



BIOLOGY & BIOLOGY RESEARCH

Biology Secondary Education



LORAS COLLEGE™

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General Information

The Biology Program offers majors in biology and biological research. The biology major is designed for those students wishing a broad background in biology, but who do not wish to pursue a research orientation. The biological research major is designed for students also pursuing a research experience. An optional specialization in biology for secondary teaching is also offered. Successful completion of a comprehensive examination given during the senior year is required of all majors.

Top 10 features of the Loras College Biology Program

1. Hands-on learning
2. Proven effectiveness
3. Small class size and personal attention
4. Local connections
5. Laptop computers
6. Experienced, student-centered faculty
7. DNA lab in the building
8. Regional and national connections
9. Flexibility
10. A variety of outdoor, field classes

Other options possible with a Loras Biology Degree:

- Graduate School (more specific research training)
- Secondary Education (teaching Biology in high school)
- Work with DNR, county conservation agencies, state, federal or local conservation or government agencies (wildlife, fisheries, habitat management)
- Work in sales or research/development in a pharmaceutical company
- Museum education/management

Faculty

Dr. Thomas Davis is division chair and health science advisor. He teaches human physiology, human anatomy, a J-Term course to Costa Rica and other environmental biology courses.

Dr. David Shealer has taught biology, vertebrate zoology, evolutionary ecology and conservation among other courses. His interest includes the ecology and behavior of aquatic birds, particularly terns (Sternini).

Dr. Fred Schnee teaches behavioral genetics. He also advises students in Biology Secondary Education.

Dr. Aditi Sinha has taught classes in life sciences, plant biology and principles of biology. Her interests include invasive species— their ecology and management, plant population dynamics and demography and plant-animal interactions, among other topics.

Dr. Kate Cooper teaches introductory biology, cell and molecular biology and advanced biotechniques in biomedical research. Her interests include proteins and cell research.

BIOLOGY Major Requirements:

34 credits in Biology

A. Core area

Credits

- 4 Bio. 115 Principles of Biology I-Genetics, Physiology, Development, Cells
- 4 Bio. 116 Principles of Biology II-Evolution, Ecology and Biodiversity
- 3 Bio. 240 Plant Biology (116)
- 3 Bio. 250 Genetics (115)
- 3 Bio. 279 Experimental Design/Biostatistics (115 & 116)
- 4 Bio. 330 Evolutionary Ecology (115 & 116)
- Bio. 389 Junior Seminar (1 credit)
- 4 Bio. 410 Cell & Molecular Biology (115 & 116)
- 1 Bio. 489 Senior Seminar

B. Physiology Area

- 4 Bio. 410 Vertebrate Physiology (115 & 116)
- or 4 Bio. 430 Plant Physiology (115 & 116)

C. One elective (3-4 credits)

- 3 Bio. 220 Microbiology (115 & 116)
- 3 Bio. 230 Invertebrate Zoology (116)
- 3 Bio. 231 Vertebrate Zoology (116)
- 3 Bio. 232 Field Ornithology
- 4 Bio. 242 Microbes (AH)
- 4 Bio. 259 Issues in Environmental Biology (AH)
- 4 Bio. 270 Human Exercise: Measurement and Limits (AH)
- 3 Bio. 272 Biology of Women
- 3 Bio. 295 Topics: Immunology
- 3 Bio. 310 Animal Behavior
- 3 Bio. 315 Bird Conservation in South Texas
- 2 Bio. 320 Subtropical Ecology
- 3 Bio. 325 Environmental Issues in Costa Rica
- 4 Bio 354 Basic Human Anatomy (115)
- 4 Bio. 375 Conservation Biology (AH)
- 4 Bio. 395 Topics: Biology of Invasive Species

D. 20 credits in supporting courses:

- 12 credits in CHEMISTRY
- 111 and 112 General Chemistry & 233 Organic Chemistry
- 4 credits in PHYSICS
- Phy. 110, 223 or above
- Math 117 Pre-Calculus or above
- (Math 225 Calculus I is highly recommended)

BIOLOGICAL RESEARCH Major Requirements:

34 credits as Biology major

Plus

Bio. 400 Readings and Thesis (1 credit)

BIOLOGY SECONDARY EDUCATION Major Requirements:

Students would be doing student teaching as a part of the Biology Secondary Education Program.

Internship Opportunities

The following are some of the opportunities Biology and Biology Research students have pursued to gain valuable experiences.

- Summer Research Program in Microbiology at the University of Iowa
- Various programs at the Biosciences Summer Research Program at the University of Iowa
- Fellowships in Wildlife Education and Rehabilitation – Willowbrook Wildlife Foundation, Glen Ellyn, IL
- Integrated Biological Sciences Summer Research Program (IBS-SRP) at the University of Wisconsin-Madison
- Summer Laboratory Science Program at Mayo Clinic, Rochester, MN
- Summer Undergraduate Research Program at the Center for Protease Research at North Dakota State University
- National Nanotechnology Infrastructure Network summer research experience for undergraduates at Cornell University, Ithaca, NY
- Summer Undergraduate Research Experience (SURP) Program at the University of Oklahoma Health Sciences Center
- Iowa DNR seasonal natural resources aide positions with the Multiple Species and Monitoring Project
- Marine Biology Summer Research at Grice Marine Lab, College of Charleston, SC
- Summer Internships with the Iowa Natural Heritage Foundation
- SeaWorld College Experience internships