

CHEMISTRY - B.A.

College of Arts and Sciences

Department of Chemistry and Biochemistry
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Description

The Bachelor of Arts degree in Chemistry allows students greater flexibility in choosing electives than the B.S. degree. Although not intended for students planning to become practicing chemists, the B.A. degree program is well suited for those needing a strong chemistry background as preparation for other career opportunities.

The program may be used to meet pre-medicine and pre-dentistry requirements when appropriate courses from the biological sciences are used to fulfill elective hours. However, the B.S. degree in Chemistry, Biochemistry concentration, is strongly recommended for students interested in medical or dental school.

Students in the program have the opportunity to participate in an exchange program with the University of Leicester in England.

Fully Offered At:

- Kent Campus

Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students who graduated from high school three or more years ago.

Freshman Students on the Kent Campus: The freshman admission policy on the Kent Campus is selective. Admission decisions are based upon the following: cumulative grade point average, ACT and/or SAT scores, strength of high school college preparatory curriculum and grade trends. The Admissions Office at the Kent Campus may defer the admission of students who do not meet admissions criteria but who demonstrate areas of promise for successful college study. Deferred applicants may begin their college coursework at one of seven regional campuses of Kent State University. For more information on admissions, including additional requirements for some academic programs, visit the admissions website for new freshmen.

Freshman Students on the Regional Campuses: Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Regional Academic Center in Twinsburg, have open enrollment admission for students who hold a high school diploma, GED or equivalent.

English Language Proficiency Requirements for International Students: All international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning a minimum 525 TOEFL score (71 on the Internet-based version), minimum 75 MELAB score, minimum 6.0 IELTS score or minimum 48 PTE score, or by completing the ESL level 112 Intensive Program. For more information on

international admission, visit the Office of Global Education's admission website.

Transfer, Transitioning and Former Students: For more information about admission criteria for transfer, transitioning and former students, please visit the admissions website.

Program Learning Outcomes

Graduates of this program will be able to:

1. Understand and apply chemical knowledge.

University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

NOTE: University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Destination Kent State: First Year Experience	1
Course is not required for students with 25 transfer credits, excluding College Credit Plus, or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 (or 42)
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate. Students in a B.A. and/or B.S. degree in the College of Arts and Sciences must complete 42 upper-division credit hours.	
Total Credit Hour Requirement	120
Some bachelor's degrees require students to complete more than 120 credit hours.	

Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
Total Credit Hours:	36-37

Program Requirements

Major Requirements

[BA-CHEM]

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		

CHEM 10060	GENERAL CHEMISTRY I (KBS)	4
or CHEM 10970	HONORS GENERAL CHEMISTRY I (KBS)	
CHEM 10061	GENERAL CHEMISTRY II (KBS)	4
or CHEM 10971	HONORS GENERAL CHEMISTRY II (KBS)	
CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
CHEM 10063	GENERAL CHEMISTRY II LABORATORY (KBS) (KLAB)	1
CHEM 20481	BASIC ORGANIC CHEMISTRY I	4
or CHEM 30481	ORGANIC CHEMISTRY I	
CHEM 20482	BASIC ORGANIC CHEMISTRY II	2
or CHEM 30482	ORGANIC CHEMISTRY II	
CHEM 30105	ANALYTICAL CHEMISTRY I	3
CHEM 30107	ANALYTICAL CHEMISTRY LABORATORY I (WIC) 1	1
CHEM 30284	INTRODUCTORY BIOLOGICAL CHEMISTRY	4
CHEM 30301	INORGANIC CHEMISTRY I	2
CHEM 30475	ORGANIC CHEMISTRY LABORATORY I (ELR)	1
CHEM 30476	ORGANIC CHEMISTRY LABORATORY II	1
CHEM 40302	INORGANIC CHEMISTRY II	2
CHEM 40567	PHYSICAL CHEMISTRY FOR LIFE SCIENCES	4
CHEM 40568	ELEMENTARY PHYSICAL CHEMISTRY LABORATORY	1
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
MATH 11022	TRIGONOMETRY (KMCR)	3
MATH 12002	ANALYTIC GEOMETRY AND CALCULUS I (KMCR)	5
PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
Chemistry Elective, choose from the following:		1-3
CHEM 30050	INTRODUCTION TO MATERIALS CHEMISTRY	
CHEM 30106	ANALYTICAL CHEMISTRY II	
CHEM 40248	ADVANCED BIOLOGICAL CHEMISTRY	
CHEM 40303	INORGANIC CHEMISTRY III	
CHEM 40477	INTERMEDIATE ORGANIC CHEMISTRY LABORATORY	
CHEM 40483	INTERMEDIATE ORGANIC CHEMISTRY	
CHEM 40796	INDIVIDUAL INVESTIGATION	
Chemistry (CHEM) Elective Courses Approved by Department		
Additional Requirements (courses do not count in major GPA)		
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Foreign Language (see Foreign Language College Requirement below)		14-16
College General Requirement ²		3
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (must be from two disciplines)		6
General Electives (total credit hours depends on earning 120 credit hours, including 42 upper-division credit hours)		24
Minimum Total Credit Hours:		120

¹ A minimum C grade must be earned to fulfill the writing-intensive requirement.

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 (CRIM), Political Science (POL), Psychology (PSYC) or Sociology (SOC). The course may not be from the student's major.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

Foreign Language College Requirement

Students pursuing the Bachelor of Arts degree in the College of Arts and Sciences must complete 14-16 credit hours of foreign language.¹ To complete the requirement, students have the equivalent of Elementary I and II in any language, plus one of the following options:

1. Intermediate I and II of the same language²
2. Elementary I and II of a second language
3. 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 VARIABLE CONTENT SEMINAR IN GLOBAL LITERACY: CASE STUDIES
- MCLS 21417 MULTICULTURALISM IN TODAY'S GERMANY (DIVG)
- MCLS 22217 DIVERSITY IN TODAY'S RUSSIA (DIVG)
- MCLS 23217 THE FRANCOPHONE EXPERIENCE (DIVG)
- MCLS 28404 THE LATIN AMERICAN EXPERIENCE (DIVG)
- MCLS 28405 THE SPANISH EXPERIENCE (DIVG)

¹ 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 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 Elementary I through Intermediate II level; (2) receiving credit through Credit by Exam (CBE), Advanced Placement (AP), International Baccalaureate (IB) or College Level Examination Program (CLEP); 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 remaining credit hours with general electives.

² Certain majors, concentrations and minors may require specific languages, limit the languages from which a student may choose or require coursework through Intermediate II. Students who plan to pursue graduate study may need particular language coursework.

Roadmap

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

Course	Title	Credits
Semester One		
! CHEM 10060 or CHEM 10970	GENERAL CHEMISTRY I (KBS) or HONORS GENERAL CHEMISTRY I (KBS)	4
! CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
! MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		15
Semester Two		
! CHEM 10061 or CHEM 10971	GENERAL CHEMISTRY II (KBS) or HONORS GENERAL CHEMISTRY II (KBS)	4
! CHEM 10063	GENERAL CHEMISTRY II LABORATORY (KBS) (KLAB)	1
! MATH 11022	TRIGONOMETRY (KMCR)	3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		14
Semester Three		
! CHEM 20481 or CHEM 30481	BASIC ORGANIC CHEMISTRY I or ORGANIC CHEMISTRY I	3-4
! CHEM 30475	ORGANIC CHEMISTRY LABORATORY I (ELR)	1
! PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
! PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
! MATH 12002	ANALYTIC GEOMETRY AND CALCULUS I (KMCR)	5
Foreign Language		4
Credit Hours		18
Semester Four		
! CHEM 20482 or CHEM 30482	BASIC ORGANIC CHEMISTRY II or ORGANIC CHEMISTRY II	2-3
! CHEM 30301	INORGANIC CHEMISTRY I	2
! CHEM 30476	ORGANIC CHEMISTRY LABORATORY II	1
! PHY 13002	GENERAL COLLEGE PHYSICS II (KBS)	4
! PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
Foreign Language		4
Credit Hours		15
Semester Five		
! CHEM 40567	PHYSICAL CHEMISTRY FOR LIFE SCIENCES	4
CHEM 30105	ANALYTICAL CHEMISTRY I	3
CHEM 30107	ANALYTICAL CHEMISTRY LABORATORY I (WIC)	1
Foreign Language		3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		17

Semester Six		
CHEM 30284	INTRODUCTORY BIOLOGICAL CHEMISTRY	4
CHEM 40568	ELEMENTARY PHYSICAL CHEMISTRY LABORATORY	1
Foreign Language		3
Kent Core Requirement		3
College General Requirements		3
Credit Hours		14
Semester Seven		
! CHEM 40302	INORGANIC CHEMISTRY II	2
Chemistry Elective		1-3
General Electives		12
Credit Hours		15
Semester Eight		
General Electives		12
Credit Hours		12
Minimum Total Credit Hours:		120