

Nebraska Wesleyan University

Catalog 2017-2018

Major:

Biology (B.S.)

The B.S. and the B.A. in biology can both provide students with the experience and knowledge necessary to have a successful career. A B.S. in biology requires 28 hours of approved hours in the Natural Sciences Division. Competency in a modern language other than English is strongly encouraged. The B.S. tends to be the preferred option for most students as it also most closely matches the expectations and requirements of many professional and graduate schools.

Departments/Programs:

Biology

Biology Major (B.S., 34 hours plus a 28-hour supporting program)

| Biology Core | 12 hours |
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| BIO 1400FYW Introduction to Biological Inquiry | 4 hours |
| BIO 2200 Genetics and Cell Biology | 4 hours |
| BIO 2300 Ecology and Evolution | 4 hours |
| Biology Electives | 20 hours |

Must have three lab courses, with at least one from Area A and one from Area B. Remaining hours from any area (A, B, C, D, E).

| Capstone | 2 hours |
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| BIO-4980A and BIO-4980B or BIO-4990A and BIO-4990B | |

Biology Electives

| Area A. Cellular, Developmental and Molecular Biology | |
|--|---------|
| BIO 3160 Medical Botany and BIO 3170 Medical Botany Lab (lab course) | 4 hours |
| BIO 3440 Developmental Biology (lab course) | 4 hours |
| BIO 3690 Microbiology (lab course) | 3 hours |
| BIO 3800 Molecular Genetics and BIO-3850 (lab course) | 4 hours |
| BIO 4190 Histology (lab course) | 4 hours |
| BIO 4750 Immunology and BIO-4760 (lab course) | 4 hours |
| Area B. Population and Ecological Biology | |
| BIO 3180 Plant Taxonomy (lab course) | 4 hours |
| BIO 3220 Parasitology (lab course) | 4 hours |
| BIO 3500 Conservation Biology (lab course) | 4 hours |
| BIO 3530 Principles of Marine Biology and Oceanography and BIO 3540 Applied Marine Biology (lab course) | 5 hours |
| BIO 3640 Animal Behavior and BIO 3650 Laboratory in Animal Behavior (lab course) | 4 hours |

| Area B. Population and Ecological Biology | |
|--|------------|
| BIO 3720 Physiological Ecology (lab course) | 4 hours |
| BIO 4210 Ecology (lab course) | 4 hours |
| BIO 4480 Vertebrate Zoology (lab course) | 4 hours |
| BIO 4610 Evolution | 4 hours |
| Area C. Applied Biology | |
| BIO 3000 An Introduction to Biomedical Ethics | 2 hours |
| BIO 3200 Advanced Human Anatomy and Physiology I (lab course) | 3 hours |
| BIO 3210 Advanced Human Anatomy and Physiology II (lab course) | 3 hours |
| BIO 3970 Internship | 1-3 hours |
| BIO 3950/BIO 4950 Independent Study | 1 -2 hours |
| BIO 4700 Pathophysiology | 3 hours |
| Area D. Global Experience in Biology | |
| BIO 3510 Tropical Biology of Costa Rica (lab course) | 3 hours |
| BIO 3520 Tropical Biology of Belize (lab course) | 3 hours |
| BIO 3540 Applied Marine Biology (lab course) | 3 hours |
| Area E. Additional Courses | |
| BIO 3900/BIO 4900 Selected Topics | 1-4 hours |
| BIO 3910 Directed Readings | 1-2 hours |

BIO 1080 Microbiology, BIO 1090 Introduction to Human Anatomy and Physiology I, and BIO 1100 Introduction to Human Anatomy and Physiology II may not fulfill biology major requirements.

| Required Supporting Area | 28 hours |
|--|-----------------|
| CHEM 1110 Chemical Principles I and CHEM 1110L Chemical Principles I Laboratory | 4 hours |
| CHEM 1120 Chemical Principles II and CHEM 1120L Chemical Principles II Laboratory | 4 hours |
| CHEM 2100 Organic Chemistry I and CHEM 2100L Organic Chemistry I Laboratory | 4 hours |
| CHEM 2110 Organic Chemistry II: Synthesis and Mechanisms and CHEM 2110L Organic Chemistry II Laboratory | 4 hours |
| PHYS 1600 Principles of Physics I or PHYS 2000 General Physics I | 4 hours |
| PHYS 1700 Principles of Physics II or PHYS 2100 General Physics II | 4 hours |
| MATH 1500 Calculus for Management, Biological, and Social Sciences or MATH 1550 Calculus For Biologists or MATH 1600 Calculus I or MATH 1300 Statistics | 4 hours |