

# BIOLOGY (BA)



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 Arts in Biology

Unit: College of Arts and Sciences (<https://louisville.edu/artsandsciences/intro/>) (AS)

Department: Biology (<http://louisville.edu/biology/>)

Academic Plan Code(s): BIOLBA

## Program Information

There are two undergraduate degree programs offered in the Biology Department, a Bachelor of Arts in Biology and a Bachelor of Science in Biology.

The BA degree is a more general degree than the BS. It is a liberal arts degree designed for those students who desire a broad education in a variety of disciplines. This degree requires more foreign language and social science and/or humanities courses than the BS degree. It is a good degree for students interested in taking a diversity of courses outside the sciences. This degree is also suitable for someone planning to be a teacher. A student planning on applying to professional schools can do so with this degree, as long as the student takes all the prerequisites for admission to the desired program.

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	22
	Program/Major Requirements <sup>1</sup>	37
	Supporting Courses	31
<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 will

be required to complete the minimum hours for the degree. See the Degree Requirements tab for specific coursework.

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

## Accelerated BA/MS in Biology

This program is available to only University of Louisville undergraduate students. Students who are considering pursuing a non-thesis master's degree (MS) in Biology can speed up the process by applying some of their undergraduate credit hours toward a master's degree. Students accepted into the Soaring Scholar (<https://graduate.louisville.edu/academics/programs/soaring/>) BA/MS program take three graduate courses (up to 9 credit hours) as an undergraduate that apply toward both the bachelor's degree and the eventual master's degree. An additional 24 credit hours of graduate coursework will constitute the minimum number of credit hours for obtaining the non-thesis masters. A minimum of 17 credit hours in the MS program must be in courses at the 600 level. With approval from the Director of Graduate Studies, successful applicants will identify up to 9 credit hours at the 500-600 level to count toward both the undergraduate and graduate degrees. These credits will count as elective credits toward the undergraduate degree.

Undergraduate students interested in participating in an accelerated dual bachelor's/master's degree offered through the university's Soaring Scholar Program must first meet with their Academic Advisor and be accepted into the program. Once accepted, students will receive an official admission letter outlining program policies and details. They will then work with their department and academic advisor to register for classes each semester, ensuring they meet the milestones and academic progress requirements of the Soaring Scholar program. A Soaring Scholar student is considered an undergraduate student until their bachelor's degree is conferred. In their final undergraduate semester, they are expected to apply for admission to their respective master's program.

## 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 BA in Biology requires completion of BIOL 240, BIOL 241, BIOL 242, and BIOL 243 with a grade of C or better; completion of MATH 111 with a grade of C or better OR placement into a mathematics course above the level of MATH 111 on the basis of either the University of Louisville mathematics placement examination or ACT/SAT score; and a minimum overall grade point average of 2.0.

The Change Major Request form can be found under the Academic Progress tile on ULink.

### Accelerated BA/MS in Biology

Students applying to the accelerated Soaring Scholar program must:

1. Have completed the equivalent of all the "core" majors courses in Biology with grades of B or higher;
2. Have a grade point average of 3.35 or higher; and
3. Apply for admission before the end of their junior year or completion of 90 credit hours toward their degree.

## 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>1</sup>		31
The following courses are required by the program and can satisfy the respective General Education Requirement:		
BIOL 240	Unity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
or BIOL 242	Diversity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 241	Experimental Biology I: Molecules and Cells - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
or BIOL 243	Experimental Biology II: Organismal Biology - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
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> )	
or 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> )	
MATH 180	Elements of Calculus - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
or MATH 201	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	

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.

## 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>2</sup>		12
Electives in Humanities or Social Sciences <sup>3</sup>		9
WR—two approved courses at the 300 level or above <sup>4</sup>		
<b>Minimum Total Hours</b>		<b>22</b>

## Program/Major Requirements

Code	Title	Hours
<b>Department of Biology</b>		
BIOL 240	Unity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
BIOL 241	Experimental Biology I: Molecules and Cells - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
BIOL 242	Diversity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
BIOL 243	Experimental Biology II: Organismal Biology - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
BIOL 329	Cellular and Molecular Biology	3
BIOL 330	Genetics and Molecular Biology	5
& BIOL 331	Genetics and Molecular Biology: Laboratory	
Select one of the following Ecology courses:		3
BIOL 363	Principles of Ecology	
BIOL 372	Evolutionary Ecology of Disease	
BIOL 440	Global Change Ecology - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 409	Evolutionary Biology - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
Biology Electives <sup>5</sup>		15
<b>Minimum Total Hours</b>		<b>37</b>
<b>Supporting Courses</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 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> )	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 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
MATH 180	Elements of Calculus - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3-4
or MATH 205	Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 350	Biostatistics	3
Minimum Electives <sup>6</sup>		5-6
<b>Minimum Total Hours</b>		<b>31</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:		
BIOL 405	Undergraduate Research - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 406	Undergraduate Research (WR) - 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> )	
BIOL 409	Evolutionary Biology - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 415	Biology of the Cell - 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> )	
BIOL 430	Undergraduate Teaching Assistant - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 443	Developmental Biology - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	
BIOL 485	Microbial Physiology - 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> )	
BIOL 490	Biology Internship - 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> )	
BIOL 511	Behavioral Endocrinology - 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> )	

BIOL 541	Medicinal Plant Biochemistry - 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> )
BIOL 548	Experimental Design and Analysis - 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> )

- <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 will be required to complete the minimum hours for the degree.
- <sup>2</sup> Completion of the intermediate level of a single foreign language
- <sup>3</sup> In addition to courses counted toward General Education; 6 hours must be at 300 level or above
- <sup>4</sup> May be incorporated into other degree requirements
- <sup>5</sup> BIOL 102, BIOL 104, BIOL 257, BIOL 258, BIOL 260, BIOL 261, BIOL 263, BIOL 264, and BIOL 265 may not count toward electives in the major. BIOL 321, BIOL 322, and BIOL 323 may count toward free electives in the major. A maximum of 6 hours of undergraduate research or independent study may count toward the major. Students should take all BIOL electives at the 300 level or above. With approval from the Director of Graduate Studies, successful applicants to the accelerated BA/MS in Biology will identify up to 9 credit hours at the 500-600 level to count toward both the undergraduate and graduate degrees. These credits will count as elective credits toward the undergraduate degree.
- <sup>6</sup> At least 5 hours should be at the 300-level or higher. Students who satisfy General Education Requirements by courses defined by the program will require additional electives to complete the minimum hours for the degree. With approval from the Director of Graduate Studies, successful applicants to the accelerated BA/MS in Biology will identify up to 9 credit hours at the 500-600 level to count toward both the undergraduate and graduate degrees. These credits will count as elective credits toward the undergraduate degree.

### Flight Plan

Year 1			
Fall			Hours
GEN 100	Student Success Center First Year Experience		1
or GEN 101	or Arts & Sciences First Year Experience		
BIOL 240	Unity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )		3
BIOL 241	Experimental Biology I: Molecules and Cells - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )		1
MATH 180	Elements of Calculus - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )		3-4
or MATH 205	or Calculus I - QR ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )		
Foreign Language 1			4
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
<b>Hours</b>			<b>15-16</b>
Spring			
BIOL 242	Diversity of Life - S ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )		3

BIOL 243	Experimental Biology II: Organismal Biology - SL ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	1
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
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
Foreign Language 2		4
<b>Hours</b>		<b>16</b>
<b>Year 2</b>		
<b>Fall</b>		
BIOL 329	Cellular and Molecular Biology	3
Foreign Language 3		4
General Education: Cardinal Core Oral Communication - OC		3
General Education: Cardinal Core Arts & Humanities - AH		3
General Education: Cardinal Core Social & Behavioral Sciences US Perspectives - SBP1		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
BIOL 330	Genetics and Molecular Biology	3
BIOL 331	Genetics and Molecular Biology: Laboratory	2
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
General Elective		3
General Elective		3
<b>Hours</b>		<b>15</b>
<b>Year 3</b>		
<b>Fall</b>		
BIOL 363	Principles of Ecology	3
Biology Elective (300 level or above)		3-4
CHEM 341	Organic Chemistry I	3
CHEM 343	Organic Chemistry Laboratory I	2
General Education: Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH		3
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
BIOL 350	Biostatistics	3
BIOL 409	Evolutionary Biology - CUE ( <a href="https://catalog.louisville.edu/undergraduate/general-education-requirements/">https://catalog.louisville.edu/undergraduate/general-education-requirements/</a> )	3
Biology Elective (300 level or above)		3-4
CHEM 342	Organic Chemistry II	3
CHEM 344	Organic Chemistry Laboratory II	2
General Education: Cardinal Core Arts & Humanities Global Perspectives - AHP2		3
<b>Hours</b>		<b>17-18</b>
<b>Year 4</b>		
<b>Fall</b>		
Biology Elective - CUE		3-4
Biology Elective (300 level or above)		3-4
Humanities or Social Science WR course (300 level or above)		3
General Elective		3
General Elective		3
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Biology Elective (300 level or above)		3-4
Humanities or Social Science WR Course (300 level or above)		3

Humanities or Social Science Course (300 level or above)	3
General Elective (300 level or above)	3
General Elective (300 level or above)	1-3
<b>Hours</b>	<b>13-16</b>
<b>Minimum Total Hours</b>	<b>121-129</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>)

## Accelerated BA/MS in Biology

This program is available to only University of Louisville undergraduate students. Students who are considering pursuing a non-thesis master's degree (MS) in Biology can speed up the process by applying some of their undergraduate credit hours toward a master's degree. Students accepted into the Soaring Scholar (<https://graduate.louisville.edu/academics/programs/soaring/>) BA/MS program take three graduate courses (up to 9 credit hours) as an undergraduate that apply toward both the bachelor's degree and the eventual master's degree. An additional 24 credit hours of graduate coursework will constitute the minimum number of credit hours for obtaining the non-thesis masters. A minimum of 17 credit hours in the MS program must be in courses at the 600 level. With approval from the Director of Graduate Studies, successful applicants will identify up to 9 credit hours at the 500-600 level to count toward both the undergraduate and graduate degrees. These credits will count as elective credits toward the undergraduate degree.

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then work with their department and academic advisor to register for classes each semester, ensuring they meet the milestones and academic progress requirements of the Soaring Scholar program. A Soaring Scholar student is considered an undergraduate student until their bachelor's degree is conferred. In their final undergraduate semester, they are expected to apply for admission to their respective master's program.

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