

Thinking about Graduate School in the Biological Sciences?

COURSES TO TAKE: Regardless of the specific focus of their degrees, all biologists need a broad background in the life and natural sciences. An understanding of the physical sciences, including geology, chemistry, physics, and engineering also is helpful. Biologists need to communicate ideas to those around them, so it is extremely important to gain experience writing and making oral presentations. They need a working knowledge of mathematics, statistics, and computers to design sound investigations, to analyze and interpret their data, and to understand and build mathematical models of biological concepts and processes. Because environmental challenges require working with people and ideas from disciplines beyond the natural sciences, it also is useful for biologists to know something about the social sciences, such as economics and geography.

GAIN EXPERIENCE: It is really important and useful for undergraduate students to get practical experience. Gaining hands-on experiences is a great way to learn specific skills, help get a feel for the day-to-day work of biologists, and establish contacts for future jobs. During the school year or over summer breaks before your senior year, you should try out several types of opportunities. Some examples, include:

- Work for a professor doing lab, library, or field work. Many professors actively recruit and pay undergraduates as work-study workers, lab or field technicians. At SIUC we offer coursework in Honors, Independent Research, and Internships. We have recently created the Undergraduate Research/Creative Activity Award to support original research by undergraduates, and the Undergraduate Assistantship Program where qualified students are hired for 1-2 semesters and learn skills related to jobs in their majors.
- Seek out Research Experiences for Undergraduates (REU) through the National Science Foundation (<http://web.archive.org/web/20070513071533/http://www.nsf.gov/reu/>). Many institutions and field stations offer these.
- Work as a teaching or lab assistant for a biology course.
- Spend a summer at a field station. The Organization of Biological Field Stations (jasper.stanford.edu/OBFS/index.html) is a good place to search for opportunities, meet researchers, and get field experience. In most cases you can earn money and defer your student loans.
- Get a summer or part time job with a park, government agency, or nature center.
- Get an internship. The Environmental Careers Organization acts as a clearinghouse for a wide variety of internship opportunities.
- Volunteer. The Student Conservation Association (<http://web.archive.org/web/20070513071533/http://www.sca-inc.org/>) matches students and volunteer opportunities with government and private agencies.
- Get a work/study experience with any one of a number of federal natural resource agencies (Forest Service, Bureau of Land Management, Fish and Wildlife Service, National Park Service).
- If you are planning for a future in wildlife, fisheries biology or other applied fields, then you should also gain experience in more applied aspects of biology (e.g., deer check stations, tournament officials).

- Start gaining research experience early! This could give you the time to work on several different projects in multiple labs, which will give you a chance to see what types of research you find the most exciting. Alternatively, it could give you an opportunity to spend a lot of time in one lab, which will result in more experience, a deeper interaction with a faculty member and his/her grad students, and potentially more publications with your name on them.
- Consider the broader societal impacts of your work in biology. Explore opportunities to integrate your new research background with education and community outreach. For example, volunteer to give presentations about your research at area schools. Work at a summer camp teaching kids about biology. Volunteer at NGO's or other organizations that support environmental issues. Become a biology, science or math tutor for less experienced undergraduates or high school students. Extensive research experience and outreach as an undergraduate are helpful for getting into graduate school. They are also very important should you apply for any prestigious fellowships, including the National Science Foundation Graduate Research Fellowship, that can support you while you are in graduate school.

HELPFUL WEBSITES:

Conservation Biology Graduate Programs: <http://conbio.net/SCB/Services/Programs/>

Ecological Soc. America: <http://www.esa.org/pao/undergraduate.htm#fifth>

Ecological jobs: <http://www.ecojobs.com/>

<http://web.archive.org/web/20070513071533/>

<http://www.tomah.com/jobseeker>

<http://www.environmental-jobs.com/>

<http://www.ejobs.org/>

<http://www.eco.org/>

Wildlife: http://wildweb.tamu.edu/jobs/job_view.cfm

Am. Society of Limnology & Oceanography: <http://web.archive.org/web/20070513071533/>

<http://www.aslo.org/jobs.html>

N.A. Benthological Soc. (streams): <http://web.archive.org/web/20070513071533/>

<http://www.benthos.org/Classified/index.cfm/task/List>

IAGLR International Association of Great Lakes Research:

<http://web.archive.org/web/20070513071533/>

<http://www.iaglr.org/hot/jobs.html>

American Fisheries Society: <http://web.archive.org/web/20070513071533/>

<http://www.fisheries.org/jobs.html>

Society of International Limnology: <http://web.archive.org/web/20070513071533/>

<http://www.limnology.org/jobs.html>

Society for Integrative Biology: <http://www.sicb.org/public/jobs/index.html>

Society of Systematic Biologists: <http://web.archive.org/web/20070513071533/>

<http://www.science.siu.edu/zoology/>

<http://www.systbiol.org/>