PROGRAM SUMMARY

Biology

The University of Akron

BIOLOGY

Literally translated from the Greek as the study of life, biology is the science of all living organisms and the spectrum of processes that comprise and sustain life. It focuses on the characteristics, classification and behaviors of organisms; how species came to be; and the relationship between species and the natural environment.

Biology is a vast science, divided into subdisciplines traditionally arranged by the type of organism studied. For example, botany is the study of plants; zoology, the study of animals; microbiology, the study of microorganisms. Biology is also divided by scale, for example: molecular biology looks at the chemistry of life; physiology looks at the internal structure of organisms; ecology looks at the interrelationships of organisms.

As its impact is carried to so many fronts — medicine and health care; the environment and climate changes; global population and food sources — biology is the fastest growing science today. And it will undoubtedly maintain dominance throughout the years to come, as technological and scientific breakthroughs accelerate their pace in the 21st century. Certainly, those who are knowledgeable, skilled and disciplined in biology face exciting career horizons.

DEGREE PROGRAM AT UA

As a University of Akron graduate, you'll begin your career or graduate degree program with a rock-solid understanding of the fundamental principles of biology and the skills needed to address important issues, ranging from environmental concerns to health care.

You'll begin with a sequence of core biology courses that not only provide an understanding of the fundamentals of modern biology, but also can allow you to experience a variety of fields before deciding on a specialty in ecology and evolution, microbiology, animal physiology or zoology.

The department also offers courses designed to prepare you for professional schools, such as medical, dental, veterinarian and pharmacy, or to teach high school biology. A bachelor of arts option is available for those wishing to combine their biology studies with social sciences and humanities.

FOR MORE INFORMATION, VISIT THESE WEB SITES:
Department of Biology: http://www3.uakron.edu/biology/
Buchtel College of Arts and Sciences: http://www.uakron.edu/colleges/artsci/
The University of Akron: http://www.uakron.edu
Office of Admissions: http://www.uakron.edu/admissions/
Honors College: http://www3.uakron.edu/honors/
Center for Career Management: http://www.uakron.edu/ccm/
U.S. Bureau of Labor Statistics: http://www.bls.gov/
U.S. Bureau of Labor Statistics Occupational Outlook Handbook: http://www.bls.gov/oco

The department has adopted an integrated approach to experimentation, crossing the traditional boundaries between subdisciplines, from the cellular to the ecosystem level. This cutting-edge research forms the basis for much of our teaching, which our faculty routinely includes in the classroom.

Our teachers are innovative and interactive. Many have won teaching awards, been active in teaching issues on the national level and worked hard to improve learning in their classrooms through active learning and multi-media technology.

CAREER OPPORTUNITIES

A degree in biology paves the way to many careers in research and development, especially in such areas as medicine, health care, biotechnology and the like. Biologists can work to solve human health problems, preserve and repair the natural environment or develop new drug therapies. They can conduct research in laboratories or in the field.

Biologists with an understanding of business, marketing and economics are sought after as more are called to contribute their skills to interdisciplinary teams. Entry-level positions in biology require at least a bachelor's degree; research positions typically require an M.S. or Ph.D. degree.

Graduates in biology hold administrative and managerial positions with the government or private concerns, handling duties ranging from planning and administering food and drug programs to directing activities at zoos. Those with bachelor's degrees are often hired as technical sales and service people, research assistants, laboratory technicians, or medical laboratory staff members.

A degree in biology is excellent preparation for advanced study, especially in medicine. Many graduates in biology go on to become university professors, physicians, dentists, pharmacists, veterinarians and university professors and researchers.

Overall, career opportunities are expected to grow for biologists, especially in drug research, development, testing and manufacturing industries. Graduates with experience in industry through academic laboratories, internships, fellowships or co-ops stand out among job seekers.

AKRON ADVANTAGE

Your education is not confined to a classroom at The University of Akron. The Department of Biology offers an array of research experiences. It has a newly constructed, live-animal facility, a molecular biology center, including an automated DNA sequencer, a computer laboratory, and many other research spaces for work at the molecular, cellular and whole-animal levels.

One of our larger "laboratories" is a 400-acre nature preserve. The University has teamed up with the nearby township of Bath to develop a field station and maintain the preserve. This preserve includes a mixture of natural habitats — grasslands, mesophytic deciduous forests, riparian forests, wetlands, peatlands, ponds and streams — encompassing the wide range of habitat types found in Northeastern Ohio.

Here you can participate in ecologically-oriented field trips (i.e., field ecology, flora and taxonomy, entomology, phycology, mycology, ichthyology, vertebrate biology, herpetology, ornithology, invertebrate zoology, and aquatic ecology) and conduct controlled experiments in a protected setting (i.e., limited public access).

The Buchtel College of Arts and Sciences offers job-related services through its A&S Careers Program, which creates links between students, alumni and local professionals. As a Buchtel College of Arts and Sciences student, you have access to its lending library with up-to-date, career-related publications; a computer workroom for resume writing and employment research; volunteer, paid and for-credit internship placement on and off campus; and department-specific mentoring arrangements.

You also are encouraged to gain important practical professional experience through the University's optional cooperative education program. Participating in the program gives you firsthand, professional experience in the biological field of your choice. You will have the chance to put your classroom experience to practice.

Through co-op, you'll alternate semesters of work and school. As an added benefit, you'll earn a competitive salary. Recent placements for our biology students have been with the Ohio Environmental Protection Agency, The Ohio Nature Conservancy, Ohio Department of Natural Resources, the Cleveland Zoo, Environscience, Davey Tree and members of the University biology faculty.

Classroom instruction also is enhanced through student activities. Participation in student organizations provides valuable experience and an opportunity to interact with other students and professionals. Biology student organizations include Beta Beta Beta Biological Honor Society, Biology Club and Future Physician's Club.

HIGH SCHOOL PREPARATION

High school students considering the biology program at The University of Akron are encouraged to follow the college prep curriculum while in high school. This includes four years of English, three years each of math, natural science and social science, and two years of foreign languages. Clear, concise writing skills are imperative. If you have not completed the recommended courses, you may be required to take University courses to meet the basic criteria.

THE UNIVERSITY OF AKRON

You may already know that The University of Akron is the public research university for Northern Ohio. But we're much more than labs and lasers.

Our 24,700 students choose from approximately 300 academic programs and areas of study, from accounting to zoology. Many of our undergraduate programs have gained national recognition, including psychology, sales and marketing, dance, global business and gerontological nursing.

About 7,000 students live in our 12 residence halls or just a short walk from campus. When they aren't hitting thebooks, thousands take advantage of the University's fraternities, sororities and more than 200 student organizations, from gospel choir and alpine skiing to career-building professional and academic societies. We also offer 17 intramural sports and clubs, from bowling to cardio kickboxing.

The University's ongoing, major campus renovation campaign that began in 2000, the "New Landscape for Learning," has added 11 new structures, including two classroom buildings, as well as 30 acres of green space and numerous additions. This transformation continues today — UA's first on-campus football stadium is scheduled to be completed in time for the Zips' 2009 home opener.

Here's more of what you'll find at the new UA:

- Student Recreation and Wellness Center, a massive structure with ball courts, fitness facilities, rock climbing wall and a recreational pool that includes a 30-seat spa, "lazy river" and fountain.
- Student Union, containing a movie theatre, billiards/bowling room, food court, Starbucks, bookstore and headquarters for student organizations.
- Honors Complex with combination residence hall and academic facilities.
- Gardens, lawns, amphitheatre and tree-lined pathways.

You'll also discover a campus retooled for your academic success. We are Ohio's most wired-for-wireless public university, and can provide you reduced-rate, high-speed Internet access off campus.

ADMISSION INFORMATION

The Office of Admissions
330-972-7100 or 800-655-4884
mailto:admissions@uakron.edu
http://www.uakron.edu/admissions/

Sample Curriculum

Bachelor of Science Degree in Biology

First year:

English Composition I, II	7
Principles of Biology I, II, Labs	8
Principles of Chemistry I, II, Lab	7
College Algebra	4
Precalculus Mathematics	4
Qualitative Analysis	2
Total	32

Second year:

General Genetics, Lab	4
Evolutionary Biology	3
Organic Chemistry I, Lab, Discussion	5
Beginning Foreign Language I, II	8
General Ecology	3
Organic Chemistry II, Lab, Discussion	5
Physical Education/Wellness	1-3
Social Science requirement	3-4
Total	32-35

Third year:

Intermediate Foreign Language I, II	6
Cell and Molecular Biology	4
Biology electives	9
General electives	13-16
Total	32-35

Fourth year:

Biology electives	9
General electives	20
Total	29

Optional areas of specialization in the bachelor of science degree program:
Botany
Ecology/Evolution
Microbiology
Animal Physiology
Zoology