Activities Biology Majors Do

Biological scientists study living organisms and their relationship to their environment. They research problems dealing with life processes and living organisms. Some conduct basic research to advance knowledge of living organisms, including viruses, bacteria, and other infectious agents. Biological scientists who work in applied research or product development use knowledge provided by basic research to develop new drugs, treatments, and medical diagnostic tests; increase crop yields; and protect and clean up the environment by developing new biofuels. Those who conduct research usually work in laboratories and use electron microscopes, computers, thermal cyclers, and a wide variety of other equipment.

Some biological scientists work in managerial or administrative positions, usually after spending some time doing research and learning about a particular firm, agency, or project. They may plan and administer programs for testing foods and drugs, for example, or direct activities at zoos or botanical gardens. Some work as consultants to businesses or to government agencies. Recent advances in biotechnology and information technology are transforming the industries in which biological scientists work. Biological scientists using this technology manipulate the genetic material of animals or plants, attempting to make organisms more productive or resistant to disease. These advances in biotechnology have created research opportunities in almost all areas of biology, with commercial applications in the food industry, agriculture, and environmental remediation, and in other areas such as DNA fingerprinting.

A PhD is usually required for independent research and always to teach at the college level. A master’s degree is sufficient for some jobs in applied research and jobs in management. A bachelor’s degree is required for some positions in applied research or product development, but mostly non-research jobs. A bachelor’s degree in biology provides a solid foundation for advanced professional degrees.

Industries Biology Majors Work In (Sample Listing)

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<tr>
<th>Government Agencies</th>
<th>Environmental Consulting</th>
<th>Pharmaceutical</th>
<th>Law</th>
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<tr>
<td>Teaching</td>
<td>Medical/Hospitals</td>
<td>Food Processing</td>
<td>Research</td>
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<td>Health Clubs</td>
<td>Biotechnology</td>
<td>Wildlife Preserves</td>
<td>Agriculture</td>
</tr>
</tbody>
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Employers Who Hire Biology Majors (Sample Listing)

- Accenture
- AGA Medical Corporation
- Alliance for the Great Lakes
- American Red Cross
- Barr Engineering
- Beckman Coulter, Inc
- Boston Scientific
- 3M
- Hormel Foods
- Cargill
- City of Minneapolis
- Como Park Zoo
- DiaSorin, Inc.
- MN Dept of Health
- USDA Forest Service
- Hennepin County

Types of Full-Time Job Positions for Biology Majors (Sample Listing)

- **Botanist**: Studies plants and their environment, such as algae, fungi, lichens, mosses, ferns, and flowering plants--may specialize in identification and classification of plants.
- **Ecologist**: Collects, studies, and reports data on the quality of air, food, soil, and water.
- **Environmental Scientist**: Conducts research to identify and abate or eliminate sources of pollutants that affect people, wildlife, and their environments.
- **Research Assistant**: Conducts research for food, pharmaceutical, and pest management organizations.
- **Science Teacher**: Develops and teaches science curriculum which includes scientific experiments.
- **Naturalist**: Researches and develops educational programming for national and state parks.
- **Conservationist**: Manages the use and development of forests and other natural resources.
- **Forester**: Manages vegetation, timber, reforestation, and fuels for the government and companies involved with wood product production.
- **Food Scientist**: Develops new or better ways of preserving, processing, packaging, storing and delivering foods.
- **Animal Scientist**: Develops more efficient ways of producing and processing meat, poultry, eggs, and milk.
- **Zoologist**: Observes animals both in their natural habitats and in the laboratory in order to learn as much as possible about animal life. Conducts research to learn how animal diseases develop and how traits are passed from generation to generation.

Information on this page was compiled from the Occupational Outlook Handbook, the Encyclopedia of Careers and Vocational Guidance, University of Minnesota departmental websites, and student-reported data.
**Medical Librarian:** Works with doctors, medical researchers, and students to help them find the information they need. Most have a master’s degree in library science.

**Medical Instrument Technician:** Works in hospitals and are responsible for ensuring that all equipment used during procedures function properly.

**Quarantine Officer:** Works for the U.S. Dept of Agriculture to prevent the entry, establishment, and spread of foreign plant pests in the US and reduce or eliminate outbreaks.

**Agronomist:** Experts in soil management and field crop production who conduct research to develop new crop hybrids and varieties.

**Medical Writer:** Writes and edits clinical reports, regulatory documents and writes and edits manuscripts for scientific magazines and journals.

**Toxicologists:** Plans and carries out laboratory and field studies to identify, monitor and evaluate the impact of toxic materials and radiation on human and animal health, the environment, and the impact of future technology.

**Some of these positions may require an advanced degree**

**Useful Websites for Biology Majors**

- **Biology Jobs**
  www.biologyjobs.com
- **BioSpace Jobs**
  www.biospace.com/jobs
- **BioCareers**
  www.biocareers.com
- **Biotechnology Jobs**
  www.bio-jobs.com
- **Careers in Science and Engineering**
  www.nap.edu/readingroom/books/careers/contents.html
- **Hire Bio**
  www.hirebio.com
- **Life Sciences World**
  www.lifesciencesworld.com
- **Biojobnet**
  www.biojobnet.com
- **Medzilla**
  www.medzilla.com
- **New Scientist Jobs**
  www.newscientistjobs.com
- **Life Science Alley**
  www.lifesciencealley.org (contact the CCSE for login info.)
- **Bio Business Alliance of Minnesota**
  www.biobusinessalliance.org
- **Nature Jobs**
  www.nature.com
- **EcoJobs**
  www.ecojoy.com
- **Lab Support**
  www.oalabsupport.com
- **Federal Government Jobs**
  www.usajobs.gov

**Professional Organizations:**

- **National Science Foundation**
  www.nsf.gov
- **American Institute of Biological Sciences**
  www.aibs.org/home
- **American Zoo and Aquarium Association**
  www.aza.org
- **Biotechnology Industry Organization**
  www.bio.org
- **National Association of Biology Teachers**
  www.nabt.org
- **Society of Experiential Biology and Medicine**
  www.sebm.org
- **National Academy of Science**
  www.nas.edu
- **National Science Teachers Association**
  www.nsta.org
- **Association for Women in Science**
  www.awis.org
- **Federation of American Scientists**
  www.fas.org

*additional job/internship search websites and resources at: ccse.umn.edu*

See the Major Binders available in the CCSE’s Resource Center for more information about this major and career.