



(completion of the intermediate level of a single foreign language)
 Electives in Humanities or Social Sciences
 (in addition to courses counted toward General Education;
 6 hours must be at 300 level or above)922
 WR—two approved courses at the 300 level or above
 (may be incorporated into other degree requirements)

Mathematics Department

Mathematics 205¹-206, 30112
 Mathematics 3113
 Mathematics 3253
 Mathematics 3873
 Mathematics 501 and 5216
 Mathematics 550 or 5513
 Mathematics 560 or 5613
 Mathematics electives chosen in
 consultation with departmental advisor336

Supporting Courses

One of the following sequences:6-10
 Physics 295-296 and 298-299¹
 Chemistry 201-202¹, 207, 208, 209
 Biology 240, 242, 244¹
 Elective in second science discipline3
 Electives in Natural Sciences, other than Mathematics5-818

Minimum Electives.....11
Minimum Total.....121

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.

¹ Fulfills general education requirement.

Mathematics

Mathematics

Bachelor of Arts in Mathematics

Major: MATH
Degree: BA
Unit: College of Arts and Sciences (AS)

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.

NOTE: Admission to the major requires enrollment in a mathematics course beyond MATH 205; a minimum cumulative GPA of 2.0; and a minimum GPA of 2.0 on all courses in the major.

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

	Semester Hours	Total
General Education		34

All degrees require the completion of the University-wide General Education Program; see page 15 of this catalog for the General Education requirements and the courses that fulfill them. 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.

Arts & Sciences Programmatic Requirements

General 101: A&S Orientation1
 Foreign Language12

Mathematics

Bachelor of Science in Mathematics

Major: MATH
Degree: BS
Unit: College of Arts and Sciences (AS)

The Bachelor of Science offers a solid, in-depth knowledge of mathematics, combined with a concentration in an area of application. Students preparing to enter a traditional graduate program in mathematics should focus on the concentration in pure mathematics; those preparing for graduate school in a specialized area should use the appropriate concentration. The concentration in actuarial mathematics also includes many of the courses that prepare the student for the Actuarial Examinations.

NOTE: Admission to the major requires enrollment in a mathematics course beyond MATH 205; a minimum cumulative GPA of 2.0; and a minimum GPA of 2.0 on all courses in the major.

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

	Semester Hours	Total
General Education		34*

All degrees require the completion of the University-wide General Education Program; see page 15 of this catalog for the General Education requirements and the courses that fulfill them. 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.

* 10 hours of General Education requirements (Mathematics and Natural Sciences) are met with requirements in the major or supporting coursework.

Arts & Sciences Programmatic Requirements

General 101: A&S Orientation1
 Foreign Language6-8
 (completion of the second semester of a single foreign language; hours will vary depending on the language taken)
 Electives in Humanities or Social Sciences,
 at the 300 level or above (in addition to courses
 counted toward General Education)613-15
 WR—two approved courses at the 300 level or above

(may be incorporated into other degree requirements)

Mathematics Department

Mathematics Core Requirements

Mathematics 205 ¹ -206, 301	12
Mathematics 311	3
Mathematics 325	3
Mathematics 405	3
Mathematics 501 or 521	3
Mathematics electives chosen in consultation with departmental advisor	6
Concentration in one of areas below	27
	57

Each concentration has its own set of electives; consult the department advisor for appropriate courses.

Mathematics Concentrations

Actuarial Science

Mathematics 561	3
Mathematics 562	3
Mathematics 570	3
Mathematics 572	3
Application Area electives	15

(No more than 6 hours may be in mathematics)

Computational and Applied Mathematics

Mathematics 387	3
Mathematics 407	3
Mathematics 535	3
Mathematics 536	3
Application Area electives	15

(No more than 6 hours may be in mathematics)

Probability and Statistics

Mathematics 560	3
Mathematics 561	3
Mathematics 562	3
Mathematics 564	3
Application Area electives	15

(No more than 6 hours may be in mathematics)

Pure Mathematics

Mathematics 387	3
Mathematics 502	3
Mathematics 522	3
Mathematics 561	3
Application Area electives	15

(No more than 6 hours may be in mathematics)

Supporting Courses

One of the following sequences:	7-10
Physics 298-299 and 295-296 ¹	
Chemistry 201-202 ¹ , 207, 208, 209	
Biology 240, 242, 244 ¹	
Elective in second science discipline	3
One computer related course chosen in consultation with departmental advisor	3
Elective in Natural Sciences (other than Mathematics) or a second computer related course chosen in consultation with departmental advisor	3.....16-19
Minimum Electives	6-11

[Elective hours are dependent on completion of 10 hours of General Education requirements through requirements in the major and supporting coursework.]

Minimum Total.....121

Only 60 hours in the major department may be applied toward the Bachelor of Science 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 12 hours in courses numbered 311 or higher must be successfully completed in the Department of Mathematics at the University of Louisville.

¹ Fulfills general education requirement.

Mathematics

Minor in Mathematics

Minor: MATH

Unit: College of Arts and Sciences (AS)

	Semester Hours	Total
Mathematics 205-206	8	
Mathematics 311	3	
Mathematics electives in courses numbered 190 ¹ or above	10	
Minimum Total		21

For a minor in Mathematics, 6 hours in courses numbered 311 or higher must be successfully completed in the Department of Mathematics at the University of Louisville.

¹ Mathematics 111 and 112 may be substituted for 190, but only 4 hours credit will be applied toward the electives in the minor.

Mathematics

Minor in Actuarial Mathematics

Minor: MATA

Unit: College of Arts and Sciences (AS)

	Semester Total	Hours
Mathematics 205-206, 301	12	
Mathematics 561	3	
Mathematics 570	3	
Mathematics 562 or 572	3	
Minimum Total		21

Note: For a minor in Mathematics, 6 hours in courses numbered 311 or higher must be successfully completed in the Department of Mathematics at the University of Louisville.