**Department of Plant Science**

**College of Agricultural Sciences**

**The Pennsylvania State University**

**Application and Admission Information for the Agricultural and Environmental Plant Science (AEPS) Graduate Program**

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## Table of Contents

Introduction and General Information 3

Programs of Study in Agricultural and Environmental Plant Science (AEPS) 3

About the University 4

Research Facilities 4

Assistantships and Financial Aid 4

Housing 4

Student Population 4

State College Area 5

Application for Admission to the AEPS Graduate Program 5

How to Apply 5

Graduate School Requirements for Admission 5

AEPS Program Requirements for Admission 6

Additional Application/Admission Requirements for International Students 7

Application/Admission Screening Process 7

Application/Admission Procedure for Graduate Students Enrolled in a Different Degree Program at Penn State or Going from a M.S. in AEPS to a Ph.D. in the AEPS 8

Contacts for Correspondence Regarding Application and Admission 8

# INTRODUCTION AND GENERAL INFORMATION

This guide describes the requirements for application and admission to the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) graduate degrees in the Department of Plant Science at Penn State University. The purpose of this document is to help students become familiar with the graduate program in Agricultural and Environmental Plant Science (AEPS), application procedures, as well as admission requirements.

***Programs of Study in Agricultural and Environmental Plant Science (AEPS)***

The Department of Plant Science in Penn State's College of Agricultural Sciences offers two graduate degree programs in AEPS leading to M.S. and Ph.D. degrees. The plan of study followed by a degree candidate is determined by the candidate's background and interests and is developed jointly by the student and the advisor, with the approval of the student's graduate committee. Department of Plant Science Graduate Faculty members strive to provide students with an academic environment that will foster scholarly and creative activities. Successful completion of a graduate program in AEPS requires demonstration of creativity and the ability to think independently. Students will have an opportunity to develop and display their individual abilities and talents through participation in courses, seminars, research activities, writing, and public speaking.

**The M.S.** is a research-oriented degree, requiring successful completion of a research project and thesis. This degree program is designed for individuals expecting to terminate their formal education with the M.S. degree or to proceed to a Ph.D. degree program. The M.S. degree is the normal prerequisite for the Ph.D. program in the Department of Plant Science. Whether terminal or Ph.D.-oriented, the objectives of M.S. studies are to enhance the student’s understanding of an area of plant science beyond the baccalaureate level and attain scientific research skills. Because most M.S. degree candidates are just beginning their research careers, they typically receive considerable guidance in choosing and executing their thesis research projects. However, upon completion of the M.S. degree, students are expected to have developed the capacity for independent research.

In addition to a thesis, the AEPS M.S. program requires completion of at least 30 course credits at the 400, 500, 600, or 800 level, with at least 18 credits at the graduate level (500 and 600, combined). A minimum of 12 credits in course work (400, 500, and 800 series) and at least 6 credits in thesis research (AEPS 600 or AEPS 610) must be included in the M.S. program. One credit of AEPS 602 ‘Supervised Experience in College Teaching’ is required for completion of the program but does not count towards the 30-course credit requirement for the degree. At least 20 credits must be earned at the University Park Campus.

**The Ph.D.** degree is awarded for creative scholarship and original research. Because this degree is considered essential training for a career in academic teaching and scholarly research, the Ph.D. candidate must demonstrate the ability to perform independent research. To earn the Ph.D. degree, the candidate must (i) satisfy the Penn State Graduate School’s two-semester residence requirement, (ii) complete coursework approved by the candidate’s Ph.D. advisory committee, (iii) accomplish the required research and prepare a dissertation embodying the research findings, and (iv) pass all examinations and complete the requirements prescribed by the AEPS graduate program and Graduate School. A student who has been admitted to the Graduate School and has been accepted into the AEPS Ph.D. program may begin working toward a Ph.D. degree. However, the student has no official status as a Ph.D. candidate until the qualifying examination has been passed. This examination is administered by a committee of faculty members chosen by the student and the student’s advisor and is given early in the student's program (before the end of the third semester of study).

### About the University

The Pennsylvania State University is the land-grant University of the Commonwealth of Pennsylvania. It was chartered in 1855 as the Farmers' High School. During the next century, the school evolved from the Agricultural College of Pennsylvania (1862) to the Pennsylvania State College (1874) and finally, in 1953, to The Pennsylvania State University. The original student body of 69 has grown to over 90,000 across 24 campuses, and full-time faculty have increased from 4 to over 7,000. Eleven undergraduate colleges offer 160 baccalaureate and more than 90 associate degree programs. The Graduate School, established in 1922, administers over 190 major programs. Approximately 4,100 advanced degrees are conferred annually, of which about 700 are doctorate degrees.

***Research Facilities***

The Department of Plant Science and Penn State’s College of Agricultural Sciences maintains numerous facilities for research, including laboratories equipped with the latest instrumentation and computer technology used for plant and soil-related research; state-of-the-art greenhouses; service laboratories for soil and plant analysis; diagnostic centers; as well as research farms for horticultural crops, agronomic crops, and turfgrass. An overview of Penn State’s College of Agricultural Sciences research facilities can be found at: <https://agsci.psu.edu/research/centers-facilities>.

***Assistantships and Financial Aid***

Students accepted into the AEPS graduate program are almost always awarded an assistantship which includes a stipend to cover living expenses and a grant-in-aid that serves as a tuition waiver. Exceptions include Penn State University employees pursuing graduate studies on a part-time basis and graduate students who have exceeded a reasonable period to complete their degree program. Assistantships are provided through University funds or grants awarded to individual faculty members. Graduate assistants receive stipends and a tuition grant-in-aid in exchange for performing assigned teaching and/or research duties determined by the needs of the program and/or the faculty advisor.

Additional financial assistance from the University, College, and Department in the form of recruitment fellowships and scholarships for outstanding applicants and outstanding underrepresented applicants, as well as achievement awards and grants for current graduate students, may be awarded on a competitive basis.

***Housing***

Housing for students is available in private apartments and apartment complexes located in the State College area. Single and married graduate students, as well as married graduate students with children, may apply for apartments designated by the University for their use. For details see: <https://liveon.psu.edu/university-park/housing/white-course-graduate-family-apartments>

***Student Population***

The University Park campus has a total enrollment of approximately 46,000 students, of which over 6,300 are graduate students. Approximately 30 percent of the graduate students at University Park are international students. About 70 graduate students are enrolled in the AEPS graduate program in a given year.

### State College Area

Penn State’s University Park Campus is located in the State College area (population approximately 42,000 not including students) in central Pennsylvania. Primarily a university town, State College offers many cultural, educational, recreational, and sports events. The area is rich in facilities for picnicking, hiking, biking, and swimming. State forest and game lands provide excellent venues for hunting and fishing. State College is within a 5-hour drive or bus ride of Washington DC and New York City and within 3 hours of Philadelphia and Pittsburgh. The University Park Airport is only a few miles from the University Park Campus.

### APPLICATION FOR ADMISSION TO THE AEPS GRADUATE PROGRAM

Applications for admission to the AEPS graduate program are accepted year-round. However, because admission decisions are typically made in January and February, applications received in the fall have the best chance of being considered for the following year. Also, to meet the annual nomination deadline for College of Agricultural Sciences and Graduate School special fellowships and awards, including “top-off funds”, applications must be completed by mid-December.

Before deciding to apply for admission to the AEPS graduate program and an assistantship, the AEPS Graduate Admissions Committee strongly suggests contacting Department faculty members with research programs that match your interests to determine if they may be interested in sponsoring you as graduate student. You can review all Plant Science Department faculty and their research interests at the following website:

[*http://plantscience.psu.edu/directory/faculty?utm\_source=plantscience.psu.edu&utm\_medium=Link&utm\_campaign=Left+Navigation*](http://plantscience.psu.edu/directory/faculty?utm_source=plantscience.psu.edu&utm_medium=Link&utm_campaign=Left+Navigation)

This procedure is usually necessary because assistantships are awarded competitively to students accepted for mentorship by individual faculty and thus, these professors make the decision about who is eligible for their assistantships. If you find that a faculty member that may be interested in supporting your graduate work, be sure to identify the faculty member in your statement of interests and goals in the application.

***How to Apply***

All applications for admission to graduate programs at Penn State must be made through the Graduate School at Penn State. The Graduate School has application information and instructions on application procedures at: [Graduate School application for admission](http://gradschool.psu.edu/prospective-students/how-to-apply/). The application fee is currently $65.00.

***Graduate School Requirements for Admission***

Graduate School policy ([GCAC-300 Admissions Policies](http://gradschool.psu.edu/graduate-education-policies/)) dictates that applicants may apply for admission to only one program at a time. For admission to the Graduate School, an applicant must hold either (1) a bachelor's degree from a U.S. regionally accredited institution or (2) a postsecondary degree that is equivalent to a U.S. baccalaureate degree earned from an officially recognized degree-granting international institution. Admission is granted jointly by the Graduate School and the graduate program in which the student plans to study, in this case AEPS. The establishment of standards by which applicants are admitted is the responsibility of the graduate program.

The Graduate School confirms eligibility for admission of all graduate degree applicants, while programs select and recommend applicants for offers of admission. Final approval of admission to all graduate degree programs lies with the Graduate School.

Applicants will be required to arrange for official transcripts/documents (for institutions outside the U.S. documents may include marksheets, record of courses, degree/study certificate, original diploma, etc.) to be sent from all post-secondary institutions attended and official English translation if the language of instruction is not English).

Please do not submit information with your application that cannot be used in the admission decision process, e.g., individual education plans, medical records, statements from physicians or psychologists, or legal documents. Such information will be returned by your intended program of study.

The Graduate School will review all official documents to consider the offer of admission. An offer of admission will be revoked if official transcripts/documents are not received by the Graduate School within specified deadline(s), or if official transcripts/documents differ in any substantive way from the copies uploaded by the applicant prior to the offer of admission. However, for applicants whose degree conferral is in progress at the time of uploading copies of transcripts/documents, the deadline specified for receipt of official transcripts/documents will allow for the passage of the reported date of degree conferral, and that conferral must be confirmed on the official transcripts/documents received by the Graduate School, in order for the offer of admission to be finalized.

If at any time, including after an applicant has enrolled in the Graduate School and commenced coursework, it is discovered that false information, omissions, and/or misstatements are made in an application (including but not limited to the uploading of copies of transcripts that differ in any substantive way from the official transcripts/ documents) admission, registration, and credit(s) for course work completed may be voided, and information relating to the false information, omissions, and/or misstatements may be distributed to other academic institutions, governmental agencies, and/or other third parties.

***AEPS Program Requirements for Admission***

Applicants should have a B.S., B.A., or comparable degree in plant-related agriculture (horticulture, agronomy, turfgrass) or biological sciences with strong academic performance. Students from other majors will be considered provided they have academic background that includes biological or environmental sciences, chemistry, and mathematics. Expected course background varies with the intended area of concentration, but botany or plant science courses, statistics, soils, and chemistry are recommended. Students who lack some of the prerequisite courses may be admitted but may be required to take these courses without degree credit. In most cases, Ph.D. applicants should have a M.S. degree in a related field or significant research experience in the plant or environmental sciences.

Scores from the Graduate Record Examination (GRE) general tests are not required for admission to the AEPS program but will be taken into consideration if submitted with an application.

A minimum junior/senior grade-point average 3.00 (on a 4.00 scale) is required for acceptance to the AEPS program.

Applicants must submit a statement of interests and goals and three letters of reference. Reference letters should be provided by individuals who are familiar with the demands of graduate-level scholarship and can assess the applicant’s aptitude for research and postbaccalaureate coursework.

***Additional Application/Admission Requirements for International Students***

The language of instruction at Penn State is English. International applicants must take and submit scores for the TOEFL (Test of English as a Foreign Language) or the IELTS (International English Language Testing System).

*TOEFL internet-based test (iBT)*: A total score of 80 with at least 19 on the speaking section is required for the internet-based test (iBT). Applicants with iBT speaking scores between 15 and 18 may be considered for provisional admission, with Graduate School approval, which requires completion of specified remedial English courses ESL 114G (American Oral English for Academic Purposes) and/or ESL 116G (ESL/Composition for Academic Disciplines) and attainment of a grade of B or higher within the first semester of enrollment.

*TOEFL paper-based test (taken July 2017 or later)*: A combined total of the three sections evaluated must be 60 or greater. If taken before July 2017, the minimum acceptable score is 550.

IELTS: The minimum acceptable composite score for the IELTS Academic Test is 6.5.

International applicants are exempt from the TOEFL/IELTS requirement if they have received a bachelor’s degree or a master’s degree from a college, university, or institution in any of the following locations: Australia, Belize, British Caribbean and British West Indies, Canada (except Quebec), England, Guyana, Republic of Ireland, Liberia, New Zealand, Northern Ireland, Scotland, the United States, and Wales.

***Application/Admission Screening Process***

Once all application documents required by the Graduate School are received and approved, they will be downloaded and screened by the AEPS Graduate Admissions Committee, which considers the following criteria for admission:

* + - Area(s) of research interest (examples include crop ecology and modeling; plant molecular biology and genetics; plant-microbe interactions; weed science; water and nutrient use efficiency; plant physiology; sustainable agronomic crop, vegetable, fruit production and landscape design; or turfgrass research)
		- Whether a potential graduate faculty advisor has been identified and contacted
		- Overall grade-point average (GPA) and Jr./Sr. GPA
		- Courses taken and completed (provided via official undergraduate and/or M.S. transcripts)
		- Course deficiencies
		- Previous research experience and/or practical job experience
		- Statement of specific interest(s) and career goals
		- Three letters of recommendation

Following the vote of the AEPS Graduate Admissions Committee, a recommendation of acceptance or rejection is made to the AEPS Program Head (i.e., the Head of the Department of Plant Science) by the Director of Graduate Studies. If the applicant is accepted and a graduate faculty advisor has been identified and agrees to sponsor the applicant, the applicant will receive a “Terms of Offer” letter outlining assistantship and health insurance information, performance standards, credit loads, and other important information.

***Application/Admission Procedure for Graduate Students Enrolled in a Different Degree Program at Penn State or Going from a M.S. in AEPS to a Ph.D. in the AEPS Program***

A graduate student who has been admitted to a graduate program at Penn State but wants to transfer to the AEPS program must complete an application for a change of degree or major. The student’s credentials will be reviewed, and the AEPS Head or Director will be consulted. If the change is approved but the student is inadequately prepared for the AEPS program, the student may be required to make up certain deficiencies.

AEPS M.S. students planning to continue studies in the AEPS Ph.D. program or change to another graduate program at Penn State must submit an application to the Graduate School.

<https://gradschool.psu.edu/graduate-admissions/how-to-apply/current-students/>

Though strongly discouraged, a student admitted into the AEPS graduate program as a M.S. student has the option of pursuing a Ph.D. degree without first completing an M.S. degree (called “Master’s Along the Way”). A student who desires to pursue this option must first be recommended to the AEPS Graduate Admissions Committee by the student's thesis advisor and the student’s advisory committee. To proceed, approval must then be obtained from the AEPS Graduate Admissions Committee and the AEPS Program Head. The student then must pass the qualifying examination.

After submitting the application, it will be reviewed by Graduate Enrollment Services and the AEPS Graduate Admissions Committee for an admission decision. The application will not be considered complete unless all requested transcripts, references, program specific questions, and documents are submitted.

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