

# BOTANY

## What can I do with this degree?

### AREAS

#### **PLANT BIOLOGY**

Anatomy  
Biochemistry  
Biophysics  
Cytology  
Ecology  
Genetics  
Molecular Biology  
Morphology  
Paleobotany  
Physiology  
Systematics  
Systems Ecology  
Taxonomy

### EMPLOYERS

Research organizations  
Colleges and universities  
Museums  
Botanical gardens and arboreta  
U.S. Department of Agriculture branches including Medical Plant Resources Laboratory, Germplasm Resources Laboratory, Animal and Plant Health Inspection Service, National Arboretum, U.S. Forest Service  
Federal agencies including Departments of Interior and State, U.S. Public Health Service, National Aeronautics and Space Administration, the Smithsonian Institution, and Environmental Protection Agency  
State agencies  
Environmental and biotechnical regulatory agencies  
Ecological consulting companies  
Industries including petrochemical, chemical, and lumber and paper  
Companies including pharmaceutical, food, seed and nursery, fruit growers, biological supply houses, and biotechnology firms

### STRATEGIES

Obtain a Ph.D. for teaching and advanced research positions.  
Conduct undergraduate research with professors to gain experience.  
Apply for undergraduate research fellowships or other student research programs.  
Maintain a high grade point average and develop good references in preparation for graduate school.  
Develop excellent computer skills.  
Join related professional associations.  
Read scientific journals or articles to stay abreast of current research.  
Learn federal and state government job application process.

#### **APPLIED PLANT SCIENCE**

Agronomy  
Biotechnology  
Breeding  
Economic Botany  
Food Science and Technology  
Forestry  
Horticulture  
Natural Resource Management  
Plant Pathology

Colleges and universities  
Research organizations  
Agriculture industry including lumber and paper, seed and nursery, fruit and vegetable growers, fermentation, food industry, and biological supply houses  
Biotechnology firms

Take courses or double major in your area of interest.  
Gain relevant experience through volunteer positions, part-time work, or internships.  
Obtain a Ph.D. for teaching, advanced research positions, and administration.  
Learn a foreign language for international work such as plant studies in the tropics.

## AREAS

## EMPLOYERS

## STRATEGIES

### Applied Plant Science, Continued

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Industries including petrochemical, pharmaceutical, and chemical  
Ecological consulting companies  
Federal, state, and local government agencies  
Environmental and biotechnical regulatory agencies

### Applied Plant Science, Continued

Learn federal, state and local government job application process.

### ORGANISMIC SPECIALTIES

Bryology  
Lichenology  
Microbiology  
Pteridology  
Mycology  
Phycology/Marine Botanists

Colleges and universities  
Research organizations  
Federal and state government laboratories including Agriculture, Health, etc.  
Pharmaceutical companies  
Food and beverage industries including brewing and fermentation  
Hospitals  
Related industries

Gain experience working with technology.  
Become familiar with laboratory procedures and equipment.  
Assist a professor with research or find a part-time job in a laboratory.  
Obtain a graduate degree in area of interest.

### EDUCATION

Teaching  
Research  
Administration

Public and private high schools  
Colleges and universities  
Museums, botanical gardens and herbaria

Gain certification or licensure for high school science teaching.  
Obtain a Ph.D. for positions in college teaching and research.  
Gain experience through tutoring.  
Learn to work well with different types of people.

### COMMUNICATION

Writing  
Editing  
Botanical Illustration

Publishing companies including newspapers, magazines, books, and textbooks  
Professional associations  
Scientific and educational software companies  
Non-profit organizations

Take courses in technical writing, journalism, or illustration.  
Develop word processing and desktop publishing skills or computer-aided design.  
Find an internship with a magazine, newspaper, or publisher.  
Obtain a master's degree in scientific journalism.

## AREAS

## EMPLOYERS

## STRATEGIES

### LAW

Agricultural  
Environmental  
Biotechnological

Law firms with environmental focus  
Government agencies and regulatory agencies  
Biotechnical regulatory firms or agencies

Obtain law degree after completion of bachelor's degree.  
Gain relevant experience by working at a law firm.

### BUSINESS

Sales/Marketing  
Administration/Management

Pharmaceutical companies  
Seed companies  
Biotechnology firms  
Scientific publishers  
Biological supply houses

Earn a minor in business.  
Hold leadership positions in campus organizations.  
Join related professional associations.  
Develop good communication skills; take a course in public speaking.  
Learn various software packages including spread sheets, databases, and word processing.

### COMPUTER PROGRAMMING

Scientific and educational software companies

Double major or minor in computer programming.  
Gain related work experience through internships or part-time and summer jobs.

### GENERAL INFORMATION

- Bachelor's degree qualifies one for work as a laboratory technician or technical assistant in education, industry, government, museums, parks, and gardens.
- Master's degree opens some opportunities in research and administration.
- Ph.D. is required for advanced research and administrative positions or college teaching. Most plant scientists work in higher education.
- Build good relationships with science professors and secure strong recommendations. Maintain a high g.p.a. for graduate school admission.
- Obtain part-time, summer, co-op, volunteer, or internship experience with government agencies, college/university labs, agricultural experiment stations, freshwater and marine biological stations, or private companies.
- Complete an undergraduate research project to decide on a specific area of interest in botany.
- Enjoy outdoor activities if planning to conduct research in an outdoor environment.
- Join organizations concerned with the world food supply and other related areas. Read scientific journals related to botany.
- Develop an excellent background in mathematics and strong verbal and written communication skills.
- Select a broad range of courses in English, social sciences, arts, and humanities.
- Become proficient with computers.

# What can I do with this degree?

## BOTANY

### Botany Links

[The Botanical Society of America](#)

[Plant Pathology Online](#)

[Science Careers](#)

[Careers in Biology Weblinks from Emporia State University](#)

[Science Technicians from the Occupational Outlook Handbook](#)

[Teachers-Postsecondary from the Occupational Outlook Handbook](#)

[Biological and Medical Scientists from the Occupational Outlook Handbook](#)

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Ecological consulting companies  
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Ecological consulting companies  
Federal, state, and local government agencies  
Environmental and biotechnical regulatory agencies

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Lichenology  
Microbiology  
Pteridology  
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Phycology/Marine Botanists

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Pharmaceutical companies  
Food and beverage industries including brewing and fermentation  
Hospitals  
Related industries

## **STRATEGIES**

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Prepared by the Career Planning staff of Career Services at The University of Tennessee, Knoxville. (1995, Revised 2000, 2005) UTK is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA Employer.