# **PLANT SCIENCE AND** TECHNOLOGY, BS

The study of plants is crucial for the survival of humankind and of the planet. Our entire diet comes either directly or indirectly through plants, and plants are a key source of fuel and energy, medicines, and oxygen in the environment. Plants grown in cultivated environments have critical roles in sustaining life and in supporting our economy.

# PLANT SCIENCE AND TECHNOLOGY STUDENTS WILL:

- · learn about the biology of plants
- · investigate the role of plants in food and industrial systems, and how these systems affect climate and resource management
- study the impact of biotechnology, automation, and artificial intelligence in crop production
- · learn from experts in a wide variety of plant species such as grains, fruits, vegetables, herbs, ornamental crops, weeds, and plants that appear in agricultural ecosystems.

This training will open up a wide range of careers in crop production, precision agriculture, biotechnology, and more. Additionally, students will be well prepared to attend graduate school in many disciplines from agronomy and crop science to plant biotechnology.

# LEARN THROUGH HANDS-ON, **REAL-WORLD EXPERIENCES**

Core coursework in Plant Science and Technology includes hands-on learning experiences. Examples include using remote sensing to collect data on plant performance, growing crops in hydroponics systems, pollinating plants to create genetic variation, and propagating herbaceous and woody plants.

In addition, students can apply their course learning to real life through research projects, independent studies, and internships with guidance from faculty and staff members. During their final year, majors complete a senior capstone course where they work closely with fellow students and a faculty or staff advisor on a semester-long project designed to bring together a number of aspects of their educational experiences. Through their capstone, students can choose to participate in hands-on projects. For instance, a student's capstone could require they collect data on plant performance in a field or greenhouse and use those data to develop models that can predict future performance. Students can pursue complex scientific interests during their capstone such as studying the distribution of mineral content in crop seeds. Typically, the capstone project involves problem solving and data analysis in a real-world context.

# **BUILD COMMUNITY AND NETWORKS**

Students get to know faculty and instructors through the courses they take, and they can build their networks through independent studies, participation in seminars, paid work in a research or outreach program, field trips, student organizations, and attendance at conferences and workshops. Examples of student organizations include the Badger Crops Club (https://pasdept.wisc.edu/badger-crop-club/) and The People's Farm (https://www.the-peoples-farm.com/). One of the strengths of our

program is the opportunity to work with university research and outreach programs and experience scientific inquiry and the communication of scientific findings on real-world problems.

# CUSTOMIZE A PATH OF STUDY

Plant Science and Technology students can select from a wide array of elective options to complete coursework that fits their interests and career goals. For some students, gaining experience in a variety of plant materials will be an important career objective, while for other students, exposure to fields such as economics, life sciences communication, foreign languages, or food science might be critical. The Plant Science and Technology major provides ample opportunities for students to identify electives that help build career skills and provide a well-rounded undergraduate experience.

# MAKE A STRONG START

A number of first-year seminar courses (https://guide.wisc.edu/ undergraduate/agricultural-life-sciences/#requirementstext) are available to help new students understand academic programs, access student services, and develop time management and study skills.

# GAIN A GLOBAL PERSPECTIVE

Many Plant Science and Technology majors study abroad to gain an international perspective and prepare to participate in today's global economy. Students work with their advisor and the CALS study abroad office (https://cals.wisc.edu/academics/undergraduate-students/ studyabroad/) to identify appropriate programs. The Plant Science and Technology major is also home to a study abroad program in tropical agriculture (https://studyabroad.wisc.edu/program/?programId=517) that includes a fall semester course and a winter break study abroad experience in Central America.

### HOW TO GET IN

# HOW TO GET IN

| Requirements               | Details  |
|----------------------------|--|
| How to get in              | No application required. All students who meet the<br>requirements listed below are eligible to declare.<br>For information on how to declare, visit Advising &<br>Careers.  |
| Courses required to get in | None   |
| GPA requirements to get in | None   |
| Credits required to get in | Must have fewer than 86 credits.   |
| Other                      | Students who do not meet the requirements<br>above or are not in good academic standing should<br>schedule a meeting with CALS Dean on Call<br>(https://go.wisc.edu/g85h79 (https://go.wisc.edu/<br>g85h79/)) to discuss exceptions. |

### **PROSPECTIVE UW-MADISON STUDENTS**

All prospective UW-Madison students must apply through the Office of Admissions and Recruitment (https://www.admissions.wisc.edu/).

Students interested in this major should select it as the first choice major on their UW-Madison application. Admitted students who enroll at UW-Madison and attend Student Orientation, Advising, and Registration

(SOAR) with the College of Agricultural and Life Sciences have the option to declare this major at SOAR. More information is available here (https://cals.wisc.edu/academics/undergraduate/future-students/).

Students declared in the Agronomy or Horticulture BS may not also declare the Plant Science and Technology BS.

### REQUIREMENTS

# UNIVERSITY GENERAL EDUCATION REQUIREMENTS

All undergraduate students at the University of Wisconsin-Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (https://guide.wisc.edu/undergraduate/ #requirementsforundergraduatestudytext) section of the Guide.

General Education

- Breadth–Humanities/Literature/Arts: 6 credits
- Breadth–Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
- Breadth–Social Studies: 3 credits
- Communication Part A & Part B \*
- Ethnic Studies \*
- Quantitative Reasoning Part A & Part B \*

\* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

### COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

In addition to the University General Education Requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Courses may not double count within university requirements (General Education and Breadth) or within college requirements (First-Year Seminar, International Studies, Science, and Capstone), but courses counted toward university requirements may also be used to satisfy a college and/or a major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

### COLLEGE REQUIREMENTS FOR ALL CALS BS DEGREE PROGRAMS

#### Code

Quality of Work: Students must maintain a minimum cumulative grade point average of 2.000 to remain in good standing and be eligible for graduation.

Title

| First year seminar (https://guide.wisc.edu/         undergraduate/agricultural-life-sciences/         #CALSFirstYearSeminarCourses)         International studies (https://guide.wisc.edu/         undergraduate/agricultural-life-sciences/         #CALSInternationalStudiesCourses)         Physical science fundamentals         General Chemistry I |    |
|--|----|
| undergraduate/agricultural-life-sciences/<br>#CALSInternationalStudiesCourses)<br>Physical science fundamentals 4-<br>CHEM 103 General Chemistry I   | 1  |
| CHEM 103 General Chemistry I   | 3  |
|  | -5 |
|  |    |
| or CHEM 108 Chemistry in Our World   |    |
| or CHEM 109 Advanced General Chemistry   |    |
| Biological science   | 5  |
| Additional science (biological, physical, or natural)  | 3  |
| Science breadth (biological, physical, natural, or social)   |    |
| CALS Capstone Learning Experience: included in<br>the requirements for each CALS major (see "major<br>requirements") (https://guide.wisc.edu/undergraduate/<br>agricultural-life-sciences/#CALSCapstoneRequirement)  |    |

# MAJOR REQUIREMENTS

| Total Credits    |                                | 66-75   |
|------------------|--------------------------------|---------|
| Capstone (p. 5)  |                                | 2       |
| Plant Science ar | nd Technology Electives (p. 3) | 15      |
| Plant Science ar | nd Technology Core (p. 3)      | 22-25   |
| Foundation (p. 2 | 2)                             | 27-33   |
| Code             | Title                          | Credits |

### FOUNDATION

#### **Mathematics**

Complete one of the following (or requirement may be fulfilled through placement exam):

| Code                   | Title                                       | Credits |
|------------------------|---|---------|
| MATH 112<br>& MATH 113 | College Algebra<br>and Trigonometry         | 6       |
| MATH 114               | Precalculus                                 | 5       |
| MATH 171               | Calculus with Algebra and<br>Trigonometry I | 5       |

#### Statistics

Complete one of the following:

| Code     | Title   | Credits |
|----------|---|---------|
| STAT 240 | Data Science Modeling I                               | 4       |
| STAT 301 | Introduction to Statistical Methods                   | 3       |
| STAT 371 | Introductory Applied Statistics for the Life Sciences | 3       |

#### Chemistry

Credits

Complete one of the following:

| Code       | Title                      | Credits |
|------------|----------------------------|---------|
| CHEM 103   | General Chemistry I        | 9       |
| & CHEM 104 | and General Chemistry II   |         |
| CHEM 109   | Advanced General Chemistry | 5       |

#### Biology

Complete one of the following sequences:

#### Sequence 1

| Code                    | Title                     | Credits |
|-------------------------|---------------------------|---------|
| BIOLOGY/<br>BOTANY 130  | General Botany            | 5       |
| BIOLOGY/<br>ZOOLOGY 101 | Animal Biology            | 3       |
| BIOLOGY/<br>ZOOLOGY 102 | Animal Biology Laboratory | 2       |
| Total Credits           |                           | 10      |

# Sequence 2

| Sequence 2                     |  |         |
|--------------------------------|--|---------|
| Code                           | Title  | Credits |
| BIOLOGY/BOTANY/<br>ZOOLOGY 151 | Introductory Biology                           | 5       |
| BIOLOGY/BOTANY/<br>ZOOLOGY 152 | Introductory Biology                           | 5       |
| <b>Total Credits</b>           |  | 10      |
| Sequence 3                     |  |         |
| Code                           | Title  | Credits |
| BIOCORE 381                    | Evolution, Ecology, and Genetics               | 3       |
|                                |  |         |
| BIOCORE 382                    | Evolution, Ecology, and Genetics<br>Laboratory | 2       |

Cellular Biology Laboratory

#### Total Credits

#### Economics

**BIOCORE 384** 

Complete one of the following:

| Code      | Title   | Credits |
|-----------|---|---------|
| A A E 101 | Introduction to Agricultural and<br>Applied Economics | 4       |
| ECON 101  | Principles of Microeconomics                          | 4       |
| ECON 111  | Principles of Economics-<br>Accelerated Treatment     | 4       |

### PLANT SCIENCE AND TECHNOLOGY CORE

#### **Plant Science**

Complete all of the following:

| Code          | Title   | Credits |
|---------------|---|---------|
| PLANTSCI 110  | Introduction to Plant Science and<br>Technology     | 4       |
| PLANTSCI 310  | Plant Science and Technology in<br>Cropping Systems | 4       |
| SOIL SCI 301  | General Soil Science                                | 3       |
| Total Credits |   | 11      |

### Genetics

Complete one of the following:

| Code                | Title                            | Credits |
|---------------------|----------------------------------|---------|
| <b>GENETICS 466</b> | Principles of Genetics           | 3       |
| PLANTSCI 338        | Plant Breeding and Biotechnology | 3       |

#### Systems

Complete one of the following:

| Code                  | Title                           | Credits |
|-----------------------|---------------------------------|---------|
| PL PATH 300           | Introduction to Plant Pathology | 4       |
| PLANTSCI 300          | Cropping Systems                | 3       |
| ENTOM/<br>ZOOLOGY 302 | Introduction to Entomology      | 4       |

#### Environment

Complete one of the following:

| Code         | Title                            | Credits |
|--------------|----------------------------------|---------|
| PLANTSCI 320 | Environment of Cultivated Plants | 3       |
| BOTANY 500   | Plant Physiology                 | 3-4     |

#### Technology

Complete one of the following:

| Code                           | Title   | Credits |
|--------------------------------|---|---------|
| PLANTSCI 340                   | Plant Genome Engineering and<br>Editing                             | 3       |
| PLANTSCI 334<br>& PLANTSCI 335 | Greenhouse Cultivation<br>and Greenhouse Cultivation Lab            | 3       |
| BSE 305                        | Introduction to Precision Agriculture                               | 3       |
| BSE 380                        | Introductory Data Science for the<br>Agricultural and Life Sciences | 3       |

# PLANT SCIENCE AND TECHNOLOGY ELECTIVES

| Code          | Title | Credits |
|---------------|-------|---------|
| Major Depth   |       | 9       |
| Major Breadth |       | 6       |
| Total Credits |       | 15      |

#### **Major Depth**

2

10

Complete 9 credits. A course completed to meet the Core may not count as a major depth course.

| Code                      | Title  | Credits |
|---------------------------|--|---------|
| PLANTSCI 227              | Propagation of Horticultural Plants                              | 3       |
| PLANTSCI/<br>PL PATH 262  | Turfgrass Management Laboratory                                  | 1       |
| PLANTSCI/<br>LAND ARC 263 | Woody Landscape Plant<br>Identification, Culture, and Use        | 4       |
| PLANTSCI 300              | Cropping Systems   | 3       |
| PLANTSCI 302              | Forage Management and Utilization                                | 3       |
| PLANTSCI 320              | Environment of Cultivated Plants                                 | 3       |
| PLANTSCI 340              | Plant Genome Engineering and<br>Editing                          | 3       |
| PLANTSCI 334              | Greenhouse Cultivation   | 2       |
| PLANTSCI 338              | Plant Breeding and Biotechnology                                 | 3       |
| PLANTSCI 360              | Genetically Modified Crops:<br>Science, Regulation & Controversy | 2       |
| PLANTSCI 370              | World Vegetable Crops  | 3       |
| PLANTSCI 376              | Tropical Horticultural Systems                                   | 2       |
| PLANTSCI 378              | Tropical Horticultural Systems<br>International Field Study      | 2       |

| AGROECOL 377                 | Global Food Production and Health                                   | 3   |
|------------------------------|---|-----|
| DY SCI 471                   | Food Production Systems and<br>Sustainability                       | 3   |
| PLANTSCI 501                 | Principles of Plant Breeding  | 3   |
| PLANTSCI 502                 | Techniques of Plant Breeding  | 1   |
| PLANTSCI/<br>ATM OCN 532     | Environmental Biophysics  | 3   |
| PLANTSCI 550                 | Molecular Approaches for Crop<br>Improvement                        | 3   |
| BSE 305                      | Introduction to Precision Agriculture                               | 3   |
| BSE 365                      | Measurements and Instrumentation for Biological Systems             | 3   |
| BSE 380                      | Introductory Data Science for the<br>Agricultural and Life Sciences | 3   |
| BSE 405                      | Artificial Intelligence in Agriculture                              | 3   |
| BOTANY 300                   | Plant Anatomy   | 4   |
| ENTOM/<br>ZOOLOGY 302        | Introduction to Entomology  | 4   |
| BOTANY 500                   | Plant Physiology  | 3-4 |
| ENTOM 351                    | Principles of Economic Entomology                                   | 3   |
| ENTOM/BOTANY/<br>ZOOLOGY 473 | Plant-Insect Interactions   | 3   |
| GENETICS 466                 | Principles of Genetics  | 3   |
| GENETICS/<br>BIOCHEM 631     | Plant Genetics and Development                                      | 3   |
| PL PATH 300                  | Introduction to Plant Pathology                                     | 4   |
| SOIL SCI 332                 | Turfgrass Nutrient and Water<br>Management                          | 3   |
| PL PATH 315                  | Plant Microbiomes   | 4   |
| PL PATH/BOTANY/<br>ENTOM 505 | Plant-Microbe Interactions:<br>Molecular and Ecological Aspects     | 3   |
| PL PATH 517                  | Plant Disease Resistance  | 2-3 |
| PL PATH 559                  | Diseases of Economic Plants   | 3   |
|                              |   |     |

### **Major Breadth**

Complete 6 credits.

| Code                          | Title  | Credits |
|-------------------------------|--|---------|
| A A E 319                     | The International Agricultural<br>Economy                  | 3       |
| A A E 320                     | Agricultural Systems Management                            | 3       |
| A A E 322                     | Commodity Markets  | 4       |
| A A E 323                     | Cooperatives and Alternative Forms of Enterprise Ownership | 3       |
| A A E 419                     | Agricultural Finance                                       | 3       |
| A A E 422                     | Food Systems and Supply Chains                             | 3       |
| BIOCHEM 501                   | Introduction to Biochemistry                               | 3       |
| BSE 301                       | Land Information Management                                | 3       |
| BOTANY 305                    | Plant Morphology and Evolution                             | 4       |
| BOTANY 400                    | Plant Systematics  | 4       |
| BOTANY 401                    | Vascular Flora of Wisconsin                                | 4       |
| BOTANY/ANTHRO/<br>ZOOLOGY 410 | Evolutionary Biology                                       | 3       |
| BOTANY 422                    | Plant Geography  | 3       |

| BOTANY/AMER IND/<br>ANTHRO 474                               | Ethnobotany   | 3-4 |
|--|---|-----|
| COMP SCI 220   | Data Science Programming I  | 4   |
| F&W ECOL/<br>ENVIR ST 100                                    | Forests of the World  | 3   |
| F&W ECOL/<br>C&E SOC/SOC 248                                 | Environment, Natural Resources,<br>and Society                        | 3   |
| F&W ECOL 300   | Forest Measurements   | 4   |
| F&W ECOL/<br>ENVIR ST/G L E/<br>GEOG/GEOSCI/<br>LAND ARC 371 | Introduction to Environmental<br>Remote Sensing                       | 3   |
| GEN BUS 310  | Fundamentals of Accounting and<br>Finance for Non-Business Majors     | 3   |
| GEN BUS 311  | Fundamentals of Management and<br>Marketing for Non-Business Majors   | 3   |
| LSC 270  | Marketing Communication for the Sciences                              | 3   |
| GENETICS 545   | Genetics Laboratory   | 2   |
| GEOG/<br>ENVIR ST 309  | People, Land and Food:<br>Comparative Study of Agriculture<br>Systems | 3   |
| GEOG/BOTANY 338  | Environmental Biogeography  | 3   |
| GEOG/<br>ENVIR ST 339  | Environmental Conservation  | 4   |
| PLANTSCI 121   | Colloquium in Plant Science and<br>Technology                         | 1   |
| PLANTSCI 234   | Herbaceous Ornamental Plant<br>Identification, Culture, and Use       | 4   |
| PLANTSCI 240   | The Science of Cannabis   | 1   |
| PLANTSCI/<br>PL PATH 261                                     | Sustainable Turfgrass Use and<br>Management                           | 2   |
| AGROECOL/<br>HIST SCI 301                                    | (Horti)Cultural Roots: Human<br>Histories of Plants and Science       | 4   |
| PLANTSCI 230   | Wines and Vines of the World  | 2   |
| PLANTSCI 350   | Plants and Human Wellbeing  | 2   |
| PLANTSCI 351   | A Deeper Look at Plants and Human<br>Wellbeing                        | 1   |
| PLANTSCI 372   | Seminar in Organic Agriculture  | 1   |
| PLANTSCI 380   | Indigenous Foodways: Food and<br>Seed Sovereignty                     | 2   |
| LAND ARC 260   | History of Landscape Architecture                                     | 3   |
| PL PATH 311  | Global Food Security  | 3   |
| SOIL SCI 323   | Soil Biology  | 3   |
| SOIL SCI/<br>ENVIR ST 324                                    | Soils and Environmental Quality                                       | 3   |
| SOIL SCI 327   | Environmental Monitoring and Soil<br>Characterization                 | 3   |
| SOIL SCI/  | Assessment of Environmental   | 3   |
| ENVIR ST 575<br>SOIL SCI 585                                 | Impact<br>Using R for Soil and Environmental                          | 3   |
|  | Sciences  |     |
| SOIL SCI 621   | Soil and Environmental Chemistry                                      | 3   |

#### CAPSTONE

| Code          | Title                      | Credits |
|---------------|----------------------------|---------|
| PLANTSCI 510  | Senior Capstone Experience | 2       |
| Total Credits |                            | 2       |

# UNIVERSITY DEGREE REQUIREMENTS

| Total Degree | To receive a bachelor's degree from UW–Madison,<br>students must earn a minimum of 120 degree credits.<br>The requirements for some programs may exceed 120<br>degree credits. Students should consult with their college<br>or department advisor for information on specific credit<br>requirements.  |
|--------------|---|
| Residency    | Degree candidates are required to earn a minimum of<br>30 credits in residence at UW–Madison. "In residence"<br>means on the UW–Madison campus with an undergraduate<br>degree classification. "In residence" credit also includes<br>UW–Madison courses offered in distance or online formats<br>and credits earned in UW–Madison Study Abroad/Study |

Away programs.Quality ofUndergraduate students must maintain the minimum gradeWorkpoint average specified by the school, college, or academicprogram to remain in good academic standing. Studentswhose academic performance drops below these minimumthresholds will be placed on academic probation.

### LEARNING OUTCOMES

# **LEARNING OUTCOMES**

- 1. Define biological processes related to plant growth, development, and productivity and explain their role in plant and agroecosystem sciences
- 2. Apply scientific and technological concepts and critical thinking skills to analyze global issues in plant and agroecosystem sciences
- Communicate solutions to complex problems in the field of plant science and technology to diverse audiences composed of peers, scientists, and/or professionals

# FOUR-YEAR PLAN

# FOUR-YEAR PLAN

This sample four-year plan is a tool to assist students and their advisors. Students should use their DARS report, the degree planner, Guide requirements, and the course search & enroll tools to make their own fouryear plan based on their placement scores, credit for transferred courses and approved examinations, and individual interests.

Note: Math course selection is based on placement scores. Plant Science and Technology majors must complete MATH 112 & MATH 113 or MATH 114 or satisfy the math requirement by placement exam.

#### SAMPLE FOUR-YEAR PLAN WITH BOTANY/ BIOLOGY 130 IN THE FIRST SEMESTER

| First Year   |  |         |
|--|--|---------|
| Fall   | Credits Spring   | Credits |
| CALS First-Year Seminar  | 1 ZOOLOGY/<br>BIOLOGY 101<br>& ZOOLOGY/<br>BIOLOGY 102             | 5       |
| PLANTSCI 110   | 4 Ethnic Studies   | 3       |
| BOTANY/BIOLOGY 130   | 5 MATH 113   | 3       |
| MATH 112   | 3 A A E 101  | 4       |
| Communication A  | 3  |         |
|  | 16   | 15      |
| Second Year  |  |         |
| Fall   | Credits Spring   | Credits |
| CHEM 103   | 4 Communications B   | 3       |
| STAT 371   | 3 Plant Science and<br>Technology Core -<br>Systems or Environment | 3       |
| Plant Science and<br>Technology Core -<br>Systems or Environment | 3 CHEM 104   | 5       |
| General Education  | 3 PLANTSCI 310   | 4       |
| Elective   | 1  |         |
| Third Year   | 14   | 15      |
| Fall   | Credits Spring   | Credits |
| SOIL SCI 301   | 3 Plant Science and<br>Technology Core -<br>Genetics or Technology | 3       |
| Plant Science and<br>Technology Core -<br>Genetics or Technology | 3 CALS International<br>Studies Requirement                        | 3       |
| Major Depth Elective   | 3 Major Breadth Elective   | 3       |
| General Education  | 3 Electives  | 6       |
| Elective   | 3  |         |
|  | 15   | 15      |
| Fourth Year  |  |         |
| Fall   | Credits Spring   | Credits |
|  | 3 Major Depth Elective   | 3       |
| Major Depth Elective   |  |         |
| Major Depth Elective<br>Major Breadth Elective<br>Electives      | 3 Electives<br>9 PLANTSCI 510                                      | 10<br>2 |

#### Total Credits 120

### SAMPLE FOUR-YEAR PLAN WITH CHEM 103 IN THE FIRST SEMESTER

| First Year              |                   |         |
|-------------------------|-------------------|---------|
| Fall                    | Credits Spring    | Credits |
| CALS First-Year Seminar | 1 CHEM 104        | 5       |
| CHEM 103                | 4 Ethnic Studies  | 3       |
| PLANTSCI 110            | 4 STAT 371        | 3       |
| MATH 114                | 5 Communication A | 3       |

|  | Elective   | 1       |
|--|--|---------|
|  | 14   | 15      |
| Second Year  |  |         |
| Fall   | Credits Spring   | Credits |
| BIOLOGY/BOTANY 130   | 5 Communications B   | 3       |
| A A E 101  | 4 ZOOLOGY/<br>BIOLOGY 101<br>& ZOOLOGY/<br>BIOLOGY 102             | 5       |
| SOIL SCI 301   | 3 PLANTSCI 310   | 4       |
| General Education  | 3 Plant Science and<br>Technology Core -<br>Environment or Systems | 3       |
|  | 15   | 15      |
| Third Year   |  |         |
| Fall   | Credits Spring   | Credits |
| Plant Science and<br>Technology Core -<br>Environment or Systems | 3 Plant Science and<br>Technology Core -<br>Genetics or Technology | 3       |
| Major Depth Elective   | 3 Major Breadth Elective   | 3       |
| General Education  | 3 Electives  | 6       |
| Elective   | 3 CALS International<br>Studies Requirement                        | 3       |
| Plant Science and<br>Technology Core -<br>Genetics or Technology | 3  |         |
|  | 15   | 15      |
| Fourth Year  |  |         |
| Fall   | Credits Spring   | Credits |
| Major Depth Elective   | 3 PLANTSCI 510   | 2       |
| Major Breadth Elective   | 3 Electives  | 10      |
| Electives  | 10 Major Depth Elective  | 3       |
|  | 16   | 15      |

**Total Credits 120** 

### ADVISING AND CAREERS

# ADVISING AND CAREERS

Each student receives one-on-one guidance from their professional advisor. Academic advisors will help students build an individualized, four-year plan. Many Plant Science and Technology majors complete certificates or double majors.

### **CAREER OPPORTUNITIES**

The knowledge and skills developed through the Plant Science and Technology major prepare students for a wide variety of careers. The program is designed to allow students to pursue their interests and career goals. Some of the areas students may work in include: crop production and consulting, precision agriculture, biotechnology, state and federal agencies, and other policy positions. Students may also continue their education in graduate programs in several different plant science programs that incorporate a wide range of interests such as crop science, agronomy, horticulture, and plant biotechnology.

### **CAREER ADVISING**

Students are encouraged to begin the career exploration process early in their UW-Madison journey by working with advisors, faculty, and CALS Career Services (https://cals.wisc.edu/academics/undergraduate/ current-students/career-services/). These resources can help students reflect on their values, identify career goals, and outline strategies to achieve them. CALS Career Services advisors can help students one-onone with their career goals, resume and cover letter help, interview prep, and more.

### WISCONSIN EXPERIENCE

### WISCONSIN EXPERIENCE RESEARCH EXPERIENCE

Students are encouraged to get involved with plant science and technology research on campus. Students primarily find research opportunities by directly contacting faculty or searching on the Student Job Center.

### INTERNSHIPS

Plant Science and Technology students have many opportunities for hands-on experience through internships. On campus, students can get experience by working at one of the green spaces on campus. Some examples are Allen Centennial Garden, D.C. Smith Greenhouse, the Wisconsin Crop Innovation Center, Walnut Street Greenhouses, and UW Student Organic Farm. Students can also intern off-campus. Some examples are working at an agricultural business, a farm, a nongovernmental organization, or one of the Agricultural Research Stations. Students can connect with their advisor or CALS Career Services (https:// cals.wisc.edu/academics/undergraduate/current-students/careerservices/) to learn more about internships.

### STUDENT ORGANIZATIONS

Connect with other Plant Science and Technology students and those interested in plants and technology by joining a student organization. Organizations of particular interest to Plant Science and Technology students include Badger Crops Club, UW Campus Food Shed, and Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS). A list of organizations is available on the Department of Plant and Agroecosystem Sciences website (https://pasdept.wisc.edu/ undergraduate/student-orgs/).

### GLOBAL ENGAGEMENT

Plant Science and Technology students can study or intern abroad through one of UW-Madison's 260+ programs. Visit our Major Advising Page to learn more about studying abroad as a Plant Science and Technology major.

### **RESOURCES AND SCHOLARSHIPS**

# RESOURCES AND SCHOLARSHIPS

Plant Science and Technology students have access to hands-on experiences on and off campus at UW-Madison facilities such as:

- Agricultural Research Stations (https://ars.wisc.edu/) there are over 10 research stations across the state of Wisconsin that are used by faculty, staff, and students to conduct research
- Allen Centennial Garden (https://allencentennialgarden.wisc.edu/)

   a free, public garden that is located right down the street from the Department of Plant and Agroecosystem Sciences. The garden hosts events, classes, festivals, workshops, and more.
- CALS Greenhouses (https://greenhouses.ars.wisc.edu/) located right on campus, a variety of Wisconsin agricultural crops are studied here.
- D.C. Smith Greenhouse (https://dcsmithgreenhouse.cals.wisc.edu/)

   an instructional greenhouse that grows plants for departments
   and programs of the College of Agricultural and Life Sciences. Many
   classes are also taught in the greenhouse.
- UW Arboretum (https://arboretum.wisc.edu/) located off campus on Seminole Hwy, the UW Arboretum's mission is to "Conserve and restore Arboretum lands, advance restoration ecology, and foster the land ethic (https://www.aldoleopold.org/about/the-land-ethic/)."
- Wisconsin Crop Improvement Center (WCIC) (https:// cropinnovation.cals.wisc.edu/) – located off campus in Middleton, the WCIC is a 100,000 square foot agricultural biotechnology/greenhouse complex. The building houses a state-of-the-art transgenic plant laboratory which supports unprecedented scientific advancement opportunities to improve plants for humans, livestock, and the environment.

#### SCHOLARSHIPS

College of Agricultural and Life students receive more than \$1.25 million annually in scholarship awards. Plant Science and Technology majors can apply for these scholarships through a single application in the Wisconsin Scholarship Hub (WiSH). To learn more about college scholarships please visit the CALS scholarship website (https://cals.wisc.edu/academics/ undergraduate-students/financing-your-education/cals-scholarships/).