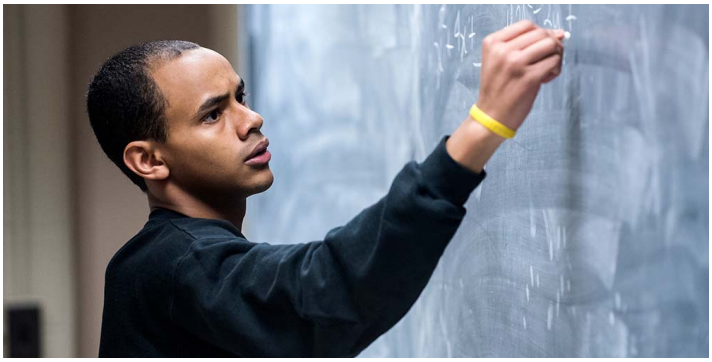
MATHEMATICS (BA)



This program was approved for students entering the university in the Summer 2018–Spring 2019 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 Mathematics (MATHBA)
Unit: College of Arts and Sciences (AS) (http://www.louisville.edu/a-s)
Department: Mathematics (http://www.math.louisville.edu)

The Bachelor of Arts in Mathematics is designed for students wishing to obtain a broad yet substantial background in mathematics as well as general education. The Bachelor of Arts covers a wide variety of topics such as algebra, geometry, and probability. This breadth is particularly well-suited for students preparing for secondary certification in mathematics.

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]		68
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.

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

Accelerated BA/BS-MA Option in Mathematics

Students must apply for admission to the program no later than the end of the junior year and must have completed MATH 205, MATH 206, MATH 301, and MATH 325, or equivalent courses, prior to application.

Applicants must have a minimum overall GPA of 3.5, and minimum GPA of 3.66 in mathematics courses. As part of the combined degree, students must complete MATH 405 and at least four (4) of the following: MATH 501, MATH 502, MATH 521, MATH 522, MATH 561, MATH 562, or MATH 581, including at least one sequence from among these courses.

The student may take a maximum of nine (9) credit hours for graduate credit, which will also apply to the requirements for the baccalaureate degree in Mathematics. All 600-level courses numbered 689 or below qualify, as do 500-level courses when completed in accord with the stipulations for graduate credit outlined in the syllabus.

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 Mathematics requires the following:

- enrollment in a mathematics course beyond MATH 205;
- a minimum cumulative grade point average of 2.0; and
- a minimum grade point average of 2.0 on all courses in the major.

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

Accelerated BA/BS-MA Option in Mathematics

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General Education Requirements

Code	Title	Hours
General Education Requirements (http://catalog.louisville.edu/undergraduate/general-education-requirements) *		31
The following courses are required by the program and can satisfy the respective General Education Requirement:		
MATH 205	Calculus I - QR	
One of the following:		

PHYS 299 & PHYS 295	Introductory Electricity, Magnetism and Light Introductory Laboratories I - SL
CHEM 201 & CHEM 207	General Chemistry I - S Introduction to Chemical Analysis I - SL
BIOL 240 & BIOL 244	Unity of Life - S Principles of Biology Laboratory - SL

*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 or GEN 101	Student Success Center Orientation Arts and Sciences Orientation	1
Foreign Language [1]		12
Electives in Humanities or Social Sciences [2]		9
WR—two approved courses at the 300 level or above [3]		
Minimum Total Hours		22

Program/Major Requirements

Code	Title	Hours
Mathematics Department		
MATH 205	Calculus I - QR [4]	4
MATH 206	Calculus II	4
MATH 301	Calculus III	4
MATH 311	Introduction to Higher Math	3
MATH 325	Introduction to Linear Algebra	3
MATH 387	Discrete Mathematics	3
MATH 501	Introduction to Analysis I - CUE	3
MATH 521	Modern Algebra I - CUE	3
MATH 550 or MATH 551	Advanced Euclidean Geometry Geometry	3
MATH 560 or MATH 561	Statistical Data Analysis - WR Probability	3
Mathematics electives chosen in consultation with departmental advisor		3
Supporting Courses		
Select one of the following sequences:		7-10
Sequence One:		
PHYS 295	Introductory Laboratories I - SL [4]	
PHYS 296	Introductory Laboratories II - SL	
PHYS 298	Introductory Mechanics, Heat and Sound - S	
PHYS 299	Introductory Electricity, Magnetism and Light [4]	
Sequence Two:		
CHEM 201	General Chemistry I - S [4]	
CHEM 202	General Chemistry II - S	
CHEM 207	Introduction to Chemical Analysis I - SL	
CHEM 208	Introduction to Chemical Analysis II - SL	
CHEM 209	Introduction to Chemical Analysis III	
Sequence Three:		
BIOL 240	Unity of Life - S [4]	
BIOL 242	Diversity of Life	
BIOL 244	Principles of Biology Laboratory - SL [4]	
Elective in second science discipline		3
Electives in Natural Sciences, other than Mathematics		5-8
Electives		
Minimum Electives [5]		14
Minimum Total Hours		68

Only 40 hours in the major department may be applied toward the Bachelor of Arts degree.

Mathematics courses at the 100 level do not count toward hours in the major.

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

A minimum of 9 hours in courses numbered 311 or higher must be successfully completed in the Department of Mathematics at the University of Louisville.

Code	Title	Hours
Culminating Undergraduate Experience (Graduation requirement)		
Requirement fulfilled by completing:		
MATH 501 or MATH 521	Introduction to Analysis I - CUE Modern Algebra I - CUE	3

1 Completion of the intermediate level of a single foreign language

2 In addition to courses counted toward General Education; 6 hours must be at 300 level or above

3 May be incorporated into other degree requirements

4 Fulfills General Education requirement.

5 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

Course	Title	Hours
Year 1		
Fall		
GEN 100 or GEN 101	Student Success Center Orientation or Arts and Sciences Orientation	1
ENGL 101	Introduction to College Writing - WC	3
MATH 205	Calculus I - QR	4
General Education:	Cardinal Core Oral Communication - OC	3
General Education:	Cardinal Core Social & Behavioral Sciences Historical Perspective - SBH	3
General Elective		3
	Hours	17
Spring		
ENGL 102	Intermediate College Writing - WC	3
General Education:	Cardinal Core Arts & Humanities - AH	3
MATH 206	Calculus II	4
MATH 311	Introduction to Higher Math	3
Foreign Language 1		3-4
	Hours	16-17
Year 2		
Fall		
General Education:	Cardinal Core Arts & Humanities Global Diversity - AHD2	3

Foreign Language 2		3-4
MATH 301	Calculus III	4
General Elective (300 level or above)		3
General Elective (300 level or above)		3
	Hours	16-17
Spring		
MATH 325	Introduction to Linear Algebra	3
General Education: Cardinal Core Social & Behavioral Sciences US Diversity - SBD1		3
Foreign Language 3		3-4
Humanities or Social Science Elective (300 level or above)		3
General Elective		3
	Hours	15-16
Year 3		
Fall		
MATH 387	Discrete Mathematics	3
First portion of chosen Natural Science Sequence		3-5
Foreign Language 4 or General Elective		3
Humanities or Social Science WR Elective (300 level or above)		3
General Elective (300 level or above)		3
	Hours	15-17
Spring		
Humanities or Social Science WR Elective (300 level or above)		3
Natural Science Elective (not from chosen sequence) (also fulfills General Education/Cardinal Core Natural Science Requirement - S)		3
Second portion of chosen Natural Science Sequence (also fulfills General Education/Cardinal Core Natural Science with Lab Requirement - S+SL or B)		4-5
MATH 550 or MATH 551	Advanced Euclidean Geometry or Geometry	3
MATH 560 or MATH 561	Statistical Data Analysis - WR or Probability	3
	Hours	16-17
Year 4		
Fall		
MATH 501	Introduction to Analysis I - CUE	3
MATH 521	Modern Algebra I - CUE	3
Natural Science Elective (non-Math)		3-4
General Elective		3
General Elective		3
	Hours	15-16
Spring		
Math Elective		3
General Elective (300 level or above)		3
General Elective		3
General Elective		3
	Hours	12
	Minimum Total Hours	122-129

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. For both reports, please consult with your advisor before editing your course schedule.

To create either report:

1. Log into your ULink account.
2. Click on the Student Services tab.
3. Next, click on "View my Academic Advisement Report" to run a Degree Audit report in the Undergraduate Advising area.
4. To create a What-if report, click on "Create a What-if Advisement Report."

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