



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: [15 Credit Hours]					
CHEM 10060 General Chemistry I <i>or</i> CHEM 10960 Honors General Chemistry	4-5			■	Fulfills Kent Core Basic Sciences
CHEM 10062 General Chemistry I Laboratory	0-1			■	Take only if CHEM 10060 is selected
MATH 11010 Algebra for Calculus	3			■	Fulfills Kent Core Mathematics and Critical Reasoning
MATH 11022 Trigonometry	3			■	Fulfills Kent Core Mathematics and Critical Reasoning
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: [16 Credit Hours]					
CHEM 10061 General Chemistry II <i>or</i> CHEM 10961 Honors General Chemistry	4-5			■	If CHEM 10060 was taken; select CHEM 10061; If CHEM 10960 was taken, select CHEM 10961
CHEM 10063 General Chemistry II Laboratory	0-1			■	Take only if CHEM 10061 is selected
MATH 12002 Analytic Geometry and Calculus I	5			■	Fulfills Kent Core Additional
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				
Semester Three: [16-18 Credit Hours]					
CHEM 20481 Basic Organic Chemistry I <i>or</i> CHEM 30481 Organic Chemistry I	3-4			■	Both courses typically offered in fall and summer only; upper-division if CHEM 30481 is taken
CHEM 30475 Organic Chemistry Laboratory I	1	■		■	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
Foreign Language Requirement (Elementary I)	4-5				Fulfills College General Requirement; see foreign language note
Kent Core Requirement	3				See Kent Core Summary on page 2
Semester Four: [14-16 Credit Hours]					
CHEM 20482 Basic Organic Chemistry II <i>or</i> CHEM 30482 Organic Chemistry II	2-3			■	If CHEM 20481 was taken; select CHEM 20482; If CHEM 30481 was taken; select CHEM 30482; upper-division if CHEM 30482 is taken; both are typically offered in spring and summer only
CHEM 30301 Inorganic Chemistry I	2	■		■	Offered in spring only
CHEM 30476 Organic Chemistry Laboratory II	1	■		■	Offered in spring and summer only
PHY 13002 General College Physics II	4			■	Fulfills College General Requirement
PHY 13022 General College Physics Laboratory II	1			■	Fulfills Kent Core Basic Sciences
Foreign Language Requirement (Elementary II)	4-5				Fulfills College General Requirement; see foreign language note
Semester Five: [17-19 Credit Hours]					
CHEM 40567 Basic Concepts of Physical Chemistry	4	■		■	Offered in fall only
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 Requirement	3-5				Fulfills College General Requirement; see foreign language note
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				
Semester Six: [14-16 Credit Hours]					
CHEM 30284 Introductory Biological Chemistry	4	■		■	Offered in spring and summer only
CHEM 40568 Elementary Physical Chemistry Laboratory	1	■		■	Offered in spring only
Foreign Language Requirement	3-5				Fulfills College General Requirement; see foreign language note
Kent Core Requirement	3				See Kent Core Summary on page 2
College General Requirement	3				Must be from Kent Core Social Sciences; see note 1 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: [15-16 Credit Hours]					
CHEM 40302 Inorganic Chemistry II	2	■		■	Offered in fall only
CHEM Electives (upper division)	1-3	■		■	See note below
General Electives (upper division)	12	■			
Semester Eight: [14 Credit Hours]					
General Electives (upper division)	14	■			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	Global / Domestic Diversity Course	Writing-Intensive	Experiential Learning	Minimum Major GPA	Minimum Overall GPA
121	42	36	Kent Core or General Electives	CHEM 30107	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 11010	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>	May fulfill diversity requirement	9
Social Sciences (6 credit hours) <i>Must be selected from two curricular areas</i>	May fulfill diversity requirement	6
Basic Sciences (6-7 credit hours) <i>Must include one laboratory</i>	Fulfilled in this major with CHEM 10060 (or CHEM 10960), PHY 13001 and PHY 13021	0
Additional (6 credit hours) <i>Must be selected from two Kent Core categories</i>	Fulfilled in this major with MATH 12002 and PHY 13001	0

Note 1: 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.

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

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

^F Offered in fall only ^S Offered in spring only

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

Foreign Language note: Students pursuing a Bachelor of Arts degree in the College of Arts and Sciences must have the equivalent of Elementary I and II in any language, plus one of the following options:

- Intermediate I and II of the same language
- Elementary I and II of a second language
- Any combination of two courses from the following list:
 - Intermediate I of the same language
 - MCLS 10001 Introduction to Structural Concepts for Language Students
 - MCLS 20000 Global Literacy and Cultural Awareness
 - MCLS 20091 Seminar: Global Literacy Case Studies

All students with prior foreign language experience should take the foreign language placement test to determine the appropriate level at which to start. Some students may begin their university foreign language experience beyond the Elementary I level and will complete the requirement with fewer credit hours and fewer courses. This may be accomplished by: (1) passing a course beyond the Elementary I through Intermediate II level or (2) receiving credit through Credit by Exam (CBE), the College Level Examination Program (CLEP), the Advanced Placement (AP) exam or credit through the International Baccalaureate (IB) program; or (3) being designated a "native speaker" of a non-English language (consult with the College of Arts and Sciences Advising Office for additional information). When students complete the requirement with fewer than 14 credit hours and four courses, they will complete the remaining hours with general electives.



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.

