

## Biology

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Biology majors have consistently gained admission into graduate schools and professional health programs, such as dentistry, medicine, optometry, physical therapy, and veterinary medicine. Biology majors also have entered careers in business, conservation, research, and teaching.

All biology majors conduct independent research under the guidance of a faculty member. Participation in May Term experiences, such as the ecology of Guyana and Trinidad, prairie vertebrate ecology, or marine study, is encouraged.

Through Wartburg's affiliation with the Gulf Coast Research Laboratory, Ocean Springs, Miss., students can enroll in marine biology courses. These offerings include Marine Invertebrate Zoology, Marine Phycology, Marine Science I: Oceanography, Marine Science II: Marine Biology, and several chemistry courses.

Program goals:

- To develop an understanding of the molecular, physiological, morphological, evolutionary, and ecological components of organisms.
- To develop the ability to design and conduct research, analyze and interpret data, critically evaluate scientific literature, write scientific papers, and present posters and seminars.
- To develop an awareness of the social, moral, and ethical aspects of the biological sciences.
- To prepare students for acceptance into graduate or professional programs or for employment in a biology-related field.

### Major in Biology

14½ course credits:

BI 151 Ecosystems, Cells, and Evolution  
BI 152 Phylogeny, Structure, and Function  
BI 211 Genetics  
BI 455 Methods of Biological Research (½)  
BI 456 Student-Originated Research (½)  
BI 461 Science Seminar (½)

One form and function course credit from

BI 202 Human Anatomy and Physiology  
BI 304 Developmental Biology  
BI 311 Mammalian Anatomy and Physiology I  
BI 312 Mammalian Anatomy and Physiology II  
BI 335 Neurobiology

One field biology course credit from

BI 204 Conservation of Natural Resources  
BI 206, 216 Ecology of Guyana and Trinidad I, II  
BI 207 Vertebrate Ecology of the Prairie  
BI 209 Ecology  
BI 315 Ornithology  
BI 320 Aquatic Biology  
BI 325 Behavioral Ecology

One cellular biology course credit from

BI 221 Cell Biology  
BI 305 Microbiology  
BI 416 Molecular Biology of Cancer

Two BI elective course credits

Three CH course credits

CH 113 Principles of Chemistry I  
CH 114 Principles of Chemistry II  
CH 190 Environmental Chemistry  
CH 205 Introductory Organic Chemistry  
CH 211 Organic Chemistry I  
CH 217 Analytical Chemistry

Two MA course credits (MA 214 Statistical Methods is strongly recommended; MA 106 Mathematics in Modern Society does not count)

By completing the biology major, students have met the requirements for OCAC/ILAC.

### Minor in Biology

7 course credits:

BI 151 Ecosystems, Cells, and Evolution  
BI 152 Phylogeny, Structure, and Function

Three BI elective course credits above the 100 level and approved by the department

Two CH course credits from

CH 113 Principles of Chemistry I  
CH 114 Principles of Chemistry II  
CH 190 Environmental Chemistry

### Biology Teaching

For the biology teaching major and endorsements, see Education Department listings.

### Dentistry, Medical Science, Medical Technology, Nursing, Occupational Therapy, Optometry, Physical Therapy, Veterinary Medicine

See Preprofessional Study.