

BIOLOGY (BA)



This program was approved for students entering the university in the Summer 2023–Spring 2024 catalog year. For more information about catalog year, go to Catalog Year Information (<http://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 (http://catalog.louisville.edu/undergraduate/general-education-requirements/) ¹	31
	College/School Requirements	22
	Program/Major Requirements ¹	37
	Supporting Courses	31
Minimum Total Hours		121

¹ 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-BS/MS in Biology

Biology majors 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 Accelerated BA-BS/MS program take three graduate courses (9 credit hours) as an undergraduate that apply toward both the bachelor’s degree and the eventual master’s degree.

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.

General Education Requirements

Code	Title	Hours
	General Education Requirements (http://catalog.louisville.edu/undergraduate/general-education-requirements/) ¹	31

The following courses are required by the program and can satisfy the respective General Education Requirement:

BIOL 240	Unity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
or BIOL 242	Diversity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
BIOL 241	Unity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
or BIOL 243	Diversity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
CHEM 201	General Chemistry I - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
or CHEM 202	General Chemistry II - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
MATH 180	Elements of Calculus - QR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
or MATH 205	Calculus I - QR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)

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
Arts & Sciences Requirements		
GEN 100	Student Success Center First Year Experience	1
or GEN 101	Arts & Sciences First Year Experience	
Foreign Language ²		12
Electives in Humanities or Social Sciences ³		9
WR—two approved courses at the 300 level or above ⁴		
Minimum Total Hours		22

Program/Major Requirements

Code	Title	Hours
Department of Biology		
BIOL 240	Unity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
BIOL 241	Unity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
BIOL 242	Diversity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
BIOL 243	Diversity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
BIOL 329	Cellular and Molecular Biology	3
BIOL 330	Genetics and Molecular Biology	5
& BIOL 331	Genetics and Molecular Biology: Laboratory	
BIOL 363	Principles of Ecology	3
BIOL 409	Evolutionary Biology	3
Biology Electives ⁵		15
Minimum Total Hours		37

Code	Title	Hours
Supporting Courses		
CHEM 201	General Chemistry I - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
CHEM 202	General Chemistry II - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
CHEM 207	Introduction to Chemical Analysis I - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
CHEM 208	Introduction to Chemical Analysis II - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	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 (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3-4
or MATH 205	Calculus I - QR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	
BIOL 350	Biostatistics	3
Minimum Electives ⁶		5-6
Minimum Total Hours		31

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

Code	Title	Hours
Culminating Undergraduate Experience (Graduation requirement)		
Requirement fulfilled by completing one of the following:		
BIOL 405	Undergraduate Research - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	
BIOL 406	Undergraduate Research (WR) - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/), WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	
BIOL 409	Evolutionary Biology	
BIOL 415	Biology of the Cell - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/), WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	
BIOL 430	Undergraduate Teaching Assistant - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	
BIOL 443	Developmental Biology - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	

BIOL 485	Microbial Physiology - WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/), CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
BIOL 490	Biology Internship - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/), WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
BIOL 511	Behavioral Endocrinology - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/), WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
BIOL 541	Medicinal Plant Biochemistry - WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/), CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/)
BIOL 548	Experimental Design and Analysis - CUE (http://catalog.louisville.edu/undergraduate/general-education-requirements/), WR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)

- ¹ 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.
- ² Completion of the intermediate level of a single foreign language
- ³ In addition to courses counted toward General Education; 6 hours must be at 300 level or above
- ⁴ May be incorporated into other degree requirements
- ⁵ BIOL 102, BIOL 104, BIOL 257, BIOL 258, BIOL 260, BIOL 261, BIOL 262 and BIOL 263 may not count toward 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.
- ⁶ 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.

Flight Plan

Year 1		
Fall		Hours
GEN 100 or GEN 101	Student Success Center First Year Experience or Arts & Sciences First Year Experience	1
BIOL 240	Unity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
BIOL 241	Unity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
MATH 180 or MATH 205	Elements of Calculus - QR (http://catalog.louisville.edu/undergraduate/general-education-requirements/) or Calculus I - QR (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3-4
Foreign Language 1		4

ENGL 101	Introduction to College Writing - WC (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
Hours		15-16
Spring		
BIOL 242	Diversity of Life - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
BIOL 243	Diversity of Life Lab - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
CHEM 201	General Chemistry I - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
CHEM 207	Introduction to Chemical Analysis I - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
CHEM 208	Introduction to Chemical Analysis II - SL (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	1
ENGL 102	Intermediate College Writing - WC (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
Foreign Language 2		4
Hours		16
Year 2		
Fall		
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 Diversity - SBD1		3
Hours		16
Spring		
BIOL 330	Genetics and Molecular Biology	3
BIOL 331	Genetics and Molecular Biology: Laboratory	2
CHEM 202	General Chemistry II - S (http://catalog.louisville.edu/undergraduate/general-education-requirements/)	3
CHEM 209	Introduction to Chemical Analysis III	1
General Elective		3
General Elective		3
Hours		15
Year 3		
Fall		
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
Hours		14-15
Spring		
BIOL 350	Biostatistics	3
BIOL 409	Evolutionary Biology	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 Diversity - AHD2		3
Hours		17-18
Year 4		
Fall		
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
Hours	15-17
Spring	
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
Hours	13-16
Minimum Total Hours	121-129

Degree Audit Report

Degree Audit reports illustrate how your completed courses fulfill the requirements of your academic plan. 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:

- a. Log into your ULink account.
- b. Click on the Academic Progress tile.
- c. Select the appropriate report.
 - i. To run a Degree Audit report, click on "View my Degree Audit."
 - ii. To create a What-if report, click on "Create a What-if Advisement Report."
 - iii. 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>)