHEM 40352 Inorganic Materials Chemistry</b>	3	■		■	Offered every other year: 2012, 2014, 2016
<b>CHEM 40364 Intermediate Inorganic Chemistry Laboratory</b>	1	■		■	Offered in spring only
<b>CHEM 40556 Elementary Physical Chemistry</b>	3	■		■	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
<b>Semester Seven: [14-15 Credit Hours]</b>					
<b>CHEM 40557 Physical Chemistry Laboratory</b>	<b>2</b>	■		■	<b>Offered in fall only</b>
Kent Core Requirement	4				See Kent Core Summary below
CHEM Elective (upper division)	1-2	■			See note below; one course must be writing intensive
General Electives (lower or upper division)	7				
<b>Semester Eight: [14 Credit Hours]</b>					
<b>CHEM 30106 Analytical Chemistry II</b>	<b>2</b>	■		■	<b>Offered in spring only</b>
<b>CHEM 30284 Introductory Biological Chemistry</b>	<b>4</b>	■		■	<b>Offered in spring only</b>
<b>CHEM 40053 Materials Chemistry Laboratory</b>	<b>2</b>	■		■	
General Electives (lower or upper division)	6				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 or CHEM 30108	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 12002	0
<b>Humanities and Fine Arts (9 credit hours)</b> <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
<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, CHEM 10061 and PHY 23102	0
<b>Additional (6 credit hours)</b> <i>Must be selected from two Kent Core categories</i>	5 credits fulfilled in this major with PHY 23101; may fulfill diversity requirement	1

**Note: CHEM electives (1-2 credit hours), choose from the following:**

CHEM 30107 Analytical Chemistry Laboratory I <sup>WF</sup>	1	CHEM 40568 Elementary Physical Chemical Laboratory <sup>S</sup>	1
CHEM 30108 Analytical Chemistry Laboratory II <sup>WS</sup>	2	CHEM 40571 Surface Chemistry	2
CHEM 40477 Intermediate Organic Chemistry Laboratory <sup>F</sup>	1	CHEM 40796 Individual Investigation	1-2
CHEM 40483 Intermediate Organic Chemistry <sup>F</sup>	1		

<sup>W</sup> Fulfills writing-intensive requirement    <sup>F</sup> Offered in fall only    <sup>S</sup> Offered in spring only  
A minimum C grade must be earned in either CHEM 30107 or CHEM 30108 to fulfill the writing-intensive requirement.

**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](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.