

BIOLOGY

bachelor of science

COLLEGE OF LIBERAL ARTS AND SCIENCES

Society welcomes biologists as problem solvers and productive members of a community. Biologists work in the fields of medicine, teaching, and ecosystem management, among others. Society turns to biologists to help formulate solutions as it faces problems such as emerging diseases, biodiversity loss, and challenges of sustainability. With a bachelor's degree in biology, you will have the background to contribute to solving crucial human and environmental problems. This degree also prepares you to continue your studies at the graduate level or in professional programs such as medicine or dentistry.

ADVANTAGE UIS

- **World class degree. Personalized.** Biology classes are typically between 20-40 students. You will get much more personal attention from your professors than at larger schools. When students know their professors and professors know their students, learning takes place in and out of the classroom.
- **Research opportunities.** UIS offers extraordinary opportunities for undergraduate research. Many students conduct independent, original and cutting-edge research in the areas of expertise of biology faculty.
- **Biology honors option.** Biology majors with a GPA of 3.25 or greater may participate in the biology honors option. As an honors student, you will complete a research project and may publish or present your work to the scientific community at the department's annual science symposium. It's a great opportunity for students who hope to further their studies in graduate or professional programs.



State-of-the-art facilities and equipment.

Students work with lab instrumentation including fluorescence and electron microscopes, DNA sequencers, thermocyclers, and tissue culture equipment, just to name a few. The department also has a spacious greenhouse.



Active learning.

Count on class projects to be exciting. Our students have grown human tumor cells; developed complex nutrient models that shed insight on global warming; experimented with mouse brains; and much more.



Emiquon Field Station.

One of the greatest assets of the Biology curriculum is the opportunity to engage in restoration ecology at the Emiquon Field Station located in the Nature Conservancy's Emiquon Preserve near Lewiston, IL. If you are interested in becoming a field or wildlife biologist, working at Emiquon will give you the opportunity to be a part of an ecological restoration project that will be a blueprint for other restoration efforts all over the world.

Pre-professional and graduate schools.

Some of our students pursue advanced studies at professional schools in the areas of Veterinary Medicine, Dentistry, Physician Assistant, and General Medicine. Others pursue graduate degrees in areas such as conservation biology, restoration ecology, molecular biology, global change, and wildlife management.

What can I do with this degree?

Our graduates pursue careers as heads of private businesses; laboratory technicians; scientific sales representatives; project managers in the life sciences and biotechnology; environmental consultants; allied health professionals; high school or community college teachers, and more. Many graduates opt to go on and earn their master's degree or apply to professional school.

Recent employers include:

Dartmouth Medical School, Monsanto, The Human Genome Project, Dupont, Abbott Laboratories, Illinois State Police Forensics Lab, SIU School of Medicine, HDR Environmental Consulting, and the Natural Resources and Environmental Sciences program at UIUC.

When you earn the Bachelor of Science degree, you will be able to integrate the skills and content of modern biology and apply critical thinking and problem-solving skills to scientific and public issues. The degree offers a balanced biology curriculum and a research experience centered on molecular and cellular biology and/or ecology and evolution.

Faculty James Bonacum, Gary Butler, Hua Chen, Matthew Evans, Rebecca Landsberg, Michael Lemke, Amy McEuen, Lucia Vazquez

Associated Faculty

Chemistry: Harshavardhan Bapat, Keenan Dungey, Marc Klingshirn, Yashanad Mhaskar, Gary Trammell

Clinical Laboratory Sciences: Wayne Gade

Computer Science: Keith Miller

Environmental Studies: Tih-Fen Ting

Emeritus Faculty Nada Chang, Ann M. Larson

Adjunct Faculty

Illinois Natural History Survey: Dr. Leon Hinz

The Nature Conservancy: Dr. Maria Lemke

American Museum of Natural History:

Dr. Rob DeSalle

Faculty Research Interests

James Bonacum - invertebrate zoology and the use of molecular techniques to understand evolutionary history.

Gary Butler - growth of freshwater algae, college and pre-college science education.

Hua Chen - terrestrial carbon and nitrogen dynamics, global change ecology, restoration ecology, and simulation modeling.

Matthew Evans - arctic wildlife ecology, wetland ecology, and conservation biology of birds and mammals.

Rebecca Landsberg - molecular analysis of vertebrate brainstem development

Michael Lemke - aquatic biology and the ecology of microorganisms in the environment

Amy McEuen - conservation biology, plant community dynamics, and seed dispersal.

Lucia Vazquez - systematics of oaks, molecular evolution of plant genes, and assessment of genetic diversity in plant populations.

Program Feature / Requirements

A central emphasis of the biology program is mastery of scientific skills and knowledge.

Lower Division Program Requirements for Four Year Students

- 1) Introductory Biology Sequence (BIO 141 & BIO 241)
- 2) Introductory Chemistry Sequence (CHE 141 & CHE 241)
- 3) Fundamental Organic Reactions, Experimental Organic Chemistry (CHE 367 & CHE 368)

Entrance Requirements for Transfer Students

Students entering the program must have completed eight to ten semester hours in general chemistry with laboratory, five to eight semester hours of biology courses (including general biology with laboratory) with a GPA of 2.5 or higher. Pre-professional students typically need Physics and Calculus which can be taken at UIS. Before graduation, a student must complete one semester of organic chemistry with laboratory, which may be taken before or after the student has entered the biology program. During the two years in the biology program, up to 12 semester hours of approved lower-division courses may be transferred from an accredited institution of higher education to make up deficiencies.

Upper Division Program Requirements

- 1) Biology Core Requirements = 32 Hrs.
One semester of organic chemistry is a pre-requisite for some biology required courses.
- 2) *General Electives = 15 Hrs.
- 3) ECCE Requirements = 13 Hrs.

Total = 60 Hrs.

Biology Required courses include General Seminar, Laboratory Techniques, Cell Biology, General Microbiology, Organismal Botany, Comparative Vertebrate Biology, Principles of Ecology, Genetics, Biology elective.

*Pre-professional students should consult the health-science pre-professional website for other courses required for continuing education.
<http://www.uis.edu/preprofessional/>

Biology Minor

A minor in biology is designed for students who wish to increase their knowledge of biology, and acquire a foundation in biological critical thinking. To earn a minor in biology, students must complete a minimum of 24 hours in biology, of which at least eight hours must be upper-division courses taken at the University of Illinois at Springfield. These electives should be selected in consultation with a biology faculty member.

View course descriptions:

uis.edu/uiscatalog

Visit our website

(uis.edu/biology) for more information on UIS Admission Requirements and Application Forms for Admission, Applied Study Terms, Advising, Undergraduate Honors in Biology, Assessment, and Financial Aid.

Visit Us!

Why not stop by for a personal tour of our labs and campus? If you can call ahead (206-6630) we can make sure someone will be on hand to give you a personal tour of our department. We can also arrange for you to meet with some of our students who can tell you about their experiences in our program.

CONTACT INFORMATION

Biology

(217) 206-6630 or bio@uis.edu

Website

uis.edu/biology

Office of Admissions
(217) 206-4847 or
Toll free (888) 206-4847
www.uis.edu/admissions

IMPORTANT!—Information effective fall 2009. Subject to change without notice. The information is not to be considered final, nor does it constitute a contract between the student and UIS. See uis.edu/uiscatalog for current program requirements.