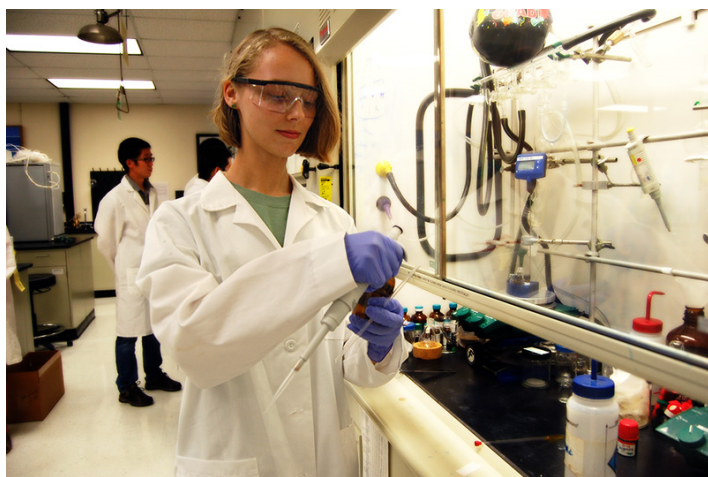


# CHEMISTRY (BS)



This program was approved for students entering the university in the Summer 2025-Spring 2026 catalog year. For more information about catalog year, go to Catalog Year Information (<https://catalog.louisville.edu/undergraduate/university-wide-unit-specific-policies/catalog-year/>).

## Bachelor of Science in Chemistry

Unit: College of Arts and Sciences (AS) (<http://www.louisville.edu/a-s/>)

Department: Chemistry (<http://louisville.edu/chemistry/>)

Academic Plan Code(s): See Track Requirements tab

## Program Information

The BS in Chemistry degree program is designed to prepare professional chemists for industrial, governmental, academic, and research positions. This curriculum meets approved requirements for professional training.

Completion of this degree requires work to be submitted for the department's Learning Outcomes Measurement. For details, contact the department.

## Degree Summary

Code	Title	Hours
	General Education Requirements ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>1</sup>	31
	College/School Requirements	13-15
	Program/Major Requirements <sup>1</sup>	25
	Supporting Courses	16-18
	Track Requirements	34-51
<b>Minimum Total Hours</b>		<b>121</b>

<sup>1</sup> Some credit hours from the General Education Requirements may be satisfied by courses defined by the program, in which case additional electives may be required to complete the minimum hours for the degree. To complete the degree in the minimum number of hours listed for the Business track, some hours from the General Education Requirements must be satisfied by courses defined by the unit and/or program. Using other courses to satisfy General Education requirements will require additional hours to complete the degree requirements.

Specific coursework information can be found on the Degree Requirements tab.

## Early Start Program (Jointly with the College of Education and Human Development)

The Master of Arts in Teaching program in conjunction with the undergraduate programs in Chemistry, Biology, and Mathematics offers a comprehensive and professionally-focused program leading to an additional degree of MAT Middle or Secondary Education. This early start program enables superior students to receive two degrees within five years. A total of 148 credits are required for the dual degrees: 121 credits of coursework devoted toward the baccalaureate degree and 36 credits toward the MAT, with nine hours double-counted. This program will be available for students who are entering their junior year. They may take graduate level courses in the College of Education and Human Development (CEHD) in their 4th year of study.

The current qualifications for the joint degree program have been agreed upon by discipline faculty from the Colleges of Arts and Sciences and Education and Human Development. The criteria vary by discipline. Students enrolling in the accelerated program will be non-thesis students and must adhere to all policies pertaining to Graduate Students. All interested students must submit an application to the College of Education and Human Development (CEHD) MAT program and meet the admission criteria.

## Departmental Admission Requirements

Admission to the major in Chemistry requires completion of CHEM 202 (or equivalent course from another institution) with a grade of C or better.

The Application for Major form can be found on the Arts & Sciences Advising Center website (<http://louisville.edu/artsandsciences/advising/apply/>).

## General Education Requirements

Code	Title	Hours
	General Education Requirements ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>*</sup>	31
The following courses are required by the program and can satisfy the respective General Education Requirement:		
CHEM 201	General Chemistry I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 207	Introduction to Chemical Analysis I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
MATH 205	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 221	Fundamentals of Physics I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
	or PHYS 295 Introductory Laboratories I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

<sup>\*</sup>All degrees require the completion of the University-wide General Education Program (link provided above). Some General Education requirements may be met in the requirements for the major or supporting

coursework, in which case additional electives may be required to complete the minimum hours for the degree. To complete the Business track in the **minimum number of hours** listed, some hours from the General Education Requirements must be satisfied by courses defined by the unit and/or program.

## College/School Requirements

Code	Title	Hours
<b>Arts &amp; Sciences Requirements</b>		
GEN 100	Student Success Center First Year Experience	1
or GEN 101	Arts & Sciences First Year Experience	
Foreign Language <sup>1</sup>		6-8
Electives in Humanities or Social Sciences at the 300-level or above <sup>2</sup>		6
WR—two approved courses at the 300 level or above <sup>3</sup>		
<b>Minimum Total Hours</b>		<b>13-15</b>

## Program/Major Requirements

Code	Title	Hours
<b>Department of Chemistry</b>		
CHEM 201	General Chemistry I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>4</sup>	3
CHEM 202	General Chemistry II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 207	Introduction to Chemical Analysis I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) <sup>4</sup>	1
CHEM 208	Introduction to Chemical Analysis II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
CHEM 209	Introduction to Chemical Analysis III	1
CHEM 210	Introduction to Chemical Analysis IV	1
CHEM 341	Organic Chemistry I	3
CHEM 342	Organic Chemistry II	3
CHEM 343	Organic Chemistry Laboratory I	2
CHEM 344	Organic Chemistry Laboratory II	2
CHEM 425	Instrumental and Statistical Analysis	3
CHEM 470	Physical Chemistry Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
<b>Minimum Total Hours</b>		<b>25</b>

Code	Title	Hours
<b>Supporting Courses</b>		
MATH 205	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	4
MATH 206	Calculus II	4
Complete one of the following sequences:		8-10
Sequence 1:		
PHYS 221	Fundamentals of Physics I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

PHYS 222	Fundamentals of Physics II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 223	Fundamentals of Physics Lab I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 224	Fundamentals of Physics Laboratory II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
Sequence 2:		
PHYS 295	Introductory Laboratories I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 296	Introductory Laboratories II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 298	Introductory Mechanics, Heat and Sound - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
PHYS 299	Introductory Electricity, Magnetism and Light	
<b>Minimum Total Hours</b>		<b>16-18</b>

Code	Title	Hours
<b>Track Requirements</b>		
		<b>34-51</b>

At least 50 of the total minimum hours required must be at the 300 level or above.

Code	Title	Hours
<b>Culminating Undergraduate Experience (Graduation requirement)</b>		
Requirement fulfilled by completing one of the following:		
CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 420	Cooperative Internship in Chemistry - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 430	Practicum in Chemistry Education - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

<sup>1</sup> Completion of the second semester of a single foreign language; hours will vary depending on language taken

<sup>2</sup> In addition to courses counted toward General Education

<sup>3</sup> May be incorporated into other degree requirements

<sup>4</sup> Fulfills General Education requirement.

<sup>5</sup> CHEM 470 plus 3 semester hours of another WR course will fulfill the WR requirement.

## Track Requirements

Students completing the BS in Chemistry may pursue the standard degree track or a specialized track in Biochemistry or a track in Business. Requirements for all three of these options are listed below.

### Chemistry BS (non-track option)

Academic Plan Code(s): CHM\_BS

Code	Title	Hours
<b>Program/Major/Track Requirements</b>		
CHEM 426	Instrumental and Statistical Analysis Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
CHEM 465	Physical Chemistry I	3
CHEM 466	Physical Chemistry II	3
Select two of the following CHEM Lecture Electives:		6
CHEM 445	Survey of Biochemistry	
CHEM 515	Inorganic Chemistry	
CHEM 527	Spectroscopic Identification of Organic Compounds - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 545	Biochemistry I	
CHEM 547	Biochemistry II	
CHEM 550	Group Theory and its Chemical Applications	
CHEM 557	Bio-Organic Phenomena	
Select two of the following CHEM Lab Electives:		4-5
CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 529	Contemporary Methods of Inorganic Synthesis and Analysis - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 546	Biochemistry Laboratory	
CHEM 555	Theory and Application of Computational Chemistry	
Select one of the following CHEM Research courses:		3
CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

CHEM 492	Undergraduate Research	
MATH 301	Calculus III (Select one of the following CHEM Research courses:)	4
Electives <sup>1</sup>		6
Elective <sup>2</sup>		3
<b>Minimum Total Hours</b>		<b>34-35</b>
<b>Culminating Undergraduate Experience</b>		<b>Undergraduate Research</b>

<sup>1</sup> Electives in Mathematics, Physics, or Chemistry at 300 level or above.

<sup>2</sup> Elective in Natural Sciences Division, other than Chemistry, at 300 level or above.

### Chemistry BS (ACS track)

Academic Plan Code(s): CHEM\_BS\_ACS

Code	Title	Hours
<b>Department of Chemistry</b>		
CHEM 426	Instrumental and Statistical Analysis Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
CHEM 445	Survey of Biochemistry	3
or CHEM 545	Biochemistry I	
CHEM 465	Physical Chemistry I	3
CHEM 466	Physical Chemistry II	3
CHEM 515	Inorganic Chemistry	3
CHEM 527	Spectroscopic Identification of Organic Compounds - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
CHEM 529	Contemporary Methods of Inorganic Synthesis and Analysis - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
Select on of the following CHEM research courses: <sup>1</sup>		3
CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 492	Undergraduate Research	
MATH 301	Calculus III	4
Elective <sup>1</sup>		3
Elective <sup>2</sup>		3
<b>Minimum Total Hours</b>		<b>34</b>

Culminating Undergraduate Experience	Undergraduate Research
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- <sup>1</sup> Electives in Mathematics, Physics or Chemistry at 300 level or above.  
<sup>2</sup> Elective in Natural Sciences Division, other than Chemistry, at 300 level or above.

## Track in Business

Academic Plan Code(s): CHM\_BS\_BUS

This degree track combines a general program in chemistry with a fundamental program in business. The curriculum is designed to prepare chemists for industrial and governmental positions.

Code	Title	Hours
<b>Department of Chemistry</b>		
CHEM 441	Elements of Physical Chemistry	3
or CHEM 465	Physical Chemistry I	
CHEM 445	Survey of Biochemistry	3
or CHEM 545	Biochemistry I	
CHEM 515	Inorganic Chemistry	3
Select one of the following:		2
CHEM 426	Instrumental and Statistical Analysis Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 529	Contemporary Methods of Inorganic Synthesis and Analysis - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 546	Biochemistry Laboratory	
Chemistry Research or Internship - Select one of the following:		3
CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 420	Cooperative Internship in Chemistry - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 492	Undergraduate Research	

CHEM electives at 300 level or above (other than Independent Study) 2-3  
 - See table below<sup>3</sup>

### Supporting Courses

ECON 201	Principles of Microeconomics - SB ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
ECON 202	Principles of Macroeconomics - SB ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CIS 205	Information Systems in Organizations	3
CIS 305	Data Analysis for Decision-Making	3
ACCT 201	Principles of Financial Accounting	3
ACCT 202	Principles of Managerial Accounting	3
Select one of the following:		3
BSTA 201	Business Statistics	
PSYC 301	Introduction to Social Statistics	
SOC 301	Introduction to Social Statistics	
MGMT 301	Management and Organizational Behavior	3
MKT 301	Principles of Marketing	3
FIN 301	Corporate Finance	3
Elective in the School of Business at the 300-level or above		3

### Culminating Undergraduate Experience (Graduation requirement)

Requirement fulfilled by completing one of the following approved CUE courses:

CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 420	Cooperative Internship in Chemistry - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 430	Practicum in Chemistry Education - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

**Minimum Total Hours** **49-50**

### Chemistry Electives

Code	Title	Hours
CHEM 390	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 391	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1-3

CHEM 392	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1-3
CHEM 420	Cooperative Internship in Chemistry - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1-3
CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1-3
CHEM 492	Undergraduate Research	1-3
CHEM 527	Spectroscopic Identification of Organic Compounds - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 529	Contemporary Methods of Inorganic Synthesis and Analysis - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 546	Biochemistry Laboratory	2
CHEM 547	Biochemistry II	3
CHEM 555	Theory and Application of Computational Chemistry	3
CHEM 557	Bio-Organic Phenomena	3

<sup>1</sup> Fulfills General Education requirement.

<sup>2</sup> CHEM 470 plus 3 semester hours of another WR course will fulfill the WR requirement.

<sup>3</sup> With the consent of the instructor(s), graduate level courses in Chemistry may also be used to fulfill these requirements.

## Flight Plan

### Chemistry BS

Year 1		Hours
<b>Fall</b>		
CHEM 201	General Chemistry I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 207	Introduction to Chemical Analysis I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
CHEM 208	Introduction to Chemical Analysis II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
GEN 100 or GEN 101	Student Success Center First Year Experience or Arts & Sciences First Year Experience	1
ENGL 101	Introduction to College Writing - WC ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
General Education: Cardinal Core Arts & Humanities - AH		3
General Education: Social & Behavioral Sciences and Historical Perspective (SBH)		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CHEM 202	General Chemistry II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 209	Introduction to Chemical Analysis III	1

CHEM 210	Introduction to Chemical Analysis IV	1
MATH 205	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	4
ENGL 102	Intermediate College Writing - WC ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
General Education: Cardinal Core Oral Communication - OC		3
<b>Hours</b>		<b>15</b>
<b>Year 2</b>		
<b>Fall</b>		
CHEM 341	Organic Chemistry I	3
CHEM 343	Organic Chemistry Laboratory I	2
PHYS 221	Fundamentals of Physics I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
PHYS 223	Fundamentals of Physics Lab I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
MATH 206	Calculus II	4
Foreign Language 1		3-4
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
CHEM 342	Organic Chemistry II	3
CHEM 344	Organic Chemistry Laboratory II	2
PHYS 222	Fundamentals of Physics II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
PHYS 224	Fundamentals of Physics Laboratory II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
MATH 301	Calculus III	4
Foreign Language 2		3-4
<b>Hours</b>		<b>16-17</b>
<b>Year 3</b>		
<b>Fall</b>		
CHEM 425	Instrumental and Statistical Analysis	3
CHEM 465	Physical Chemistry I	3
CHEM 426	Instrumental and Statistical Analysis Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
Chemistry Undergraduate Research or Co-Op		3
Math, Physics, or Chemistry Elective (300 level or above)		3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
Humanities or Social Science WR Elective (300 level or above)		3
CHEM 445 or CHEM 545	Survey of Biochemistry or Biochemistry I	3
CHEM 466	Physical Chemistry II	3
CHEM 470	Physical Chemistry Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
General Elective		3
<b>Hours</b>		<b>14</b>
<b>Year 4</b>		
<b>Fall</b>		
CHEM 515	Inorganic Chemistry	3
CHEM 527	Spectroscopic Identification of Organic Compounds - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
Math, Physics, or Chemistry Elective (300 level or above)		3
Natural Science Elective (300 level or above)		3
General Education: Cardinal Core Social & Behavioral US Diversity - SBD1		3
<b>Hours</b>		<b>15</b>

**Spring**

CHEM 528	Contemporary Methods of Organic Synthesis and Analysis - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
CHEM 529	Contemporary Methods of Inorganic Synthesis and Analysis - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
Humanities or Social Science Elective (300 level or above)		3
General Education: Cardinal Core Arts & Humanities Global Diversity - AHD2		3
General Elective		6
<b>Hours</b>		<b>16</b>
<b>Minimum Total Hours</b>		<b>121-123</b>

**Track in Business**

**Year 1**

		<b>Hours</b>
<b>Fall</b>		
CHEM 201	General Chemistry I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 207	Introduction to Chemical Analysis I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
CHEM 208	Introduction to Chemical Analysis II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
ECON 201	Principles of Microeconomics - SB ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
GEN 100 or GEN 101	Student Success Center First Year Experience or Arts & Sciences First Year Experience	1
ENGL 101	Introduction to College Writing - WC ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
General Education: Cardinal Core Oral Communication - OC		3
<b>Hours</b>		<b>15</b>

**Spring**

CHEM 202	General Chemistry II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CHEM 209	Introduction to Chemical Analysis III	1
CHEM 210	Introduction to Chemical Analysis IV	1
ECON 202	Principles of Macroeconomics - SB ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
MATH 205	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	4
ENGL 102	Intermediate College Writing - WC ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
General Education: Social & Behavioral Sciences and Historical Perspective (SBH)		3
<b>Hours</b>		<b>18</b>

**Year 2**

		<b>Hours</b>
<b>Fall</b>		
CHEM 341	Organic Chemistry I	3
CHEM 343	Organic Chemistry Laboratory I	2
ACCT 201	Principles of Financial Accounting	3
MATH 206	Calculus II	4
PHYS 221	Fundamentals of Physics I - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
PHYS 223	Fundamentals of Physics Lab I - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
<b>Hours</b>		<b>16</b>

**Spring**

CHEM 342	Organic Chemistry II	3
CHEM 344	Organic Chemistry Laboratory II	2
ACCT 202	Principles of Managerial Accounting	3
PHYS 222	Fundamentals of Physics II - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
CIS 205	Information Systems in Organizations	3
PHYS 224	Fundamentals of Physics Laboratory II - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
<b>Hours</b>		<b>15</b>

**Year 3**

		<b>Hours</b>
<b>Fall</b>		
CHEM 425	Instrumental and Statistical Analysis	3
CHEM 426	Instrumental and Statistical Analysis Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
CHEM 441 or CHEM 465	Elements of Physical Chemistry or Physical Chemistry I	3
CIS 305	Data Analysis for Decision-Making	3
SOC 301 or PSYC 301 or BSTA 201	Introduction to Social Statistics or Introduction to Social Statistics or Business Statistics	3
<b>Hours</b>		<b>14</b>

**Spring**

CHEM 445	Survey of Biochemistry	3
CHEM 470	Physical Chemistry Laboratory - WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	2
MGMT 301	Management and Organizational Behavior	3
Humanities or Social Science WR Elective (300 level or above)		3
Foreign Language 1		4
<b>Hours</b>		<b>15</b>

**Year 4**

		<b>Hours</b>
<b>Fall</b>		
CHEM 515	Inorganic Chemistry	3
CHEM 391 or CHEM 392 or CHEM 420 or CHEM 491	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) or Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) or Cooperative Internship in Chemistry - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ), WR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> ) or Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1-3
MKT 301	Principles of Marketing	3
General Education: Cardinal Core Arts & Humanities Global Diversity - AHD2		3
Foreign Language 2		4
<b>Hours</b>		<b>14-16</b>

**Spring**

Chemistry Elective (300 level or above)		2
General Education: Cardinal Core Arts & Humanities US Diversity - AHD1		3
FIN 301	Corporate Finance	3
Humanities or Social Science Elective (300 level or above)		3
Business Elective (300 level)		3
<b>Hours</b>		<b>14</b>
<b>Minimum Total Hours</b>		<b>121-123</b>

The Flight Plan outlined above is intended to demonstrate one possible path to completing the degree within four years. Course selection and

placement within the program may vary depending on course offerings and schedule, elective preferences, and other factors (study abroad, internship availability, etc.). Please consult your advisor for additional information about building a flight plan that works for you.

**Degree Audit Report**

Degree Audit reports illustrate how your completed courses fulfill the requirements of your academic plan, and which requirements are still outstanding. Degree audits also take transfer credits and test credits into account. "What-if" reports allow you to compare the courses you have completed in your current academic plan to the courses required in another academic plan. Should you have questions about either report, please consult with your academic advisor.

**Flight Planner**

The Flight Planner tool is available for you to create a personalized Flight Plan to graduation. Advisors have access to review your Flight Planner and can help you adjust it to ensure you remain on track to graduate in a timely manner.

**To create these reports:**

1. Log into your ULink account.
2. Click on the Academic Progress tile.
3. Select the appropriate report.
  - a. To run a Degree Audit report, click on "View my Degree Audit."
  - b. To create a What-if report, click on "What-if Advisement Report."
  - c. To run a Flight Planner report, click on "Use My Flight Planner."

Click here to run a Degree Audit report, create a What-if report, or run a Flight Planner report. (<https://ulink.louisville.edu>)