

Chemistry - B.A.

College of
Arts and Sciences

The Department of Chemistry offers the Bachelor of Science degree for students who intend to become professional chemists or do graduate work in chemistry or a closely related discipline. There are three options in the B.S. program: a traditional track covering all the major areas of chemistry, an option that emphasizes biochemistry and an option in materials chemistry. The Biochemistry and Traditional Options are certified by the American Chemical Society. A Bachelor of Arts degree program is offered as well for students who want greater flexibility in the selection of courses to perhaps pursue more diverse degree options, including dual and double majors. For all majors CHE 109 and CHE 110 have been defined as equivalent to CHE 105. The Department also offers the Master of Science and the Doctor of Philosophy degree.

122 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the major requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. Please also note that the Organic Chemistry Sequence (CHE 230/231/232/233) will count towards completion of this requirement. See the complete description of College requirements for a Bachelor of Arts degree in the *Arts and Sciences* section of the 2017-2018 *Undergraduate Bulletin*.

UK Core Requirements

See the *UK Core* section of the 2017-2018 *Undergraduate Bulletin* for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity

Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities

Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences

Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences

CHE 105 General College Chemistry I 4

CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I

CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II

CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations

MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning

Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA

Choose one course from approved list 3

X. Global Dynamics

Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 310 Writing in the Natural Sciences 3

Graduation Composition and Communication Requirement hours (GCCR)

..... 3

College Requirements

I. Foreign Language (*placement exam recommended*) 0-14

II. Disciplinary Requirements

a. Natural Science (*completed by Major Requirements*)

b. Social Science 6

c. Humanities 6

III. Laboratory or Field Work (*completed by Premajor Requirement*)

IV. Electives 6

College Requirement hours: 18-32

Premajor Requirements

*MA 113 Calculus I

or

MA 132 Calculus for the Life Sciences 4

MA 114 Calculus II 4

*CHE 105 General College Chemistry I 4

CHE 107 General College Chemistry II 3

*CHE 111 Laboratory to Accompany General Chemistry I 1

CHE 113 Laboratory to Accompany General Chemistry II 2

Premajor hours: 17-18

Major Requirements

Major Core Requirements

CHE 226 Analytical Chemistry 3

CHE 230 Organic Chemistry I 3

CHE 231 Organic Chemistry Laboratory I 1

CHE 232 Organic Chemistry II 3

CHE 233 Organic Chemistry Laboratory II 1

CHE 440G Introductory Physical Chemistry 3

CHE 441 Physical Chemistry Laboratory 2

Major Core hours: 16

Other Course Work Required for the Major Chemistry Major Field Options

Choose 21 hours at the 300-500 level with a prefix of ANA, BCH, BIO, CHE, CME, CS, EES, MA, MI, MSE, PAT, PGY, PHA, PHR, PHY, PM, RM, or STA. Credit will not be given for both BCH 401G and CHE 550 or CHE 552. At least 5 of these hours must be in CHE courses; at least 4 hours must be taken outside CHE. Up to 9 hours of CHE 395 are recommended for students having a minimum GPA of 3.0 in CHE courses. Other courses may be approved by the Undergraduate Program Committee. Students working towards teaching accreditation may count 6 hours taken at the 300+ level from the College of Education. A maximum of 9 hours in undergraduate research or reading courses may be counted; such courses require approval of the Undergraduate Program Committee if the courses do not carry the CHE prefix 21

-CONTINUED-

University of Kentucky is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, masters, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or online at www.sacscoc.org for questions about the accreditation of University of Kentucky.

Chemistry (B.A.) • 2

From the Physics Department

*PHY 211/213 General Physics

or

*PHY 231/232 General University Physics and

*PHY 241/242 General University Physics Laboratory 10

Other Major hours: 31

Total Minimum hours Required for Degree 122

[^]Any language may be used to satisfy the College Foreign Language requirements – German is recommended.

*Course used towards completion of a UK Core Requirement.

Curriculum for B.A. in Chemistry

Freshman Year

First Semester	Hours
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
UK 101 Academic Orientation	1
UK Core – Arts and Creativity	3
Second Semester	
CHE 107 General College Chemistry II	3
CHE 113 Laboratory to Accompany General Chemistry II	2
MA 114 Calculus II	4
CIS/WRD 111 Composition and Communication II	3
UK Core – Humanities	3

Sophomore Year

First Semester	Hours
CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	1
PHY 211 General Physics	5
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
UK Core – Social Sciences	3
Second Semester	
CHE 226 Analytical Chemistry	3
CHE 232 Organic Chemistry II	3
CHE 233 Organic Chemistry Laboratory II	1
PHY 213 General Physics	5
UK Core – Citizenship - USA	3

Junior Year

First Semester	Hours
CHE 440G Introductory Physical Chemistry	3
WRD 310 Writing in the Natural Sciences	3
Foreign Language I†	4
A&S Humanities	3
Major Field Option*	3
Second Semester	
CHE 441 Physical Chemistry Laboratory	2
Foreign Language II†	4
A&S Social Science	3
Major Field Option*	3
Major Field Option*	3

Senior Year

First Semester	Hours
Foreign Language III†	3
Major Field Option*	3
Major Field Option*	3
A&S Humanities	3
UK Core – Global Dynamics	3
Second Semester	
Major Field Option*	3
Major Field Option*	3
A&S Social Science	3
Elective	3
300+ Elective	3

*Major field options (21 credits) must be chosen from courses at the 300- to 500-level with the prefixes CHE, ANA, BCH, BIO, CME, CS, EES, MA, MI, MSE, PAT, PGY, PHA, PHR, PHY, PM, RM or STA. Credit will not be given for both BCH 401G and CHE 550 or CHE 552. Other courses may be approved as Major Field Options by the Undergraduate Program Committee. At least 5 of these hours must be in CHE courses; at least 4 of the 21 credits must be taken in non-CHE courses. Students working towards teaching accreditation may count six credits in courses taken at or above the 300-level in the College of Education. Six credits of CHE 395 are recommended for students having a minimum 3.0 GPA in chemistry courses. Oral and written reports are required from CHE 395 students during their final semester of registration in CHE 395. A maximum of nine credits in undergraduate research or reading courses may be counted; such courses require approval of the Undergraduate Program Committee if the courses do not carry the CHE prefix.

†Any foreign language sequence satisfying the College of Arts and Sciences requirement in foreign languages may be taken. German is recommended.