Plant Pathology

Sven Verlinden, Interim Division Director of Plant and Soil Sciences  
email: sverlind@wvu.edu

Daniel Panaccione, Assistant Director of Graduate Programs  
email: danpan@mail.wvu.edu

Degree Offered

• Master of Science

*For Ph.D. option, see area of emphasis under Ph.D. in Plant and Soil Sciences

Admissions

In order for a student to be admitted to the program, the applicant normally must fulfill the following admission criteria to be considered:

• Possess a baccalaureate degree.
• Have a minimum undergraduate grade point average of 2.75 (3.0 for acceptance as a regular graduate student).
• Have an adequate academic aptitude at the graduate level as measured by the Graduate Record Examination (GRE) or other tests/evidence.
• Provide three letters of reference from persons acquainted with the applicant’s professional work, experience, or academic background.
• Submit a written statement of approximately 500 words indicating the applicant’s goals and objectives relative to receiving a graduate degree.

International students have the additional requirement to submit a minimum score of 213 on the computer based TOEFL examination if their native language is not English. Interviews are encouraged but not required.

A candidate for the M.S. degree in Plant Pathology must meet all University, College, Division, and Program requirements as outlined in the WVU Graduate Catalog.

Program Requirements

All M.S. degree candidates are required to follow a planned program of study. The student develops the plan of study during their first year in the program in conjunction with the graduate committee. The plan must be approved by the Director of the Division and the Associate Dean for Academic Affairs of the Davis College.

Thesis Option:

A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.

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<tr>
<td>STAT 511</td>
<td>Statistical Methods 1</td>
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<tr>
<td>BIOS 601</td>
<td>Applied Biostatistics 1</td>
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<tr>
<td>&amp; BIOS 602</td>
<td>and Applied Biostatistics Lab</td>
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<td>STAT 512</td>
<td>Statistical Methods 2</td>
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<tr>
<td>BIOS 603</td>
<td>Applied Biostatistics 2</td>
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<td>&amp; BIOS 604</td>
<td>and Applied Biostatistics 3</td>
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<th>Seminar</th>
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<tr>
<td>PPTH 796</td>
<td>Graduate Seminar</td>
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<th>Research</th>
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<td>PPTH 797</td>
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<th>Discipline-Oriented Coursework</th>
<th>15</th>
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<td>(AEM, PPTH, AGRN, ENTO, AGBI, BIOL, GEN, HORT, PLSC)</td>
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Total Hours 30

Non-Thesis Option:

A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.

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Total Hours 30
BIOS 601 & BIOS 602  
Applied Biostatistics 1  
and Applied Biostatistics Lab

BIOS 603 & BIOS 604  
Applied Biostatistics 2  
and Applied Biostatistics 3

Graduate Chemistry/Biochemistry Course  
3
AGBI 610  
General Biochemistry
AGBI 612  
General Biochemistry
AGRN 516  
Soil Chemistry

Seminar  
3
PPTH 796  
Graduate Seminar

Teaching Practicum  
2
PPTH 790  
Teaching Practicum

Discipline-Oriented Coursework  
15
(AEM, PPTH, AGRN, ENTO, AGBI, BIOL, GEN, HORT, PLSC)

Independent Study  
3
PPTH 795  
Independent Study

Electives  
7

Total Hours  
36

* Students must complete a minimum of 30 total hours, of which at least 24 hours must be coursework other than research, thesis, project, internship, etc. credits.

**Major Learning Outcomes**

**PLANT PATHOLOGY**

1. Students will acquire fundamental knowledge of plant pathology.
2. Students will acquire detailed knowledge of their particular subdiscipline or research area, including the scientific literature fundamental to their discipline and the ability to stay current on scientific literature.
3. Students will acquire technical skills in the field or laboratory.
4. Students will develop the ability to communicate in writing and orally about scientific concepts and the results of their research.
5. Students will develop the ability to design, conduct, and interpret the results of experiments.

**PLANT PATHOLOGY COURSES**

**PPTH 501. Diseases of Economic Plants. 3 Hours.**
; 2 Hr. in summer. PR: PPT 401 or 503 or consent. Recognition, cause, and control of diseases of economic plants. (Sem. 1--Diseases of vegetable crops and of tree and small fruits; Sem. 2--Diseases of ornamental plants and field and forage crops; S--Diseases of forest trees. Students may register for 1-3 Hrs. in fall and spring and 2 Hr. in summer until 8 hours of credit are accumulated).

**PPTH 503. Mycology. 4 Hours.**
Lectures and field and laboratory studies of parasitic and saprophytic fungi.

**PPTH 509. Nematology. 3 Hours.**
(Primarily for graduate students majoring in the agricultural sciences or biology.) Nematode taxonomy, binomics, and control, with particular emphasis on plant parasitic forms.

**PPTH 591. Advanced Topics. 1-6 Hours.**
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

**PPTH 593. Special Topics. 1-6 Hours.**

**PPTH 595. Independent Study. 1-6 Hours.**
Faculty supervised study of topics not available through regular course offerings.

**PPTH 697. Research. 1-15 Hours.**
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/ U.).

**PPTH 730. Physiology of the Fungi. 4 Hours.**
PR: Organic chemistry, mycology, and bacteriology, or Concent. Physiological aspects of growth, reproduction, and parasitism of fungi, with emphasis on nutrition, environmental, and other biotic factors.
PPTH 790. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in the college teaching of plant pathology. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading will be S/U.).

PPTH 791. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

PPTH 792. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

PPTH 793. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

PPTH 794. Seminar. 1-6 Hours.
Special seminars arranged for advanced graduate students.

PPTH 795. Independent Study. 1-9 Hours.
Faculty supervised study of topics not available through regular course offerings.

PPTH 796. Graduate Seminar. 1 Hour.
PR: Consent. Each graduate student will present at least one seminar to the assembled faculty and graduate student body of his or her program.

PPTH 797. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading may be S/U.)

PPTH 798. Thesis or Dissertation. 1-6 Hours.
PR: Consent. This is an optional course for programs that wish to provide formal supervision during the writing of students reports (698), or dissertations (798). Grading is normal.

PPTH 799. Graduate Colloquium. 1-6 Hours.
PR: Consent. For graduate students not seeking coursework credit but who wish to meet residency requirements, use of the University's facilities, and participate in its academic and cultural programs. Note: Graduate students who are not actively involved in coursework or research are entitled, through enrollment in their department's 699/799 Graduate Colloquium to consult with graduate faculty, participate in both formal and informal academic activities sponsored by their program, and retain all of the rights and privileges of duly enrolled students. Grading is S/U; colloquium credit may not be counted against credit requirements for masters programs. Registration for one credit of 699/799 graduate colloquium satisfies the University requirements of registration in the semester in which graduation occurs.

PLANT SCIENCE COURSES

PLSC 547. Applied Wetlands Ecology and Management. 3 Hours.
The management and ecology of wetland vegetation, soils, hydrology, and wildlife. (Cross listed as WMAN 547 and CE 547).

PLSC 550. Grants and Grantsmanship. 2 Hours.
A course covering all steps of grant preparation, application, submission and review process.

PLSC 553. Organic Crop Production. 3 Hours.
PR: PLSC 206 and AGRN 202 and AGRN 203 or consent. Principles, practices, history, philosophy and economics of organic farming and gardening. Crop/livestock systems, national and international research on organic production. (Students may not receive credit for both PLSC 453 and PLSC 553).

PLSC 560. Plant Biochemistry. 3 Hours.
PR: CHEM 231 or (CHEM 233 and CHEM 234) and BIOL 219 or consent. Study of the biochemical processes and biosynthetic pathways leading to the formation of desirable plant products such as those used in food, feed, fiber, fuel and medicinal applications. (Credit cannot be received for both PLSC 460 and PLSC 560).

PLSC 591. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.

PLSC 592. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

PLSC 593. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.

PLSC 595. Independent Study. 1-6 Hours.
Faculty supervised study of topics not available through regular course offerings.

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Directed study, reading, and/or research.

PLSC 693. Special Topics. 1-6 Hours.
A study of contemporary topics selected from recent developments in the field.
PLSC 697. Research. 1-15 Hours.
PR: Consent. Research activities leading to thesis, problem report, research paper or equivalent scholarly project, or a dissertation. (Grading will be S/U).

PLSC 790. Teaching Practicum. 1-3 Hours.
PR: Consent. Supervised practice in college teaching of plant science. Note: This course is intended to insure that graduate assistants are adequately prepared and supervised when they are given college teaching responsibility. It will also present a mechanism for students not on assistantships to gain teaching experience. (Grading will be S/U).

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PLSC P206. 4 Hours.