Department of Horticulture

Master's Degree

Program Handbook

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1. PROGRAM AUTHORITY

1.1 Graduate School

The UW-Madison Graduate School is the ultimate authority for granting Master's degrees at the University. The Department of Horticulture administers a Graduate Degree Program under the authority of the Graduate School. If completed successfully, the Program's minimum requirements meet all Graduate School requirements for conferring a Master's degree.

1.2 Departments

The authority to set degree requirements beyond the minimum required by the Graduate School lies with the Horticulture faculty. The policies described in this handbook have been approved by the Department faculty as a whole, and are subject to periodic review and update. Program administration is delegated by Horticulture faculty to the Graduate Programs Committee, whose membership is appointed by the Department Chair. The Graduate Programs Committee, aided by program staff and related faculty committees, provides guidance to students and faculty with regard to Graduate School and Program requirements.

2. ADMISSION TO THE PROGRAM

Student admission into the Horticulture Department's Graduate Program is contingent on meeting requirements set forth by the Graduate School and by the Horticulture Department.

2.1 Graduate School Admission Requirements

The Graduate School web site (http://www.wisc.edu/grad/) lists the minimum University admission standards, including expected degree achievement from an accredited institution, GPA, and English language proficiency.

2.2 Horticulture Master's Program Admission Requirements

2.2.1 For admission to the Master's Program in Horticulture, a student must have completed a BS or BA degree at a recognized, accredited college or university prior to enrollment in the Masters Program.

2.2.2 Students must meet the general requirements of the UW-Madison Graduate School. Course deficiencies can be made up during the first year of a student’s graduate studies.
2.2.3 There are no additional course requirements in other supporting fields, but students are encouraged to acquire an adequate background in mathematics, physics, biology, genetics, and chemistry, ideally obtained by advanced courses taken during the undergraduate years.

2.3 Admission Timeline

The Program application deadlines for each semester can be found on the Graduate School website: http://www.grad.wisc.edu/education/mas/531.html

2.4 Selecting a Major Professor

Admission into the Horticulture Master's Degree Program is contingent on the applicant identifying a member of the Horticulture Faculty who is willing to serve as the student's Major Professor. A Major Professor serves as the student's faculty mentor and supervises the student's thesis research if the student elects to write a Master's Thesis. In order to gain admission into the program it is therefore very beneficial for an applicant to directly contact potential Major Professors to discuss the possibility of studying under their guidance. A student may have more than one major professor, in which case at least one of the professors must be a member of the Horticulture faculty.

3. REQUIREMENTS FOR A MASTERS DEGREE IN HORTICULTURE

3.1 Program Course Requirements

3.1.1 Rectifying Admission Deficiencies. Any deficiencies identified in the student’s background course work by their Master's Committee will be detailed in writing to the student, and must be made up during the first year of graduate study.

3.1.2 Graduate School Requirements. A minimum of 10 credits of graduate-level lecture or laboratory course work taken at the UW-Madison are required for the MS degree, and a minimum of 16 graduate-level credits completed in residence (including 990 research or seminars) must be completed.

3.1.3 Departmental Requirements. The specific program of study towards a Master’s degree is developed by the student and their Major Professor. Considerable flexibility in the selection of courses is permitted to meet the needs and interests of the candidate. Students often complete the
requirements for a Master’s degree in one-and-a-half years, and three years is usually considered the maximum time necessary.

- All students must have successfully completed 14 credits of Horticulture courses and 11 credits of Botany courses during their enrollment in the undergraduate and/or graduate program(s). No more than 3 credits of Special Problems (699) may be counted towards this requirement.

- All students must complete at least 18 credits of graduate level courses while enrolled at UW-Madison as a graduate student. Graduate level courses are numbered 300 and above. Courses numbered 699 (Special Problems) and 990 (Research) do not count towards this 18 credit total.

- Students must satisfy the requirements listed in one of the three options listed below:

  **Option 1.** The student must complete at least 24 credits while enrolled in Graduate School and write a Master's Thesis that is acceptable to the student's final examining committee. A maximum of 3 credits of Special Problems (699) classes may be counted towards this 24 credit total.

  **Option 2.** The student must complete at least 30 credits while enrolled in Graduate School. A maximum of 3 credits of Special Problems (699) classes may be counted towards this 30 credit total.

  **Option 3.** Master's Degree in Horticulture with Emphasis in Organic Sustainable Production. Students must satisfy the specific course requirements outlined in Appendix 5.A for this option. In addition, the student must complete at least 24 credits while enrolled in Graduate School and write a Master's Thesis that is acceptable to the student's final examining committee. A maximum of 3 credits of Special Problems (699) classes may be counted towards this 24 credit total.

3.1.4 Additional Course Work. At the discretion of a student's Major Professor or their Master's Committee, additional remedial or advanced course work may be required.

3.2 Seminar Requirement

3.2.1 Graduate Seminar. Master's Degree students must enroll in a graduate level seminar class for at least one semester and obtain a passing grade for that class. Seminar classes offered by departments other than Horticulture may be used to satisfy this requirement.
3.3 Grades

The Graduate School requires all MS students to achieve a cumulative grade point average (GPA) of 3.0 or better in all lecture and laboratory courses taken while enrolled as a graduate student at UW-Madison. Grades in research and graduate level seminars, are not included in this average.

3.4 Major Professor and Master's Committee

3.4.1 Major Professor: Every graduate student must have a faculty advisor (Major Professor) who is on the Horticulture faculty. The Major Professor advises the student about course work and supervises the student's research if they are writing a Master's Thesis. The major professor must approve the student's coursework and research direction. A student may have more than one major professor, in which case at least one of the professors must be a member of the Horticulture faculty.

3.4.2 Masters Committee. A Master's Committee is composed of at least 3 current UW-Madison faculty members, including the Major Professor. The Master's Committee is empowered by the Program to advise the student regarding coursework and thesis content, and conduct the final Master's oral examination.

Prior to the end of the first year of graduate study the student, in consultation with their Major Professor, should select 2 members of the UW-Madison faculty to serve on their Master's Committee. It is the student's responsibility to seek and obtain (verbal) approval from the faculty selected to serve on this committee.

3.5 Examination and Review Procedures

3.5.1 Final Oral Exam. All students in the Master's Program are required to pass a Final Oral Exam in order to earn a Master's Degree in Horticulture. The final oral examination deals with the breadth of knowledge in the field of Horticulture, as well as the content of the Master's Thesis for those students who have elected to write a thesis.

The oral examination typically lasts up to 2 hrs, or until the committee is satisfied with their individual evaluations. The student is then excused from the room, and after deliberation, the members of the Master's Committee decide whether or not to endorse the degree completion.
To pass the final examination, a student must receive no more than one dissenting vote from the graduate committee. A missing signature on the Warrant is considered a dissent. At the discretion of the student's Master's Committee, a student may repeat a failed final exam once. Failure of the final examination two times will result in the student being dropped from the Program.

3.5.2 Master's Warrant. At least three weeks prior to the anticipated Final Oral Exam date, the student must contact the Program office and file a "Request for Master's Examination Form." This process initiates Graduate School and Program activities that certify your Master's Committee membership and confirm your completion of required course work. The result of this process is the issue of a formal "Master's Warrant" to be signed upon successful conclusion of the final exam. The student is responsible for organizing the defense date and reserving appropriate rooms. Program staff are available to assist students with these organizational matters. Students who do not initiate warrant requests 3 weeks ahead of time may face postponement of their anticipated Final Oral Exam.

3.5.3 Thesis. Students who choose to write a Master's Thesis are expected to carry out an independent research project during their enrollment as a student in the Master's program. This research will be the basis of their Master's Thesis. The thesis must be formatted according to the guidelines of the Graduate School, present evidence of a substantial intellectual effort by the student, and meet all standards set by the student's Master's Committee. If the work is the result of collaborative enterprises, the writing must clearly define those portions representing the student's own contribution. The thesis must also include a substantive review of literature relevant to the project. It should be written with a high level of literary skill, such as would be found in leading journals in that research area.

The Graduate School website hosts a Guide to Preparing Your Master's Thesis which will help you prepare your final thesis:

http://www.grad.wisc.edu/education/completedegree/mguide.html

The thesis must be completed and distributed to the members of the student's Master's Committee not less than two weeks before the date of the Final Oral Examination.

After successful completion of the Final Oral Exam, an unbound, fully corrected and complete copy of the thesis must be deposited with Memorial Library. Students are responsible for all costs associated with depositing his or her thesis. Students are also responsible for knowing
and meeting all thesis filing deadlines for degree completion. The Graduate School web site provides clear instructions for preparing your thesis for deposit with Memorial Library.

The student should visit the Thesis Coordinator in Room 217 Bascom Hall for a thesis format review, or to clarify any questions about the approved use of tables, graphs, charts, etc.

Immediately after the Oral Examination, the student should contact the Graduate School (262-2433) to arrange an appointment for the final thesis review and deposition of the Warrant. If the Final Oral Examination is scheduled near a degree deadline, remember that Graduate School appointment times fill rapidly near the end of each semester. All thesis corrections and revisions must be final before this review. No changes can be accepted on the copy that is submitted to the Graduate School after the final review.
APPENDIX 5.A

MASTERS DEGREE IN HORTICULTURE WITH EMPHASIS IN ORGANIC SUSTAINABLE PRODUCTION

In order to earn a Master's Degree in Horticulture with Emphasis in Organic Sustainable Production, a student must satisfy the following specific course requirements. Deviations from the required curriculum are allowed if they are approved by the student’s Master’s Committee.

Ecology (one course required)
- Forest and Wildlife Ecology 460. General Ecology (4 cr.)
- Agroecology 701. The Farm as Socio-Environmental Endeavor (3 cr.)
- Agroecology 702. The Multifunctionality of Agriculture (3 cr.)

Horticulture (one course required)
- Hort 345. Fruit Crop Production (3 cr.)
- Hort 370. World Vegetable Crops (3 cr.)

Plant Pathology (one course required)
- Plant Path 300. Introduction to Plant Pathology (4 cr.)
- Plant Path 517. Plant Disease Resistance (2-3 cr.)
- Plant Path 559. Diseases of Economic Plants (3 cr.)

Agronomy/Entomology (one required course)
- Entom 541. Biological Control of Insects (3 cr.)
- Agron 328. Integrated Weed Management (4 cr.)

Soil Science (one course required)
- Soil Sci 323. Soil Biology (3 cr.)
- Soil Sci 326. Plant Nutrition Management (3 cr.)

Statistics
- Statistics 571. Statistical Methods for Bioscience I (4 cr.)

Seminar (one course required)
- Agroecology 710. Agroecology Seminar (1 cr.)
- Horticulture 372. Colloquium in Organic Agriculture (1 cr.)
- Horticulture 374. Tropical Horticulture (2 cr.)

Research (Total of 6 credits required)
- Horticulture 990. Research (1-12 cr.)
Students who have already taken one or more of the required courses listed above, or an equivalent, as an undergraduate are encouraged to choose among the following courses in order to satisfy the Program requirement for earning 18 credits through graduate level courses taken while enrolled in the Master's Program (see 3.1.3).

Agricultural & Applied Economics 320. Farming Systems Management (3 cr.)

Agroecology 701. The Farm as a Socio-Environmental Endeavor (3 cr.)
Agroecology 702. The Multifunctionality of Agriculture (3 cr.)

Agronomy 300. Cropping Systems (3 cr.)
Agronomy 302. Forage Management and Utilization (3 cr.)
Agronomy 326. Plant nutrient management (3 cr.)
Agronomy 328. Integrated Weed Management (4 cr.)
Agronomy 632. Ecotoxicology: The Chemical Players (1 cr.)
Agronomy 633. Ecotoxicology: Impacts on Individuals (1 cr.)
Agronomy 634. Ecotoxicology: Impacts on Populations . . . (1 cr.)

Atmospheric & Oceanic Sciences 520. Bioclimatology (3 cr.)

Biol. Systems Engineering 372. On-Site Water Treatment and Dispersal (2 cr.)

Botany 460. General Ecology (4 cr.)
Botany 461. Environmental Systems Concepts (3 cr.)

Economics 343. Environmental Economics (3-4 cr.)
Economics 421. Economic Decision Analysis (4 cr.)
Economics 449. Government and Natural Resources (3-4 cr.)

Entomology 302. Introduction to Entomology (4 cr.)
Entomology 342. Insect Ecology (3 cr.)
Entomology 351. Principles of Economic Entomology (3 cr.)
Entomology 473. Plant-Insect interactions (3 cr.)
Entomology 505. Plant Microbe Interactions (3 cr.)

Forest & Wildlife Ecology 550. Forest Ecology (3-4 cr.)

Horticulture 320. Environ. of Horticultural Plants (3 cr.)
Horticulture 345. Fruit Crop Production (3 cr.)
Horticulture 370. World Vegetable Crops (3 cr.)
Horticulture 372. Colloquium in Organic Agriculture (1 cr.)
Horticulture 374. Tropical Horticulture (2 cr.)
Horticulture 501. Principles of Plant Breeding (3 cr.)
Horticulture 502. Techniques of Plant Breeding (1 cr.)
Marketing 300. Marketing Management (3 cr.)
Plant Path 300. Introduction to Plant Pathology (4 cr.)
Plant Path 517. Plant Disease Resistance (2-3 cr.)
Plant Path 559. Diseases of Economic Plants (3 cr.)
Plant Path 602. Ecology, Epidemiology and Control of Plant Disease (3 cr.)
Soil Science 323. Soil Biology (3 cr.)
Soil Science 326. Plant Nutrient Management (3 cr.)
Soil Science 523. Soil Microbiology and Biochemistry (3 cr.)
Soil Science 575. Assessment of Environmental Impact (3 cr.)
Soil Science 626. Mineral Nutrition of Plants (3 cr.)
Statistics 572. Statistical Methods for Bioscience II (4 cr.)