BOTANY, M.S.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

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

MAJOR REQUIREMENTS

MODE OF INSTRUCTION

Face to Face	Evening/ 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. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/)).
Overall Graduate GPA Requirement	3.00 GPA required. This program follows the Graduate School's policy: https://policy.wisc.edu/library/UW-1203 (https://policy.wisc.edu/library/UW-1203/).
Other Grade Requirements	Students must earn a B or above in all track coursework.
Assessments and Examinations	A written thesis or research report based on work conducted in a formal research course and a final oral exam are required of all students who expect to continue for the Ph.D. degree. All master's theses must be deposited at Memorial Library. Students who wish to terminate their graduate studies at the master's level may submit a literature review instead of a thesis.
Language Requirements	No language requirements.

COURSES REQUIRED

A minimum of 30 credits in natural sciences (undergraduate and graduate program courses combined) is required. A minimum of 6 credits in graduate-level botany courses must be completed at UW–Madison. Seminars and research credits do not count toward the 6 credits in botany. Courses may be required to address deficiencies in the following: GENETICS 466 Principles of Genetics or equivalent;CHEM 103 General Chemistry I and CHEM 104 General Chemistry II or equivalent; CHEM 341 Elementary Organic Chemistry or equivalent; a physics course including electricity and light; one semester of statistics; one semester of calculus. Contact the department for more information.

M.S. students complete a minimum of 16 credits while in residence at the UW, including:

- Courses required for their selected pathway (see below)
- Six (6) credits within the botany department (can also fulfill pathway requirements)
- Two (2) seminar courses (at least one in BOTANY; see full list of seminars below)
- Courses assigned by the Academic Advisory Committee and/or the student's M.S. committee
- Research credits (see full list of research courses below)

Each graduate student in botany selects one of the following pathways:

General Botany Pathway [1]

M.S. students must have one course from at least six of the seven.

- genetics,
- biochemistry, cell or molecular biology,
- plant physiology or plant developmental biology,
- cryptogamic botany,
- plant anatomy or morphology,
- ecology, and
- evolution or systematics

1

These pathways are internal to the program and represent different curricular paths a student can follow to earn this degree. Pathway names do not appear in the Graduate School admissions application, and they will not appear on the transcript.

Ecology Pathway [1]

M.S. students must have a minimum of five courses as follows:

- at least three courses (minimum of 9 credits) in ecology,
- one course in evolution, and

- one course in any of the following: systematics; cryptogamic botany; biochemistry, cell or molecular biology; plant physiology or plant developmental biology; plant anatomy or morphology; or genetics

[1]

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Evolution Pathway [1]

M.S. students must have a minimum of five courses, at least one from each of the following:

- evolution,
- systematics or cryptogamic botany,
- population or quantitative genetics,
- ecology, and
- one course in any of the following: biochemistry, cell or molecular biology; plant physiology or plant developmental biology; or plant anatomy or morphology

[1]

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Molecular, Cellular, and Developmental Biology (MCDB) Pathway [1]

M.S. students must have a minimum of five courses, at least one from each of the following:

- plant anatomy or morphology,
- biochemistry, cell or molecular biology,
- plant physiology,
- plant developmental biology or genetics, and
- one course in any of the following: ecology; systematics; evolution; or cryptogamic botany

[1]

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Seminar Course Options

Code	Title	Credits
BOTANY/ATM OCN/ CIV ENGR/ ENVIR ST/GEOSCI/ ZOOLOGY 911	Limnology and Marine Science Seminar	1
BOTANY 920	Seminar in Algology: Fresh Water Algae	1
BOTANY/ PL PATH 930	Seminar-Mycology	1
BOTANY 940	Seminar in Plant Systematics and Evolution	1
BOTANY 950	Seminar-Plant Ecology	1
BOTANY 960	Seminar-Plant Physiology	1
BOTANY/ATM OCN/ ENVIR ST/ F&W ECOL/ GEOG/GEOSCI/ ZOOLOGY 980	Earth System Science Seminar	1
ENTOM 601	Seminar in Methods of Scientific Oral Presentations	1
ENTOM 901	Seminar in Organismal Entomology	1
GENETICS 670	Seminar in Clinical Cytogenetics	1
GENETICS 672	Seminar in Laboratory Operations and Quality Control	1
GENETICS 673	Seminar in Clinical Cytology	1
GENETICS/AN SCI/ DY SCI 951	Seminar in Animal Breeding	0-1
GENETICS/ AGRONOMY/ HORT 957	Seminar-Plant Breeding	1
GENETICS 993	Seminar in Genetics	0-1
GEOG 900	Seminar in Geography	1-3
GEOG 901	Seminar in Cultural Geography	2-3
GEOG 918	Seminar in Political Geography	2-3
GEOG 920	Seminar in Physical Geography	1-3
GEOG 930	Seminar in People-Environment Geography	2-3
GEOG/ HISTORY 932	Seminar in American Environmental History	3
GEOG 970	Seminar in Geographic Information Science	1-3
GEOG/ATM OCN/ BOTANY/ENVIR ST/ F&W ECOL/ GEOSCI/ ZOOLOGY 980	Earth System Science Seminar	1
GEOG/A A E/ ANTHRO/C&E SOC/ HISTORY/LACIS/ POLI SCI/PORTUG/ SOC/SPANISH 982	Interdepartmental Seminar in the Latin-American Area	1-3
GEOG/AFRICAN/ ANTHRO/ ECON/HISTORY/ POLI SCI 983	Interdepartmental Seminar in African Studies Topics	3
HORT 910	Seminar	1
HORT/AGRONOMY/ GENETICS 957	Seminar-Plant Breeding	1
SOIL SCI 728	Graduate Seminar	1
ZOOLOGY/ ATM OCN/BOTANY/ CIV ENGR/ ENVIR ST/ GEOSCI 911	Limnology and Marine Science Seminar	1
ZOOLOGY/AN SCI/ OBS&GYN 954	Seminar in Endocrinology-Reproductive Physiology	0-1
ZOOLOGY 955	Seminar-Limnology	1
ZOOLOGY 956	Seminar-Ecology	1
ZOOLOGY 957	Seminar-Evolution	1

ZOOLOGY 958	Seminar-Biophysical and Physiological Ecology	1
ZOOLOGY 960	Seminar in Cellular Biology	1
ZOOLOGY/ ATM OCN/ BOTANY/ENVIR ST/ F&W ECOL/GEOG/ GEOSCI 980	Earth System Science Seminar	1
ENVIR ST/ PUB AFFR/ URB R PL 810	Energy Analysis and Policy Capstone	3
ENVIR ST 900	Seminar	1-3
ENVIR ST/ URB R PL 923	Seminar-Land Problems: Institutional Development	2-3
ENVIR ST/ ATM OCN 925	Seminar-Climatology	1-2
ENVIR ST 950	Environmental Monitoring Seminar	2
F&W ECOL/ AGRONOMY/ ATM OCN/ BOTANY/ENTOM/ ENVIR ST/GEOG/ ZOOLOGY 953	Introduction to Ecology Research at UW-Madison	1-2
F&W ECOL 961	Wildlife Seminar	1
GEOSCI 920	Seminar in Glacial and Pleistocene Geology	1-3
GEOSCI 929	Seminar-Hydrogeology	1-2
GEOSCI 940	Seminar in Paleontology	1
GEOSCI 970	Seminar-Geochemistry	2
GEOSCI 991	Seminar: Geophysics	1-3
AGRONOMY 920	Seminar	1
AGRONOMY/ GENETICS/ HORT 957	Seminar-Plant Breeding	1
ATM OCN 900	Seminar-Meteorology	1-2
ATM OCN/ ENVIR ST 925	Seminar-Climatology	1-2
ATM OCN 965	Seminar-Oceanography	1-2
M S & E 900	Materials Research Seminar	1
M&ENVTOX 800	Seminar	1

Research Course Options

Code	Title	Credits
BOTANY 699	Directed Study	1-4
BOTANY 698	Directed Study	1-4
BOTANY 990	Research-Phycology	1-12
BOTANY 993	Research: Fungal Biology	1-12
BOTANY 994	Research-Plant Systematics	1-12
BOTANY 995	Research-Plant Ecology	1-12
BOTANY 996	Research-Plant Physiology	1-12
BOTANY 999	Independent Work	1-3