



What can I do with a degree in ...

# Biology

The mission of the Department of Biology is to:

- Provide students with a fundamental knowledge of Biology.
- Prepare students for and assist them in entering graduate and professional school, and the workforce.
- Strengthen students' reading, writing and quantitative skills.
- Develop students' analytical reasoning and creative thinking skills.
- Expose students to contemporary research techniques in Biology and enhance their understanding of the Scientific Method.
- Conduct meritorious research in the field of Biology.
- Acquaint students with the history of Biology, including the contributions of Black scientists.
- Engender an appreciation among students of the social and economic implications of discoveries in Biology.
- Build students' awareness of ethical and moral issues related to basic tenets in Biology.

## Job Types

### RESEARCH & DEVELOPMENT

Basic  
Applied  
Quality Control  
Administration  
Grant Writing

## Where to find them

Industry and laboratories:  
Pharmaceutical  
Healthcare  
Agriculture production  
Food processing and safety  
Environmental  
Private research institutions  
Public health departments  
State and federal government:  
National Science Foundation  
National Institutes of Health  
Food and Drug Administration  
Environmental Protection Agency  
Department of Agriculture  
Armed Services  
Department of Homeland Security  
State and local government  
laboratories/agencies  
Colleges and universities

## Ways to Prepare

- Learn to set up, operate, maintain laboratory instruments and equipment, and monitor experiments.
- Select courses with laboratory components.
- Seek research experience with professors.
- Gain related experience through part-time jobs, internships, or volunteering.
- Complete a certificate training program, usually one year, to learn specialized laboratory techniques.
- Take a course in grant writing.
- A Bachelor's degree in biology qualifies one for laboratory technician or research assistant positions.
- Earn master's degree for better positions, advancement opportunities, more responsibility and higher pay.
- Obtain Ph.D. to direct research projects and lead research teams.
- Maintain a high grade point average and secure strong faculty recommendations to gain admittance into graduate school.

---

## Job Types

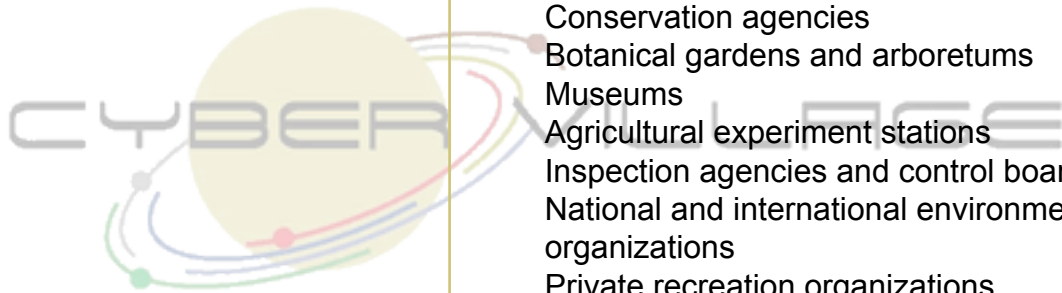
### **ORGANISMAL BIOLOGY**

#### ***Some Areas of Specialization***

Botany and Plant sciences  
Ecology and Wildlife  
Marine and Aquatic  
Systematic (Taxonomy)  
Zoology  
Entomology  
Genetics  
Microbiology  
Bacteria, algae, fungi, molds, yeasts,  
viruses, protozoa

## Where to Find Them

Colleges and universities, especially colleges of agriculture and veterinary medicine  
Veterinary hospitals  
State and federal government:  
Departments of Agriculture, Interior, and Health  
Independent laboratories:  
Food production  
Textiles  
Chemical  
Pharmaceutical  
Forestry products  
Zoos and aquariums  
Fish hatcheries  
Wildlife preserves and parks  
Conservation agencies  
Botanical gardens and arboretums  
Museums  
Agricultural experiment stations  
Inspection agencies and control boards  
National and international environmental organizations  
Private recreation organizations



## Ways to Prepare

- Learn to set up, operate, maintain laboratory instruments and equipment, and monitor experiments.
- Select courses with laboratory components.
- Seek research experience with professors.
- Gain related experience through part-time jobs, internships, or volunteering.
- Complete a certificate training program, usually one year, to learn specialized laboratory techniques.
- Take a course in grant writing.
- A Bachelor's degree in biology qualifies one for laboratory technician or research assistant positions.
- Earn master's degree for better positions, advancement opportunities, more responsibility and higher pay.
- Obtain Ph.D. to direct research projects and lead research teams.
- Maintain a high grade point average and secure strong faculty recommendations to gain admittance into graduate school.

---

## Job Types

### **BIOMEDICAL SCIENCES**

#### ***Some Areas of Specialization***

Biophysics  
Biochemistry  
Cellular and Molecular Biology  
Cytology  
Genetics  
Immunology  
Pathology  
Pharmacology  
Physiology  
Virology

## Where to Find Them

Colleges and universities  
Professional schools including colleges of pharmacy, dentistry, medicine, veterinary medicine, and agriculture  
Federal laboratories and regulatory agencies:  
National Institutes of Health  
Food and Drug Administration  
State and local public health departments  
Clinics and hospitals  
Private research foundations  
Independent laboratories  
Pharmaceutical companies

## Ways to Prepare

- Gain laboratory experience through coursework and/or research projects with professors.
- Learn to set up, operate, maintain laboratory instruments and equipment, and monitor experiments.
- Seek internships, part-time employment and volunteer opportunities in the biomedical field.
- Join student chapters of professional organizations related to your area of interest.
- Take courses in area(s) of specialization and/or consider an advanced degree.
- Obtain a Ph.D. for teaching and advanced research and management positions.

---

## Job Types

### **HEALTHCARE**

Medicine  
Dentistry  
Optometry  
Podiatry  
Pharmacy  
Veterinary Medicine  
Allied Health  
Occupational Therapy  
Physical Therapy  
Medical Technology  
Nuclear Medicine

## Where to Find Them

Hospitals  
Medical centers and clinics  
Nursing homes  
Private practice  
Armed services  
Government agencies

## Ways to Prepare

- Plan on attending medical school or other related graduate program.
- Maintain an outstanding grade point average, particularly in the sciences.
- Secure strong faculty recommendations.
- Meet with a pre-health advisor periodically.
- Join related student organizations, and demonstrate leadership abilities.
- Seek experiences in hospital or healthcare settings through volunteering, shadowing, part-time positions, or internships.
- Develop a back up plan in case medical/graduate school admission is denied.
- Consider alternative but related careers such as physician assistants.
- Research all of the various fields within medicine to determine career goals.

---

## Job Types

### **BIOINFORMATICS**

Algorithm and Statistics Development  
Data Analysis and Interpretation  
Information Management  
Organization and Retrieval

## Where to Find Them

Colleges and universities  
Private research foundations  
Independent laboratories:  
Organic and agricultural chemicals  
Drug and pharmaceutical  
Medical device and equipment  
Research, testing, medical  
Federal laboratories and regulatory agencies:  
National Institutes of Health  
Food and Drug Administration  
Environmental Protection Agency  
Department of Agriculture  
National Biological Information Infrastructure

## Ways to Prepare

- Develop multiple areas of specialization through coursework, minors, double-majors in molecular biology, mathematics, statistics, computer science, or machine learning.
- Develop strong programming and database management skills; fluency in several programming languages is helpful.
- Learn biological software systems.
- Complete an internship in area of interest.
- Seek master's degree for increased advancement opportunities.

---

## Job Types

### **EDUCATION**

Teaching  
-Elementary  
-Secondary  
-Post-Secondary  
Non-classroom Education

## Where to Find Them

Universities and colleges  
Medical and other professional schools  
Public and private schools, K-12  
Museums  
Zoos  
Nature centers and parks

## Ways to Prepare

- Gain experience working with students through tutoring, part-time employment, or volunteering.
- Learn to work well with all types of people.
- Develop excellent interpersonal and public speaking skills.
- Certification is required for K-12 school teachers and varies by state.
- Master's degrees may be sufficient for teaching at community or two-year institutions.
- Ph.D. is needed for teaching opportunities at colleges and universities.

---

## Job Types

### **COMMUNICATION**

Technical Writing  
Editing  
Illustrating  
Photography

## Where to Find Them

Publishing companies including scientific magazines, professional journals, periodicals, textbooks, and online publishers  
Newspapers  
Educational and scientific software companies  
Zoological and environmental societies  
Medical, dental and veterinary colleges  
Research centers  
Federal government agencies  
Related nonprofit organizations  
Museums

## Ways to Prepare

- Acquire thorough knowledge of photographic procedures and technology.
- Take specific courses in biological, medical, and ophthalmic photography; courses in illustration and printing are also helpful.
- Develop strong writing skills and command of the English language.
- Take advanced courses in technical writing or journalism classes or consider a minor in either.
- Join professional associations like the National Association of Science Writers.
- Seek related volunteer or paid experiences with student/local publications to increase marketability.
- Obtain an advanced degree in scientific journalism.

---

## Job Types

### **LEGISLATION/LAW**

Lobbying  
Regulatory Affairs  
Science Policy  
Patent Law  
Environmental Law

## Where to Find Them

Federal and state government  
Law firms  
Large corporations

## Ways to Prepare

- Develop excellent communication and interpersonal skills.
- Maintain current knowledge of industry-specific laws and policies.
- Acquire internships in federal or state government.
- Take courses in history, political science and/or legal studies.
- Acquire a Ph.D. for advanced positions.
- Earn a J.D. degree to practice law.

---

## Job Types

### **BUSINESS/INDUSTRY**

Technical and Pharmaceutical Sales  
Management  
Consulting  
Marketing

## Where to Find Them

Manufacturing companies including:  
Pharmaceuticals  
Animal pharmaceuticals  
Laboratory equipment  
Medical supplies and prostheses  
Marketing firms  
Consulting firms

## **BUSINESS/INDUSTRY (cont'd)**

### **Ways to Prepare**

- Develop excellent communication and interpersonal skills.
  - Demonstrate a high energy level.
  - Take courses in anatomy, pharmacology, and chemistry.
  - Obtain sales experience and/or a business minor.
  - Join related student associations and hold leadership positions.
  - Consider an MBA or Professional Science Master's for advanced management and consulting opportunities.
- 

*The field of biological science is constantly changing, and the information listed below does not exhaust possible career options. Be sure to speak with your department chair or academic advisor for further guidance on course selections, as well as career planning.*

