BOTANY, MS

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum degree requirements (https://guide.wisc.edu/graduate/#requirementstext) and policies (https://guide.wisc.edu/graduate/#policiestext), 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	30 credits
Minimum Graduate Coursework Requirement	15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: https://policy.wisc.edu/library/UW-1244 (https://policy.wisc.edu/library/UW-1244/).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement 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 pathway 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 PhD 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.

REQUIRED COURSES

Code	Title	Credits
Botany [1]		
A minimum of 6 credits in graduate-level BOTANY courses must be completed at UW–Madison. [1]		6
Seminar		
Two (2) seminar courses (at least one in BOTANY; see full list of seminars below).		2–4
Committee Assigned		
Courses assigned by the Academic Advisory Committee and/or the student's MS committee.		0-9
Research		
See full list of research courses below.		1-12
Pathway [2]		
Courses required for their selected pathway (see below).		12-18
Total Credits		**30**

1 Seminars and research credits do not count toward the 6 credits in botany (BOTANY (https://guide.wisc.edu/courses/botany/)).

2 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.

A minimum of 30 credits in natural sciences (undergraduate and graduate program courses combined) is required.

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

General Botany Pathway [1]

Complete one course from at least six of the following seven categories:

Code	Title	Credits
Genetics		
BOTANY/ PL PATH 563	Phylogenetic Analysis of Molecular Data	3
Biochemistry, Cell or Molecular Biology		
BOTANY/ BIOCHEM 621	Plant Biochemistry	3
Plant Physiology or Plant Developmental Biology		
BOTANY 500	Plant Physiology	3-4
Cryptogamic Botany		
BOTANY/ GENETICS/M M & I/ PL PATH 655	Biology and Genetics of Fungi	3

Plant Anatomy or Morphology		
BOTANY 300	Plant Anatomy	4
BOTANY 305	Plant Morphology and Evolution	4
Ecology		
BOTANY 802	Physiological Plant Ecology	3
Evolution or Systematics		
BOTANY/ENTOM/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2

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Ecology Pathway [1]

Complete a minimum of five courses as follows:

Code	Title	Credits
Ecology		
Complete at least three courses (minimum 9 credits) in ecology; example includes:		
BOTANY 455	The Vegetation of Wisconsin	4
Evolution		
Complete one course in evolution; example includes:		
BOTANY/ENTOM/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2
Elective		
Complete 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.		
BOTANY/ENTOM/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2
BOTANY/ GENETICS/M M & I/ PL PATH 655	Biology and Genetics of Fungi	3
BOTANY/ BIOCHEM 621	Plant Biochemistry	3
BOTANY 500	Plant Physiology	3-4
BOTANY 300	Plant Anatomy	4
BOTANY 305	Plant Morphology and Evolution	4
BOTANY/ PL PATH 563	Phylogenetic Analysis of Molecular Data	3

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Evolution Pathway [1]

Complete a minimum of five courses, at least one from each of the following:

Code	Title	Credits
Evolution		
BOTANY/ENTOM/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2
Systematics or Cryptogamic Botany		
BOTANY/ GENETICS/M M & I/ PL PATH 655	Biology and Genetics of Fungi	3
Population or Quantitative Genetics		
GENETICS 633	Population Genetics	3
Ecology		
BOTANY/ F&W ECOL/ ZOOLOGY 460	General Ecology	4
Elective		
One course in any of the following: biochemistry, cell or molecular biology; plant physiology or plant developmental biology; or plant anatomy or morphology.		
BOTANY/ BIOCHEM 621	Plant Biochemistry	3
BOTANY 500	Plant Physiology	3-4
BOTANY 300	Plant Anatomy	4
BOTANY 305	Plant Morphology and Evolution	4

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

Complete a minimum of five courses, at least one from each of the following:

Code	Title	Credits
Plant Anatomy or Morphology		
BOTANY 300	Plant Anatomy	4
Biochemistry, Cell or Molecular Biology		
BOTANY/ BIOCHEM 621	Plant Biochemistry	3
Plant Physiology		
BOTANY 500	Plant Physiology	3-4
Plant Developmental Biology or Genetics		
BOTANY/BIOCHEM/ GENETICS 840	Regulatory Mechanisms in Plant Development	3
Elective		
Complete one course in any of the following: ecology; systematics; evolution; or cryptogamic botany.		
BOTANY 802	Physiological Plant Ecology	3
BOTANY/ENTOM/ GENETICS/ ZOOLOGY 820	Foundations of Evolution	2
BOTANY/ GENETICS/M M & I/ PL PATH 655	Biology and Genetics of Fungi	3

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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/ 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 901	Seminar in Organismal Entomology	1
GENETICS 670		1
GENETICS 672		1
GENETICS 673		1
GENETICS/AN SCI/ DY SCI 951	Seminar in Animal 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 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
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 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/ ATM OCN 925	Seminar-Climatology	1-2
ENVIR ST 950	Environmental Monitoring Seminar	2
F&W ECOL/ AGROECOL/ ATM OCN/ BOTANY/ENTOM/ ENVIR ST/GEOG/ ZOOLOGY 953	Introduction to Ecology Research at UW-Madison	1-2
GEOSCI 920	Seminar in Glacial and Pleistocene Geology	1-3
GEOSCI 929	Seminar-Hydrogeology	1-2
GEOSCI 970	Seminar-Geochemistry	2
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
PLANTSCI 920	Seminar in Plant Science and Technology	1
PLANTSCI 957	Seminar in Plant Breeding and Plant Genetics	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