Horticulture

Matthew Jenks, Division Director of Plant and Soil Sciences
email: majenks@mail.wvu.edu

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

Degree Offered
• Master of Science

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 Horticulture 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.

<table>
<thead>
<tr>
<th>Select one of the following:</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 511</td>
<td>Statistical Methods 1</td>
</tr>
<tr>
<td>BIOS 601 &amp; BIOS 602</td>
<td>Applied Biostatistics 1 and Applied Biostatistics Lab</td>
</tr>
</tbody>
</table>

Select one of the following: 3

| STAT 512                      | Statistical Methods 2 |
| BIOS 603 & BIOS 604           | Applied Biostatistics 2 and Applied Biostatistics 3 |

Seminar 3

| HORT 796                      | Graduate Seminar |

Research 6

| HORT 797                      | Research |

Discipline-Oriented Coursework 15

(HORT, PLSC, GEN, BIOL, AGRN, AGBI, ENTO, PPTH, AEM, RESM, AGEE, GEOG, HN&F)

Total Hours 30

Non-Thesis Option:
A minimum cumulative GPA of 3.0 is required in all courses applied toward degree requirements.

Select one of the following: 3

| STAT 511                      | Statistical Methods 1 |
| STAT 512                      | Statistical Methods 2 |
| BIOS 601 & BIOS 602           | Applied Biostatistics 1 and Applied Biostatistics Lab |
### Biostatistics Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS 603 &amp; BIOS 604</td>
<td>Applied Biostatistics 2 and Applied Biostatistics 3</td>
</tr>
</tbody>
</table>

### Graduate Chemistry/Biochemistry Course

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGBI 610</td>
<td>General Biochemistry</td>
</tr>
<tr>
<td>AGBI 612</td>
<td>General Biochemistry</td>
</tr>
<tr>
<td>AGRN 516</td>
<td>Soil Chemistry</td>
</tr>
</tbody>
</table>

### Seminar

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 796</td>
<td>Graduate Seminar</td>
</tr>
</tbody>
</table>

### Teaching Practicum

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 790</td>
<td>Teaching Practicum</td>
</tr>
</tbody>
</table>

### Disciple-Oriented Coursework

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 590</td>
<td>Teaching Practicum. 1-3 Hours. PR: Consent. Supervised practice in college teaching of Horticulture. Note: This course is intended to ensure 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.).</td>
</tr>
<tr>
<td>HORT 692</td>
<td>1-6 Hours.</td>
</tr>
<tr>
<td>HORT 791</td>
<td>Advanced Topics. 1-6 Hours. PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.</td>
</tr>
<tr>
<td>HORT 793</td>
<td>Special Topics. 1-6 Hours. A study of contemporary topics selected from recent developments in the field.</td>
</tr>
<tr>
<td>HORT 796</td>
<td>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.</td>
</tr>
<tr>
<td>HORT 797</td>
<td>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.).</td>
</tr>
</tbody>
</table>

### Major Learning Outcomes

**HORTICULTURE**

Students will acquire fundamental knowledge of horticulture and associated fields of plant and soil science.

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.

Students will acquire technical skills in the field, greenhouse, or laboratory.

Students will develop the ability to communicate in writing and orally about scientific concepts and the results of their research.

Students will develop the ability to design, conduct, and interpret the results of experiments.

### Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 795</td>
<td>Independent Study</td>
</tr>
</tbody>
</table>

**Total Hours**

* 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.
HORT P107. . 3 Hours.
HORT P116. . 3 Hours.
HORT P117. . 1 Hour.
HORT P151. . 3 Hours.
HORT P162. . 3 Hours.
HORT P182. . 4 Hours.
HORT P184. . 2 Hours.
HORT P185. . 2 Hours.
HORT P186. . 3 Hours.
HORT P187. . 4 Hours.
HORT P189. . 2 Hours.
HORT P220. . 3 Hours.
HORT P226. . 1 Hour.
HORT P227. . 1 Hour.
HORT P251. . 3 Hours.
HORT P262. . 3 Hours.

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.

PLSC 692. Directed Study. 1-6 Hours.
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.).

PLSC 791. Advanced Topics. 1-6 Hours.
PR: Consent. Investigation of advanced topics not covered in regularly scheduled courses.
PLSC 792. Directed Study. 1-6 Hours.
Directed study, reading, and/or research.

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

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

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

PLSC 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.

PLSC 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).

PLSC 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 student reports (698), or dissertations (798). Grading is normal.

PLSC 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 P/F; colloquium credit may not be counted against credit requirements for masters programs. Registration for one credit of 699/799 graduate colloquium satisfies the University requirement of registration in the semester in which graduation occurs.

PLSC P206. 4 Hours.