

# PLANT BREEDING AND PLANT GENETICS, MS

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

### MAJOR REQUIREMENTS

#### MODE OF INSTRUCTION

| Face to Face | Evening/<br>Weekend | Online | Hybrid | Accelerated |
|--------------|---------------------|--------|--------|-------------|
| Yes          | No                  | No     | No     | No          |

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW-Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW-Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

#### Requirement Detail

|   |  |
|---|--|
| Minimum Credit Requirement              | 30 credits   |
| Minimum Residence Credit Requirement    | 16 credits   |
| Minimum Graduate Coursework Requirement | 15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> ). |
| Overall Graduate GPA Requirement        | 3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> ).                                    |

**Other Grade Requirements:** Students must earn a B or above in all core curriculum coursework.

**Assessments and Examinations:** A formal MS thesis is required.

**Language Requirements:** No language requirements.

### REQUIRED COURSES

The specific program of study for 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. Of the required 30 credits, students must complete a minimum of 12 credits of coursework (not research credit) and at least 9 credits must come from the Core Curriculum, including at least 2 credits in Section A, and 2 credits in Section B or C. Students must also complete 2 credits of Plant Breeding seminar (HORT/AGRONOMY/GENETICS 957 Seminar-Plant Breeding).

#### Core Curriculum

| Code   | Title  | Credits |
|--|--|---------|
| <b>A. Plant Breeding</b>                     |  |         |
| HORT/AGRONOMY 501                            | Principles of Plant Breeding                                 | 3       |
| HORT/AGRONOMY 502                            | Techniques of Plant Breeding                                 | 1       |
| HORT/AGRONOMY 812                            | Selection Theory for Quantitative Traits in Plants           | 2       |
| <b>B. Genetics</b>                           |  |         |
| PL PATH 517                                  | Plant Disease Resistance                                     | 2-3     |
| HORT/GENETICS 550                            | Molecular Approaches for Potential Crop Improvement          | 3       |
| AGRONOMY/AN SCI/GENETICS/HORT 615            | Genetic Mapping  | 3       |
| GENETICS/BIOCHEM 631                         | Plant Genetics and Development                               | 3       |
| GENETICS/BIOCHEM/BOTANY 840                  | Regulatory Mechanisms in Plant Development                   | 3       |
| <b>C. Quantitative Genetics and Biometry</b> |  |         |
| HORT/F&W ECOL/STAT 572                       | Statistical Methods for Bioscience II                        | 4       |
| HORT/AGRONOMY 811                            | Biometrical Procedures in Plant Breeding                     | 3       |
| AGRONOMY 771 & AGRONOMY 772                  | Experimental Designs and Applications in ANOVA               | 2       |
| AN SCI 865                                   | Design and Analysis of Biological Studies                    | 4       |
| <b>Additional Core Courses</b>               |  |         |
| BIOCHEM/BOTANY 621                           | Plant Biochemistry   | 3       |
| PL PATH/BOTANY/ENTOM 505                     | Plant-Microbe Interactions: Molecular and Ecological Aspects | 3       |
| GENETICS 633                                 | Population Genetics  | 3       |
| BOTANY 500                                   | Plant Physiology   | 3-4     |