

PLANT SCIENCES

What can I do with this major?

AREAS

EMPLOYERS

STRATEGIES

BIOENERGY

Plant Breeding
Crop Science
Feedstocks
Production and Processing
Regulation
Consulting
Biofuel Transportation, Distribution, Sales

Biofuel companies
Colleges and universities
Research organizations
Feedstock supply companies
Federal laboratories and regulatory agencies
including: US Department of Agriculture, Environmental Protection Agency

Seek experience in the bioenergy field through research with faculty, internships or part-time jobs. Build close relationships with faculty who can provide strong recommendations for graduate school. Maintain knowledge of current alternative energy and product industry trends and regulations. Supplement program with courses such as finance, marketing, management, etc. to increase understanding of business theory. Pursue a master's or Ph.D. for increased research opportunities.

BIOTECHNOLOGY

Plant Tissue Culture
Plant Breeding
Genetic Engineering
Textiles (Enzymes, Novel Fibers, Medical)
Bioinformatics

Colleges and universities
Research organizations
Agricultural and pharmaceutical companies
Federal laboratories and regulatory agencies
including: US Food and Drug Administration, US Department of Agriculture, Environmental Protection Agency
Plant propagation and production businesses
Biotechnology companies

Gain practical laboratory, greenhouse or field experience in collaboration with professors and through internships. Join horticultural, agronomy clubs or other student professional associations to network and cultivate related academic interests. A master's or doctoral degree may be necessary for advancement. Some federal and private agency and research positions require a graduate degree. Maintain a strong grade point average to be competitive for graduate school admission.

AREAS

EMPLOYERS

STRATEGIES

HORTICULTURE SCIENCE AND PRODUCTION

Plant Breeding
Vegetable, Fruit, Ornamental Crop Production
Greenhouse and Nursery Management
Sales and Marketing

Nurseries, greenhouses, florists and other whole-sale and retail companies
Plant propagation and production businesses
Agribusinesses
Harvesting companies
Agrichemical companies
Consulting firms
State and federal departments of agriculture
Extension offices
High schools, colleges and universities
Self-employment

Seek work in areas such as crop production and greenhouse operations to build skills and experience.
Assist a professor with a research project.
Join horticultural, agronomy clubs or other student professional associations to network.
Seek additional training in business to advance into management positions.
Become a Certified Horticulturist through the American Society for Horticulture Science.
A master's or doctoral degree may be necessary for some positions in private companies and government organizations.
Maintain a strong grade point average to be competitive for graduate school admission.
Research extension and teacher education programs for working with youth.

LANDSCAPE DESIGN

Ecological/Environmental Restoration
Residential/Commercial Design
Landscape Construction
Landscape Maintenance/Management
Specialty Installation (Irrigation systems, ponds, rockscapes, lighting)
Sales and Contracting

Landscape design companies
Garden centers
Parks, amusement parks and zoos
Golf courses
Sport fields
Cemeteries
Large hotels and resorts
Industrial sites
Colleges and universities
Local/city governments
State highway departments
Self-employment

Seek practical experience through internships or summer and part-time jobs at garden centers or with landscape contractors to learn more about the industry
Develop computer aided design (CAD) and effective communication skills for conferring with clients.
Obtain a minor in business, agricultural economics or agricultural leadership if interested in management or self-employment.
Consider earning a landscape architect degree and obtain professional certification as a landscape architect. Requirements vary by state.
Participate in the annual Professional Landcare Network's (PLANET) Student Career Days competition.

AREAS

EMPLOYERS

STRATEGIES

ORGANIC PRODUCTION

Crop Production
Greenhouse and Nursery Management
Sales and Marketing
Organic Certification
Product Development

Organic Farms
Non-profit Organizations
Agribusinesses
State and federal departments of agriculture
Plant propagation and production businesses
Agrichemical companies
Colleges and universities
Self-employment
High-end produce buyers
Local tourism departments

Pursue experience in organic production through work at organic greenhouses, farms or agribusinesses.
Seek involvement with local farmers' markets, community food projects and other sustainable agriculture initiatives.
Join student chapters of professional associations to network in the industry.
Become a Certified Horticulturist through the American Society for Horticulture Science.
Research extension and teacher education programs for working with youth which vary by state.
Become familiar with certification programs for organic produce.

PUBLIC HORTICULTURE

Education/Outreach
Urban Horticulture
Urban Forestry
Horticulture Therapy
Plant Collections
Research
Communications
Management
Facilities and Maintenance

Public and botanic gardens
Arboreta and conservatories
Museums
Radio and television stations
Magazines, newspapers and internet sites
Zoos and aquariums
Cities and parks
State highway departments
Cemeteries
Theme parks
Universities
Extension Offices
Hospitals and therapy centers
Nursing homes and senior centers
Freelance writer

Develop excellent writing and speaking skills, as those interested in public horticulture work extensively with people. Photography skills may be advantageous for some career paths.
Join student organizations to develop leadership and communication skills.
Gain related experience through internships part-time job in public gardens or parks.
Earn Registered Horticultural Therapist licensure for plant therapy through The American Horticulture Therapy Association or become a Certified Horticulturist through the American Society for Horticultural Science.
Obtain teacher certification for public school positions.

AREAS

EMPLOYERS

STRATEGIES

TURFGRASS SCIENCE AND MANAGEMENT

Golf Course Management
Sport Turf Management
Sod Production
Residential/Commercial Lawn Installation and Management
Irrigation Systems
Agrichemicals
Sales and Service
Green Industry Consulting

Golf courses
Lawn care companies
Colleges and universities
Sport and athletic fields
Local/city governments
Parks and amusement parks
Sod production farms
Pest management companies
Landscape companies
Irrigation firms
Self-employment

Obtain practical experience with golf courses and other turf businesses through internships or summer and part-time jobs.
Participate in relevant campus organizations, e.g. the Turf Club or Horticulture Club .
Develop effective communication skills, particularly for leading crews of employees. Pursue a minor in business, agricultural economics or agricultural leadership for management or self-employment.
Gain knowledge of federal, state and local laws and regulations governing operations and management of sports fields and facilities.
Research professional certifications in the field including Certified Golf Course Superintendent (CGCS) and Certified Sports Field Manager (CSFM).

GENERAL INFORMATION

- For entry level positions in most areas of plant sciences, a bachelor's degree is sufficient.
- Depending upon specialty area, supplement curriculum with supporting courses: business, journalism, planning, geology, entomology, soils or biology. Take communications courses to develop oral and written skills.
- Majoring in two subject areas or pursuing a minor can increase marketability. For example, study in landscape design and business, or public horticulture and journalism, can lead to greater opportunities.
- Internship experiences with well-known organizations aid students when seeking employment.
- A graduate degree may be necessary for advancement in some fields.
- Master's degrees allow for more opportunities in research and administration. Some community colleges will hire Master's level teachers.
- Doctoral degrees are necessary for advanced research and administrative positions, university teaching and independent research.
- Join professional associations and community organizations to stay abreast of current issues in the field and to develop networking contacts.
- Secure strong relationships and personal recommendations from professors for graduate school admission.
- Consider completing a post-doctoral experience after graduate school.
- Meet with career center staff that can assist with government job searches.