



Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

Semester: Spring
Course Prefix: BOT
Course Title: Plant Kingdom

Year: 2025
Course and Section #: 2400-001
Credits: 4

Course Description

Surveys of the Divisions (Phyla) traditionally studied by botanists, emphasizing structure, reproduction, systematics, and evolution. Completers should be familiar with the morphological features of the major prokaryotic, fungal, algal, and plant groups. Includes a weekly laboratory

Course Attributes

This course has the following attributes:

- General Education Requirements
- Global/Intercultural Graduation Requirements
- Writing Enriched Graduation Requirements
- Discipline Core Requirements in Program
- Elective Core Requirements in Program
- Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: Michael C. Rotter

Student Learning Outcomes

1	Describe the processes of meiosis and mitosis;
2	Describe how plants are named and classified;
3	List the distinguishing attributes of the major plant groups and name some representatives of each;
4	Discuss evolutionary trends in the morphological and reproductive attributes of members of the plant kingdom;
5	Explain "alternation of generations" and how it occurs in each of the major plant groups;
6	Explain sexual reproduction in flowering plants in detail;
7	Explain the process of natural selection and how it accounts for the evolution of living organisms;

Course Materials and Texts

A photographic Atlas for the Botany Laboratory (7th edition), Rushforth, Robbins, Crawley, and Van Dr Graaff

- This is an excellent book providing great photos and illustrations that provide detail for many of the concepts we will be going over during the semester. If you are a botany major this would be a recommended text for your bookshelf (I still use my 5th edition version).

Seed to Seed; the Secret Life of Plants, Nicholas Harberd

- This book follows a botanist as he tries to re-align his research by taking inspiration from a wild growing plant. This book will aid in both writing your own journal about your plants you will grow as well as help on exam questions.

Course Requirements

Course Assignments, Assessments, and Grading Policy

Grading Scheme

A: 94%, A-: 90, B+: 86, B: 83, B-: 80, C+: 76, C: 73, C-: 70, D+: 66, D: 63, D-: 60, E: below 60

Assignments as percentage of overall grade:

Lecture & Lab Assignments.....	30%
Plant Exploration Portfolio.....	25%
Life of a Plant Journal.....	25%
Exams.....	15%
Professional Points.....	5%

Lecture & Lab Assignments (30%)

Lectures and labs will have occasional assignments that will ask you to write short responses, respond using a discussion board, or complete an activity. Students will also need to be prepared to read the assigned reading ahead of the day it is displayed. These will likely be discussed.

Lab assignments will mostly entail activities including days where we will go outside. Many of these assignments will ask you to find plants, collect data, or investigate a specific question. Please be in contact with me, ahead of due dates, if you are not sure what I am asking or if you have any barriers to completing the assignment.

You should do your best and always make sure to submit something. If an assignment is going to be late let me know ahead of time and we can chat about it. Some assignments you will only be able to complete in person during class.

Plant Exploration Portfolio (25%)

Students will be given a range of different assignments to complete at regular intervals throughout the semester. These will not carry any grade, I only expect students to turn in assignments regularly (as

scheduled), respond to my feedback, and put forth an effort that demonstrates an investment in learning. At the end of the semester a self-reflection on these assignments will be used for grading.

Life of a Plant Journal (25%)

Students will be expected to keep a journal as they grow plants on campus. Students will need to make several entries a week that discuss what is biologically happening with their plants and what the plants are doing toward finishing their life cycle. These should also have a comparison of the plants from the book “Seed to Seed” and responses to a weekly journal prompt.

Journals will be turned in for regular check ins.

Exams (15%)

We will have four exams throughout the semester. They are mostly here for you to keep track of where you are at with the material. All exams will be on canvas, they are open note and open book (I would highly recommend sticking to these resources). You will generally have a few days to complete the exam outside of class.

Professional Points (5%)

Being a good botanist, biologist, and/or citizen of the planet means working hard with an understanding for the care of those around us. Because these skills are essential to our lives, I will consider these aspects of course work as professional points. Students should communicate regularly and professionally with me and their peers. This includes simple things such as communicating in a professional tone, asking good questions when appropriate, submitting assignments that have had thought put in them, and approaching the course with an open mind. These points will also reflect the tone you take with other students in the class, particularly in discussions. All students will receive the entire points and they will be deducted at my discretion.

Required or Recommended Reading Assignments

See below

General Description of the Subject Matter of Each Lecture or Discussion

Course Schedule – Schedule is subject to change.

Lecture and lab assignments (see canvas) will be given in class and will need to be completed and turned in by the end of the week.

Week	Date	Topic	Reading	Major Assignments
1	1.7	Course Introduction, The nature of plants and botany	Plant Biology Review	Introduction Quiz, What is a plant?
	1.9	Starting plants from seed		What did you plant?
2	1.14	The tree of life and photosynthetic organisms, Life Cycles	McFadden 2001	
	1.16	Photosynthetic organisms under the scope		Organism profile
3	1.21	Fungus Diversity and Morphology	Seaward 1992	
	1.23	Lichens on our campus		Lichens, the air, and diversity indices
4	1.27	Fungus and plant interactions	Nyberg 1992	

	1.30	Fungus in the roots	Fungal Staining Protocols	Fungal drawings
5	2.4	Molds and food science		
	2.6	What does mold like best? (Set up)		Mold worksheet
6	2.11	Brown, Red and Green Algae	Nisizawa et al 1987	
	2.13	Exam 1, Portfolio Discussion		Portfolio submission 1, Journal Check in
7	2.18	Plants make it to land, Bryophytes	DeVries & Archibald 2018	
	2.20	Bryophyte Farms (Set up)		Set up bryophytes Turn in mold worksheet
8	2.25	Lycophytes	Balick & Beitel 1989	
	2.27	Fossil Fuels Discussion	Coal – Fossil Plants	Discussion reflections
9	3.4	Ferns and horsetails		Fern fairytales
	3.6	Horsetail Sanding		
10	3.10 – 3.13	No Class Spring Break		
11	3.18	Cycads and Ginkgo's	The tree who remembers the dinosaurs	Missed connections
	3.20	Exam 2, Portfolio Discussion		Portfolio submission 2, journal check in, Bryophytes turn in
12	3.25	Conifers	The history of the world is written in tree rings	
	3.27	Dendrochronology		The story of your tree
13	4.1	Angiosperms – Evolution	Love the Fig	
	4.3	Flower and Fruit Anatomy		Flower and fruit diagrams
14	4.8	Angiosperms – ANA and Monocots	Plants society and grasses	
	4.10	Angiosperms – Dicots		
15	4.15	Plant Chemicals	Molyneux et al 2007	Your plants as a chemistry set
	4.17	Portfolio Discussion, Exam 3		Portfolio submission 3, Final Journal check in
16	4.22	Plants in the past and present at Utah Lake	Dominguez-Escalante Journal	Field Trip Report
	4.24	No Class		
17	FINALS WEEK	Exam 4 Tuesday April 29 th at 7am		Portfolio Reflection Portfolio submission 4

Required Course Syllabus Statements

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Using Remote Testing Software

This course does not use remote testing software.

This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](#) at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

Equity and Title IX

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.