

DRAFT SYLLABUS



Survey of Botany, Botany 100

Botany 100 is designed to provide an introductory level experience in a biological science for undergraduates who are not majoring in biology. The course content focuses on what educated citizens should know in order to make informed decisions in everyday life.

Credits: 3.

Canvas Course URL: <https://canvas.wisc.edu/courses/228658>

Course Designations and Attributes: general education, breadth

Meeting Time and Synchronicity: This course has two in-person lectures that are recorded, one quiz per week, and one 1-hour in person discussion/laboratory with graded homework.

Instructional Mode: in person

Credit Hours are met by the Course: 45 hours per credit

45 hours X 3 credits = 135 hours

42 hours in person lecture per 15-week semester

14 hours lab/discussion per 15-week semester

7 hours in person quizzing per 15-week semester

72 hours independent work per 15-week semester

INSTRUCTORS AND TEACHING ASSISTANTS

Instructor Title and Name: Dr. Ingrid Jordon-Thaden, Director of Botany Garden and Greenhouse (she, her, hers)

Instructor Availability: Thursday afternoons 1-3pm or by appointment

Instructor Email/Preferred Contact: jordonthaden@wisc.edu

Teaching Assistant: TBD

TA Office Hours: TBD

TA Email/Preferred Contact: TBD

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Course Coordinator

Marie Trest (she, her, hers)
Office Hours: by appointment
Email: marie.trest@wisc.edu

OFFICIAL COURSE DESCRIPTION

This survey of botany (plant biology) course, designed for non-science majors focuses on how plants effect the globe, the role of biodiversity in ecological sustainability, and the evolutionary processes that gave rise to today's plant diversity. The student will gain a deep understanding of how plants influence their lives and the basic science subjects needed to comprehend scientific advances that develop during their lifetime. There are two in-person but recorded lectures, one quiz a week, and a one-hour lab/discussion each week.

Requisites: no prerequisites.

LEARNING OUTCOMES

1. Explain major features of biological diversity on Earth, focusing on plants, plant biodiversity, plant-microbe/plant-animal interactions, ecological processes, and how these features influence human life.
2. Understand how basic chemical features of biological organisms relate to plant and animal nutrition, global ecology, and technological applications.
3. Comprehend biological concepts well enough to make informed personal health decisions and contribute responsibly to the solution of societal problems.

GRADING

- **Indicate how the course is graded and relative weights of assessments:**
Independent work on instructor-guided assignments delivered online (substituting for traditional lectures) is assessed by weekly synchronous online quizzes: 300 total possible points (two lowest quiz scores dropped)
lab/discussion: 100 total possible points

Grading Policies. Grades are based on lecture exam scores, lab assignments and participation, and sustainability projects:

Lecture quizzes (13 minus 1 lowest) 12 @ 30 pts. each, total	360 pts.
Lab (combination of participation and homework)	100 pts.
Final Quiz (60 pts, not droppable)	60 pts
Total	520 pts.

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Using a common grading scale, a final percentage of 92+ would earn an A grade, 89-91 AB, 82-88 B, 79-81 BC, and 70-78 C. However, final letter grades will not be assigned until the end of the semester when a final grading scale can be determined using this procedure. At semester's end we will determine the percentage of A + AB grades that would result using the scale shown above; if this percentage is 12 or greater, the scale will stand. If not, we would lower the scale until at least 12% is reached (fyi, because students have performed well in the past, we have never had to lower the grading scale). There is no limit on the number of grades of any type given; if every student were to master at least 89% of the course material, all would earn A or AB grades.

LECTURES

There are two 90-minute lectures per week, which are recorded. Weekly quizzes are given in the lecture and cover both lecture and lab materials.

DISCUSSION SESSIONS

One weekly hour of combined discussion/lab session: choice of 6 day/time combinations. Weekly participation points and graded assignments are given.

LABORATORY SESSIONS

See above

REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS

Required, low-cost digital text: Plant Biology 3e http://www.ljlmpress.com/plant_biology.html
Text cannot be shared because of copyrights.

Although widely used elsewhere, this inexpensive digital text was written specifically for UW-Madison Botany 100 students. Authors intentionally included discoveries made by scientists of diverse types and examples of how plant science interfaces with diverse cultures. The textbook is the only accepted authority for quiz answers.

Copyright rules do not allow sharing of the digital textbook; each student must obtain his/her own copy that will have the purchaser's name and transaction number on every page. A list of textbook readings that coordinate with independent learning assignments is provided as a part of the course syllabus. A printed copy of the textbook and course packet are on reserve in College Library (600 N Park St, Madison, WI 53706). As some students prefer a printed copy of this book, the instructors can recommend that a local printing store can print it for approximately \$100.

The required Laboratory handbook is printed for you and available at: _____

Lab modules, weekly independent learning assignments, and other course materials are available through the course Canvas site.

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EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK

Short weekly online lecture quizzes are each linked to a specific textbook learning assignment provided on course web page. These more-frequent, lower-stakes, short quizzes substitute for fewer, longer, higher-stakes midterm and final exams. Quizzes are not cumulative, and not collaborative. No makeups given unless the instructor gives the student special permission. The lowest quiz will automatically be dropped from your total quizzes. However, the final quiz (which is worth the points of two quizzes) is not droppable.

HOMEWORK & OTHER ASSIGNMENTS

Weekly participation points and graded lab assignments are given. Study guides for each lecture week are provided but answers are not given.

EXTRA CREDIT

There will be opportunities for extra credit quizzes. These will be announced by the professor. The professor will decide when and how the extra credit quizzes will be given, and how many points to make each quiz. If it is apparent that a general misunderstanding of material is happening, the professor may (or may not) decide to give an extra credit quiz or an additional question on the next quiz. Please do not depend on extra credit to boost your grade but be aware this is a tool which the professor uses to ensure content is understood.

RULES, RIGHTS & RESPONSIBILITIES

- See the Guide's to [Rules, Rights and Responsibilities](#)

ACADEMIC INTEGRITY

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

McBurney Disability Resource Center syllabus statement: "The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty

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[me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA." <http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>

DIVERSITY & INCLUSION

Institutional statement on diversity: "Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world." <https://diversity.wisc.edu/>

General Strategies for Success. Some students find biology courses difficult. We have identified two sources of potential student problems and hope that alerting you to these will improve your success in this course. One problem relates to scale. The scale of many of the topics you will be considering is either too large to comprehend easily (for example, an ecosystem) or too small (for example, a cell nucleus) for you to see with your unaided eye. You will need to stretch your mind to encompass the realities of things you can't see directly.

A second potential problem involves terminology. Since we will often be considering topics that are not part of your usual everyday conversation, you will probably encounter quite a few new terms. Our goal is not for you to memorize a lot of new words, but you will need to learn some new terms so that you can understand and articulate ideas about how organisms function and their roles in their environments. Experience shows that biology is just not amenable to a "cram" style of studying. As is true of real life job situations, showing up, paying attention, preparing in advance, and regular review are strategies for success. We have noticed that many students benefit from participation in small "study groups". See your TA if you would like assistance in setting up a study group.

Getting Help from Instructors. See the Staff Information for office hours, emails, etc. Email is a very effective method of communicating with the staff. Please do not hesitate to approach us.

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Required Texts:

Plant Biology, 3rd ed. 2015 by Graham, Graham, & Wilcox

Syllabus for Survey of Botany

Botany 100: Spring 2023

Dr. Ingrid Jordon-Thaden

ingrid.jordonthaden@wisc.edu

WEEK	DATE	LECTURE READING Ch. (CHAPTER)	LECTURE TOPICS – Tues/Thurs 9:30-10:45am Room 145 Birge Hall Weekly Quiz: Thursdays at 10:15 am in class on own device on Canvas	LAB/DISCUSSION SECTION TOPICS Room 110 Birge Hall Tues/Wed in discussion section
1	24 Jan. 26 Jan.	Ch. 1 & 2 Ch. 3 & 4	Introduction to Botany & Plants and People Chemistry of Life	Introduction to Lab/Discussion Global Ecology and Sustainability – Introduction to Project
2	31 Jan. 2 Feb.	Ch. 19 & 20.3 Ch. 5	Origin of Life: Prokaryotes vs. Eukaryotes Cells and Organelles	Plants & People: Greenhouse Tour
3	7 Feb 9 Feb.	Ch. 6 Ch. 7	Photosynthesis (C3) and Respiration DNA & RNA	Cell Structure & Function I: Prokaryotic & Eukaryotic Cells
4	14 Feb. 16 Feb.	Ch. 8 & 9 Ch. 9	Mitosis and Plant Meristems Plant Growth: cell types and plant tissues	Cell Structure & Function II: Photosynthesis & Respiration and Scientific Method
5	21 Feb. 23 Feb.	Ch. 10 Ch. 11	Stems: growth, primary and secondary meristems Roots and Nutrition	DNA Replication and Gene Expression
6	28 Feb. 2 Mar.	Ch. 12 & 6 (pgs. 6-20 to 6-24) Ch. 13	Leaves: Photosynthesis (C4, CAM), Transpiration Plant Growth and Behavior	Cell Division: Mitosis; Plant Propagation: Asexual Reproduction Plant Propagation: Asexual and Sexual Reproduction
7	7 Mar. 9 Mar.	Ch. 14 Ch. 15 & 16	Reproduction, Meiosis, and Intro to Life Cycles Genetics and Genetic Engineering	Supermarket Botany: Stems, Leaves, Roots, Flowers, Fruits, & Seeds

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SPRING BREAK March 11-19				
8	21 Mar. 23 Mar.	Ch. 17 Ch. 18	Biological Evolution & Plant Tree of Life Taxonomy: Naming, Identifying, and Classifying	Global Ecology and Sustainability: Project Presentations Sexual Reproduction & Meiosis; Life Cycles
9	28 Mar. 30 Mar.	Ch. 20 & 19 (review) Ch. 21	Protists and Algae: Diversity and Life Cycles Fungi and Lichens: Diversity and Life Cycles	Global Ecology and Sustainability: Project Presentations Sexual Reproduction & Meiosis; Life Cycles
10	4 Apr. 6 Apr.	Ch.14,19,20 (review) Ch. 22	Sex and Life Cycles Review Seedless Vascular & Non-Vascular Plants	Algae and Fungi Pteridophytes
11	11 Apr. 13 Apr.	Ch. 23 Ch. 24	Gymnosperms, the First Seed Plants Flowering Plants: Angiosperm Diversity and Sex	Seedless Land Plants: Bryophytes, Lycophytes & Pteridophytes
12	18 Apr. 20 Apr.	Ch. 25 Ch. 26	Flowering Plant Co-evolution with Animals Ecology and the Biosphere	Seed Plants-Gymnosperms & Angiosperms: Cones, Flowers, Fruits and Seeds
13	25 Apr. 27 Apr.	Ch. 27 & 28 Ch. 29 & 30	Dry and Moist Terrestrial Ecosystems Aquatic Ecosystems and Human Impacts & Sustainability	Plant Adaptations & Biomes: Botany Greenhouses
14	2 May 4 May	DEAD WEEK	NO NEW LECTURES, BUT IN-CLASS Q&A	Muir Woods: A Temperate Deciduous Woodland Biome (Outdoors--Wear walking shoes and dress appropriately)
Sun.	7 May	Final Quiz (not cumulative, but worth 60 points and over chapters 27, 28, 29, & 30) 10:05am		

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Weekly 30-point Quiz Dates and Topics*

Quizzes are on Thursdays in-class with Canvas on your own device at 10:15am.**

Quiz #	Date	Topics Covered on Quiz	Chapters Covered
1	Feb. 2	Introduction to Botany & Plants and People Chemistry of Life	Ch. 1 & 2 Ch. 3 & 4
2	Feb. 9	Origin of Life: Prokaryotes vs. Eukaryotes Cells and Organelles	Ch. 19 & 20.3 Ch. 5
3	Feb. 16	Photosynthesis (C3) and Respiration DNA & RNA	Ch. 6 (not C4 and CAM) Ch. 7
4	Feb. 23	Mitosis and Plant Meristems Plant Growth: cell types and plant tissues	Ch. 8 Ch. 9
5	Mar. 2	Stems: growth, primary and secondary meristems Roots and Nutrition	Ch. 10 Ch. 11
6	Mar. 9	Leaves: Photosynthesis (C4, CAM), Transpiration Plant Growth and Behavior	Ch. 12 & 6 (pgs. 6-20 to 6-24) Ch. 13
7	Mar. 23	Reproduction, Meiosis, and Intro to Life Cycles Genetics and Genetic Engineering	Ch. 14 Ch. 15 & 16
8	Mar. 30	Biological Evolution & Plant Tree of Life Taxonomy: Naming, Identifying, and Classifying	Ch. 17 Ch. 18

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9	Apr. 6	Protists and Algae: Diversity and Life Cycles Fungi and Lichens: Diversity and Life Cycles	Ch. 20 & (19 review) Ch. 21
10	Apr. 13	Seedless Vascular & Non-Vascular Plants	Ch. 22
11	Apr. 20	Gymnosperms, the First Seed Plants Flowering Plants: Angiosperms	Ch. 23 Ch. 24
12	Apr. 27	Flowering Plant Co-evolution with Animals Ecology and the Biosphere	Ch. 25 Ch. 26
13 (worth 60 pts)	Sunday May 7 **10:05am	Dry and Moist Terrestrial Ecosystems Aquatic Ecosystems and Human Impacts & Sustainability	Ch. 27 & 28 Ch. 29 & 30

*We will automatically drop your lowest quiz score.

**Final quiz is not droppable.