# Biology
## (Bachelor of Science)
## at Benedictine University

### What is biology?
Biology is the study of living organisms. It is a broad-based science, one that has areas of specialization for almost anyone interested in science. From the structure and function of molecules and the remarkable interaction of plants and animals with their environment to animal behavior and toxicology, Biology is an excellent major for you if you have an inquisitive mind, are interested in science and enjoy hard work. Biologists use mathematics and their knowledge of physical and chemical sciences as tools to study living things. They routinely work cooperatively and need to possess good communication skills to present their ideas to others.

### Why study biology at Benedictine?
*Reputation.* All of the full-time faculty members in the Department of Biological Sciences hold the highest degree in their field. The Howard Hughes Medical Institute has awarded science education and research grants to the department three times. Benedictine University has an excellent placement record for graduates applying to medical, dental and other graduate and professional schools.

*Learn by doing.* You have the opportunity to participate in research with faculty in the department, or you may want to gain a practicum experience with the doctors at Edward Hospital in Naperville or with other health specialists in the area. Many Biology majors work in our own Jurica-Suchy Nature Museum.

*Faculty who care.* All of the full-time faculty in the department teach their own courses and laboratories and hold study sessions with their students. The faculty are your academic advisors and mentors during the years you are in the department.

*Success.* After graduation, our majors matriculate into medical, dental and other health professional schools, as well as graduate schools such as Harvard, Yale, University of Chicago, Northwestern and Benedictine University. We are very proud of those majors who have chosen teaching as a career.

### What can a Biology major do?
- Study the function, development, interaction and evolution of diverse living organisms.
- Investigate genetic, cellular and molecular mechanisms in the laboratory.
- Learn about all the factors (e.g. scientific, economic, political, philosophical and societal) that go into making an educated decision about climate change and what is good for the environment.
- Participate in a practicum (on-the-job experience with a health care professional).
- Work in one of the finest university natural history museums in the Midwest.
- Gain research experience by working side-by-side with a faculty member in the department studying biological networks, paleobiology of fossils, insect/plant interactions, cellular mechanisms of bone loss, lifespan of fruit flies, antibiotic resistance, genetic engineering, barrier function and ion transport across mammalian epithelia and evolution of human speech and language.

### What careers are available with a B.S. in Biology?
The B.S. in Biology program, coupled with an excellent background in the liberal arts, will prepare you for graduate studies in biology leading to a career in research and university teaching; professional studies in medicine, dentistry, veterinary medicine, other biomedical specialties and law school; or a career in teaching at the elementary or high school level.

### How do I become a biology teacher?
Students desiring to be certified to teach biology at the secondary level (grades 6-12) must declare themselves as Biology majors and Education minors and register with the Benedictine University Education Program as teaching certificate candidates. Students must complete the requirements for a B.S. in Biology as well as the requirements of the Teacher Certification Program in Secondary Education, which includes an Education minor.

*"Benedictine University's balanced liberal arts education and excellence in the sciences provided me with a solid academic foundation that enabled me to excel in graduate school."*

*William Chura, C02, B.S. Health Science, Ph.D. in Physiology (Rosalind Franklin University, 2009)*

# Recommended Program

## Bachelor of Science in Biology

*Benedictine University recently reformed its undergraduate curriculum and implementation begins in Fall 2014. This recommended program of study is an example only and subject to change.*

### FRESHMAN

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|---|---|
| Writing Colloquium | 3 |
| College Trigonometry (MATH 111 or higher) | 3-5 |
| General Chemistry I and Lab | 4 |
| Principles of Biology and Lab | 4 |
| | 14-16 |

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|---|---|
| Research Writing | 3 |
| Math (Biocalculus and Lab) | 5 |
| Principles of Organismal Biology | 3 |
| General Chemistry II and Lab | 4 |
| | 15 |

### SOPHOMORE

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| Speech Communication | 3 |
| Genetics and Lab | 4 |
| Organic Chemistry I and Lab | 4 |
| Biostatistics | 3 |
| | 14 |

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|---|---|
| Organismal Biology course | 3 |
| Organic Chemistry II and Lab | 4 |
| Literature Core elective | 3 |
| Religious Studies Core elective | 3 |
| Mediterranean World (HUMN 220) | 3 |
| | 16 |

### JUNIOR

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|---|---|
| Systems Biology course | 4 |
| College Physics I and Lab | 4 |
| Anthropology/Political Science Core elective | 3 |
| Biochemistry | 3 |
| | 14 |

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| Philosophy Core elective | 3 |
| Cell Biology and Lab | 4 |
| College Physics II and Lab | 4 |
| Baptism of Europe (HUMN 230) | 3 |
| Elective | 3 |
| | 17 |

### SENIOR

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|---|---|
| Ecology and Lab | 4 |
| Economics/Business Core elective | 3 |
| Sociology/Psychology Core elective | 3 |
| Converging Hemispheres (HUMN 240) | 3 |
| Elective | 3 |
| | 16 |

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|---|---|
| Biology elective (300 level) | 3 |
| Biology elective | 3 |
| Biology elective | 3 |
| Contemporary World (HUMN 250) | 3 |
| Fine Arts/Music Core elective | 3 |
| | 15 |

## 4+1 Master of Science in Clinical Exercise Physiology Program

This program offers the student the possibility of earning a bachelor's degree in biological science in four years of full-time study, while starting courses to meet the requirements of the Master of Science in Clinical Exercise Physiology program as an undergraduate. Admission to the graduate program is not automatic. The student must meet the requirements for graduate school, which include a 3.2/4.0 grade point average.

## Demonstrate your social conscience with a certificate in Environmental Studies.

Students with an interest in the environment can earn a certificate in Environmental Studies by successfully completing at least 12 credit hours of specific environmental-focused courses from the anthropology, biochemistry, biology, environmental science, geography, global studies, humanities, literature, management, natural science, philosophy, political science, religious studies, sociology and theology disciplines. Students will learn about the scientific, humanistic, educational and business aspects of sustainability.