PLANT BIOLOGY

Degree Requirements

Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

All M.S. degree candidates will be required to complete 31 credits of course work at the 400, 500, 600, or 800 level, with at least 18 credits at the 500 and 600 level, combined. All students must complete the core courses:

Code	Title	Credits
Required Courses		
PLBIO 512	Plant Resource Acquisition and Utilization	4
PLBIO 513	Integrative Plant Communication and Growth	4
MCIBS 591	Ethics, Rigor, Reproducibility and Conduct of Research in the Life Sciences	2
PLBIO 590	Colloquium	1
Electives		
Elective credits may be chosen from a list of approved electives maintained by the program office.		14
Culminating Experience		
PLBIO 600	Thesis Research	6
or PLBIO 610	Thesis Research Off Campus	
Total Credits		**31**

Students are required to write a thesis, and at least 6 credits in thesis research (PLBIO 600 or PLBIO 610) must be taken in conjunction with completing the thesis. The thesis must be accepted by the advisers and/or committee members, the head of the graduate program, and the Graduate School, and the student must pass a thesis defense.

Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (https://gradschool.psu.edu/graduate-education-policies/)

Students in the Ph.D. program must successfully pass the qualifying, comprehensive, and final oral examinations required by Graduate Council. To earn the Ph.D. degree, doctoral students must also write a dissertation that is accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

Ph.D. candidates must complete a minimum of 18 credits, including the following courses:

Code	Title	Credits
Required Courses		
PLBIO 512	Plant Resource Acquisition and Utilization	4
PLBIO 513	Integrative Plant Communication and Growth	4
PLBIO 514	Modern Techniques and Concepts in Plant Ecophysiology	2
PLBIO 515	Modern Techniques and Concepts in Plant Cell Biology	2
PLBIO 516	Modern Techniques and Concepts in Plant Molecular Biology	2
MCIBS 591	Ethics, Rigor, Reproducibility and Conduct of Research in the Life Sciences	2
PLBIO 590	Colloquium	2
Two biochemistry courses [1]		
Total Credits		**18**

[1] A list of courses approved to count towards the biochemistry course requirement is maintained by the graduate program office.

Upon consultation with the head of the graduate program, equivalent courses taken at another university may be substituted for some of the above requirements. Based on the results of the qualifying examinations, the student's adviser and Ph.D. committee will determine other course requirements.

One of the main goals of the qualifying examination is to determine the potential of a student to successfully obtain a Ph.D. degree, and it is intended to be a rigorous test of a student's abilities prior to the major investment in time and effort necessary to pass the comprehensive examination. Students enrolled in the Ph.D. program must pass a written English competency evaluation based on the dossier of papers written for PLBIO 512 and PLBIO 513. This evaluation is done at the end of the student's first year. The oral qualifying examination is based on two of the papers, jointly chosen by the student and the Qualifying Examination Committee, and must be passed by the end of the student's third semester.