

Minor in Biomathematics

ADVISING HELP: *Questions about the Biomathematics Minor?* Contact Dr. Jennifer Slate at jeslate@neu.edu in Biology or Dr. Emma Turian at mturian@neu.edu in Mathematics. Also see the outline of courses for the Biomathematics Minor (<https://www.neu.edu/sites/default/files/documents/2022/06/03/Biomathematics%20Minor.pdf>).

Minor in biomathematics (22-24 credit hours)

Are you interested in finding answers to today's pressing health and environmental questions? Analytical tools drive scientific advancement in many areas of biology, including biomedicine, genetics, physiology, ecology, evolution, toxicology, immunology, natural resource management, and environmental conservation. By minoring in biomathematics, you will strengthen biological and mathematical skills needed to solve real-world problems.

Why minor in Biomathematics at Northeastern Illinois University?

- Fast-growing biological careers in industry, government, and the non-profit sector require strong analytical skills.
- You will gain hands-on experience through modeling courses in mathematics and laboratory courses in biology.
- By choosing electives relevant to your interests, you can customize the minor.

The Biomathematics Minor has a set of four required courses and two electives. Required courses are General Biology I (BIO 201), General Biology II (BIO 202), Calculus I (MATH 187), and either Applied and Computational Statistics (MATH 275) or Probability and Statistics (MATH 305). Elective courses include one additional course in biology and one additional course in mathematics. For the biology elective, select Cell Biology (BIO 301) or General Genetics (BIO 303) or General Ecology (BIO 305), or choose another appropriate biology elective in consultation with an advisor. For the mathematics elective, select Mathematical Modeling in the Natural Sciences (MATH 370) or Mathematical Modeling for Cancer Risk Assessment (MATH 371) or Modeling and Simulations of Complex Systems Networks (MATH 374), or choose another appropriate mathematics elective in consultation with an advisor.

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University Core Curriculum Requirements

General Education Distribution Area	Cr. Hrs.
Fine Arts (FA)* 2 courses, from at least two of the following areas of study: Art, CMT (Mass Media or Theatre), Music (includes Dance).	6
Humanities (HU)* 3 courses, from at least two of the following areas of study: CMT (Communication), English, Linguistics, Philosophy, Women's and Gender Studies, World Languages and Cultures, (Note: No more than two foreign language courses may be used to fulfill this requirement.)	9
Behavioral/Social Sciences (SB)* 3 courses, from at least two of the following areas of study: African & African American Studies, Anthropology, Computer Science, Economics, Geography & Environmental Studies, History, Justice Studies, Latino & Latin American Studies, Political Science, Psychology, Sociology, Social Work	9
Natural Sciences (NS and NSL)** 3 courses, from at least two of the following areas of study; one course must have a laboratory component (NSL): Biology, Chemistry, Earth Science, Environmental Science, Physics (Note: If an FYE ANTH that counts as Natural Science is taken, only one Biology course may be used for Natural Science).	9

Engaged Learning Experiences

Students must complete, at Northeastern, three courses designated as Engaged Learning Experiences courses. One of the Engaged Learning Experiences courses must be at the 300-level, and one Engaged Learning Experiences course must be designated as "Boundary Crossing".

Discipline Specific (ELE-DS)

These courses have pre-requisites that are specific courses within a program of study. Discipline Specific courses give students a deeper understanding of how knowledge is created and applied in their field.

Boundary Crossing (ELE-X)

These are courses that cross disciplinary boundaries and/or cross boundaries through engagements outside the classroom or University allowing students to see how knowledge gained in one field might inform other fields or other aspects of society.

Math/Quantitative Reasoning (MA)

1 Math course, that has intermediate Algebra as prerequisite OR is a course listed on the General Education Distributive Learning List of Approved Courses. Any 3 hour college level math course, beyond Intermediate Algebra, meets this requirement.

* Majors in Fine Arts, Humanities or Social/Behavioral Sciences, may waive up to 6 credit hours of General Education requirements in the corresponding distribution area.

** Majors in Natural Sciences may waive up to 9 credit hours of General Education requirements in the Natural Sciences distribution area.

Students should also be aware of all other university requirements to obtain a degree - NEIU requirements (<http://catalog.neiu.edu/graduation-requirements/bachelors-degree/>)

courses for the biomathematics minor (22-24 CREDIT HOURS)

Code	Title	Hours
REQUIRED COURSES		
BIO-201	General Biology I	4
BIO-202	General Biology II	4
MATH-187	Calculus I	4
MATH-275 or MATH-305	Applied And Computational Statistics Probability And Statistics	4
Code Title Hours		
SELECT ONE BIOLOGY ELECTIVE AND ONE MATH ELECTIVE		
Note: The BIO 250 prerequisite requirement will be waived for students who aren't pursuing a major or minor in biology.		
BIO-301 or BIO-303 or BIO-305 or another 3-4 credit biology elective chosen with an advisor	Cell Biology General Genetics Writing Intensive Program:General Ecology	4
MATH-370 or MATH-371 or MATH-374 or another 3-4 credit math elective chosen with an advisor	Mathematical Modeling In The Natural Sciences Mathematical Modeling For Cancer Risk Assessment Modeling And Simulations Of Complex Systems Networks	4