MICROBIOLOGY - BACHELOR OF SCIENCE

The major in microbiology provides a solid academic base for those planning to enter any of the various fields of microbiology.

Requirements

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix | Title | Credits
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**General Education**

**Area I: Communications**: 10

- English Composition - Level 1
- English Composition - Level 2
- Oral Communication

**Area II: Mathematics**: 4

- MATH 191G Calculus and Analytic Geometry I

**Area III/IV: Laboratory Sciences and Social/Behavioral Sciences**: 11

Choose one sequence from the following (4 credits)

- PHYS 211G & 211GL General Physics I and General Physics I Laboratory
- PHYS 221G & PHYS 211GL General Physics for Life Sciences I and General Physics I Laboratory

Choose one sequence from the following (4 credits)

- PHYS 212G & 212GL General Physics II and General Physics II Laboratory
- PHYS 222G & 222GL General Physics for Life Sciences II and Laboratory to General Physics for Life Sciences II

**Area IV: Social/Behavioral Sciences course (3 credits)**

**Area V: Humanities**

**Area VI: Creative and Fine Arts**

**General Education Elective**: 4

- BIOL 111G & 111GL Natural History of Life and Natural History of Life Laboratory (Departmental Requirement)

**Viewing A Wider World**: 6

**Departmental Requirements**

- BIOL 211G Cellular and Organismal Biology
- BIOL 211GL Cellular and Organismal Biology Laboratory
- BIOL 305 Principles of Genetics
- BIOL 311 General Microbiology
- BIOL 311 L General Microbiology Laboratory
- BIOL 451 Physiology of Microorganisms
- BIOL 475 Virology
- BIOL 455 Biometry
- or BIOL 475 Statistical Applications

**Microbiology Electives**: 6

Select six additional credits from the following list to bring total upper-division credits in microbiology to 24: BIOL 412, BIOL 427, BIOL 451, BIOL 469, BIOL 473, BIOL 475, BIOL 476, BIOL 477

**Non-Departmental Requirements (in addition to Gen.Ed/VWW)**

- CHEM 111G General Chemistry I
- or CHEM 115 Principles of Chemistry I
- CHEM 112G General Chemistry II
- or CHEM 116 Principles of Chemistry II
- CHEM 313 Organic Chemistry I
- CHEM 314 Organic Chemistry II
- CHEM 315 Organic Chemistry Laboratory
- BCHE 395 Biochemistry I

**Second Language Requirement**: 0-8

The number of credits required to satisfy this requirement will vary depending on the option a student chooses. See the Biology Department Overview in the catalog for a list of options.

**Electives, to bring the total credits to 120**: 26-18

Select sufficient electives to bring total credits to 120 including 48 upper-division credits.

**Total Credits**: 120

1. See the General Education section of the catalog for a full list of courses.
2. MATH 191G Calculus and Analytic Geometry I is required for the degree but students may need to take prerequisites courses before entering MATH 191G.
3. See the Viewing a Wider World section of the catalog for a full list of courses.
4. Students may take both BIOL 451 and BIOL 475; the second course will count as a microbiology elective.
5. Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The elective credits in the requirement list is the amount needed to bring the total to 120 credits and may vary depending on the degree. Students may have to take more or less courses on a case-by-case basis and each student should discuss this with their advisor.