

# PLANT SCIENCE (PLSC)

Graduate Degree Program  
College: Agriculture and Natural Resources

## Abstract

The Plant Science (PLSC) graduate program is a diverse and dynamic program that prepares graduates for careers that address issues facing modern-day society. The program offers Master of Science and Doctor of Philosophy degrees. The program offers training in diverse concentrations that include Agronomy, Cell Biology, Functional Genomics, Molecular Physiology, Conservation Biology and Ecology, Pathology, Food Safety and Quality, and Landscape Ecosystems Management. Students are trained and mentored by graduate faculty with a focus on interdisciplinary education, mastery and application to their chosen area of study. All PLSC graduate training is thesis-based, and an emphasis is placed on research, discovery learning and critical thinking, rather than coursework. Students work directly with internationally-recognized graduate faculty who are leaders in their disciplines. Students are guided in their studies by a major professor as well as a graduate advisory committee selected by the student from experts on campus, at nearby research institutions, and at other universities. The goal of the Plant Science graduate program is to (1) provide students with the skills in generating, analyzing and interpreting quantitative and qualitative information; using inductive and deductive reasoning; and communicating in both verbal and written form; (2) train the next generation of plant science researchers using cutting edge methodologies and approaches to lead public and private efforts to provide a secure, safe and nutritious food and fiber supply, maintain and restore ecosystems, combat the challenges of climate change on our food and fiber supply, and provide high quality plant science education; (3) advance knowledge in plant sciences that is critical to the improvement of the efficiency, profitability and sustainability of global and national agricultural and natural resources. The Plant Science graduate program seeks to maximize the close association of the many national laboratories (USDA, FDA, NASA, NIST, NIH, DOE, etc.) through collaborations and cooperative agreements with the department and the University of Maryland. As a result, graduates of the program are particularly well trained for employment in research and leadership positions in the public and private sectors.

## Financial Assistance

A limited number of research assistantships and teaching assistantships are available for qualified applicants. There is strong competition for these awards, and candidates are encouraged to submit their applications as early as possible in the semester preceding anticipated enrollment in the Department. Prior to application, prospective applicants are encouraged to inquire of faculty of interest regarding available research and funding opportunities.

Contact

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**Website:** <https://psla.umd.edu/graduate/prospective-students> (<https://psla.umd.edu/graduate/prospective-students/>)

**Courses:** PLSC (<https://academiccatalog.umd.edu/graduate/courses/plsc/>)

**Relationships:** Landscape Architecture (LARC) (<https://academiccatalog.umd.edu/graduate/programs/landscape-architecture-larc/>), Extension Education (AEED) (<https://academiccatalog.umd.edu/graduate/programs/extension-education-aeed/>)

## ADMISSIONS

### General Requirements

- Statement of Purpose (500 words or fewer)
- Transcript(s)
- TOEFL/IELTS/PTE (international graduate students (<https://gradschool.umd.edu/admissions/english-language-proficiency-requirements/>))

### Program-Specific Requirements

- Letters of Recommendation (3)
- CV/Resume
- Description of Research/Work Experience
- Faculty of Interest
- Optional: Writing Samples (up to two)
- Graduate Record Examination (GRE) (optional)
- GRE Subject (optional)
- Portfolio PDF Upload (optional)

Admission to the program requires a Bachelor's degree from an accredited College or University in the United States or the equivalent in

a foreign country. Applicants are expected to have a 3.0 cumulative grade point average (4.0 scale) in all previous academic work, or equivalent. All applicants are encouraged to contact prospective advisors ahead of application

For more admissions information or to apply to the program, please visit our Graduate School website (<https://gradschool.umd.edu/admissions/application-process/step-step-guide-applying/>).

## Application Deadlines

Type of Applicant	Fall Deadline	Spring Deadline
<b>Domestic Applicants</b>		
US Citizens and Permanent Residents	January 11, 2024	September 28, 2023
<b>International Applicants</b>		
F (student) or J (exchange visitor) visas; A,E,G,H,I and L visas and immigrants	January 11, 2024	September 28, 2023

**Other Deadlines:** Please visit the program website at <https://psla.umd.edu/graduate/prospective-students> (<https://psla.umd.edu/graduate/prospective-students/>)

## REQUIREMENTS

- Plant Science, Doctor of Philosophy (Ph.D.) (<https://academiccatalog.umd.edu/graduate/programs/plant-science-plsc/plant-science-phd/>)
- Plant Science, Master of Science (M.S.) (<https://academiccatalog.umd.edu/graduate/programs/plant-science-plsc/plant-science-ms/>)

## FACILITIES AND SPECIAL RESOURCES

Department facilities for conducting research in plant science are located at the College Park campus in the Plant Science Building and Research Greenhouse Complex. Modern laboratories are equipped for genomic, molecular genetic, cell biological, physiological, microbiological and biochemical research in plant science. Equipment and expertise for next generation sequencing, life science imaging, bioinformatics, genomics, proteomics, and metabolomics are available either in the department or on campus. Extensive controlled-environment facilities, including growth chambers and a large and modern greenhouse complex are complemented by a large network of field research facilities located strategically across the state representing various environments with different climates and soil types. Students have access to computer labs and shared processing arrays and a comprehensive computer center located on campus. The University Libraries on campus and both the National Agriculture Library and Library of Congress located nearby make the library resources accessible to students among the best in the nation. Many of the Department's projects are conducted in cooperation with other departments on campus and with professionals at the Food and Drug Administration facility near the campus and the headquarters of the USDA Agricultural Research Service located three miles from campus in Beltsville. Scientists at the Geologic Survey, the National Academy of Sciences, NASA, National Institutes of Health, Department of Energy, Smithsonian, and National Park Service, as well as other agencies, have cooperated with the Department's faculty on various projects. Scientists from some of these agencies have adjunct appointments in the

Department, have taught special courses at the University, and participate on graduate committees.