

Syllabus: BOT2010C Introductory Botany, Fall 2025

Lecture – M,W Period 7 (1:55 PM - 2:45 PM) in Bartram 211

Laboratory – T Periods 7-8 (1:55 PM - 3:50 PM), or

W Periods 3-4 (9:35 AM - 11:30 AM), or W Period 9-10, (4:05 PM - 6:00 PM) in Rolfs 105

Instructor:

Dr. Christine Davis

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Office: 620 Carr Hall

Office hours: Wednesdays 10 am – 12 pm

or by appointment

Laboratory Instructor/TA:

Bharti Parihar

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Office: Dickinson Hall

Office hours: TBA

Dr. Davis's description of BOT2010C: This course is an overview of plants and how they work. You'll gain appreciation for the beauty, wonder, and mystery of the botanical world and grasp the fundamental roles plants play in global ecology and human culture— and I will do my best to be sure you have fun doing it!

Grading Scheme: Letter Grade

Catalog description: Intro Botany, for science majors. Introductory-entry level course primarily for beginning students or new college students. First course in botany. Structures functions of cells, tissues, and organs of flowering plants. This course affords students the ability to critically examine and evaluate the principles of the scientific method, model construction, and use the scientific method to explain natural experiences and phenomena.

Attributes: General Education - Biological Science. The General Education subject area objectives are found here: <https://undergrad.ua.ufl.edu/general-education/gen-ed-program/subject-area-objectives/>. The General Education specific learning outcomes are found here: <https://undergrad.ua.ufl.edu/general-education/gen-ed-courses/structure-of-gen-ed-courses/slos-and-performance-indicators/student-learning-outcomes/>

State approved course learning outcomes: Objectives of the course will be achieved if, by its conclusion, students can:

- Describe a scientific hypothesis and identify testable predictions that logically follow.
- Discuss the components of plant cells and the molecular processes driving cellular structure and functions.
- Describe the process and main components of photosynthesis and metabolism in plants.
- Describe the relationship between genotype and phenotype.
- Predict the RNA and protein sequences that will be transcribed and translated from a given gene.
- Read and evaluate a phylogenetic tree.
- Discuss the evidence that plants are descended from a common ancestor and have changed and diversified into species through time.
- Describe the challenges of life on land and the traits that enabled plants to diversify on land.
- Discuss the potential adaptive significance of synapomorphies that define major clades of plants.
- Explain how alternation of generations varies in plant lineages and its significance to reproduction.
- Diagram the basic components of plant vasculature and characterize their function.
- Identify common plant adaptations and show how they are shaped by convergent evolution.
- Describe the main processes of primary and secondary growth in plants.
- Discuss the role of hormones in plant development and environmental response.

Materials and supplies

Fees. \$106.63 for laboratory expenses, charged with your tuition.

Laboratory Manual for Introductory Botany (BOT2010C). This is available at Target Copy, 1412 West University Avenue, across from UF's Main Library. Please purchase this before your first **lab** class and bring it to your lab section.

Raven Biology of Plants (8th edition). This is the main textbook for the class. Please purchase the digital ebook version from the UF Bookstore as part of the "UF All Access" program using the following link:

<https://www.bkstr.com/floridastore/shop/textbooks-and-course-materials>. **Achieve** is an online platform that accompanies the text. After you have purchased the textbook through UF All Access, you can access Achieve through the "Macmillan Learning" link on Canvas.

How your grade will be determined

Lecture components: 65%

Achieve Interactive Exercises – 5%

In-class written quizzes – 10%

Exit surveys – 10%

Exams – 2@ 20% each for a total of 40%

Laboratory components: 35%

Pre-lab questions – 5%

Post-lab assignments and quizzes – 20%

Poster presentation – 10%

Grading scale

90 – 100% = A; 80 – 89.9% = B; 70 – 79.9% C; 60 – 69.9% D; below 60 = E

See also the [University of Florida's Grades and Grading Policies](#) page for how grade points are assigned for GPA purposes.

Descriptions of grade components

Achieve Interactive Exercises. For most class meetings, there are chapter readings assigned to be completed before lecture (see course schedule). These exercises accompany the e-textbook reading and will help you review some of the major points of the chapter. They are due *before* the lecture each day.

In-class written quizzes. At the beginning of class, I'll give a 2-3 question quiz based on the *previous* lecture. The purpose of the quiz is to give you, the TA, and I information about your progress and understanding.

Exit surveys. At the end of class, I'll give a one question exit survey to assess what outstanding questions you have about the day's lecture or how you're feeling about the course material.

Exams. There will be a mid-term and an end-of-term exam, but there will be no cumulative final exam. The exams will be given during your normal lecture class periods in Bartram 211. Each exam will cover material from lectures and will *not* be cumulative, however, some of the concepts taught in this course build on each other.

Pre-lab questions. These questions will be provided to you by your lab instructor/TA and will be due at the beginning of lab each week. They will help prepare you for the lab activity.

Post-lab assignments and quizzes. These will be due at the beginning of lab each week or given at the beginning of lab by your lab instructor/TA. They will assess your understanding of the main points of previous labs.

Poster presentation. For the culmination of semester-long lab experiments, you and your groupmates will create a scientific poster to present your findings and present a digital copy to the class during our last lab period. A grading rubric will be provided in advance.

Academic Policies

This course complies with all UF academic policies. For information on those policies and for resources for students, please see [this link](#). (The direct link is <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>.)

Course Schedule

Week	Day	Date	Lecture topic	Reading	Achieve Interactive Exercise assignment due and due date	Lab topic - Labs are T and W	Pre-lab due (beginning of lab class)	Post-lab due (beginning of lab class)
1	M	25-Aug	Introduction	--	--	No lab this week		
	W	27-Aug	Basic chemistry	CH. 2 The Molecular Composition of Plant Cells	The Four Levels of Protein Organization = Aug 27 at 1:55 pm			
2	M	1-Sep	No Class - Labor Day	CH. 3 The Plant Cell and the Cell Cycle	Diagram of a Chloroplast-Containing Cell AND Mitosis, a Diagrammatic Representation = Sep 1 at 1:55 pm	Lab 1: Intro to Plants	Pre-lab 1	
	W	3-Sep	Review of plant cells, passive and active transport	CH. 4 The Movement of Substances into and out of Cells	Cellular Membranes = Sep 3 at 1:55 pm			
3	M	8-Sep	Energy, metabolism, and ATP	CH. 5 The Flow of Energy	ATP Synthase Complex =Sep 8 at 1:55 pm	Lab 2: Plant Interactions	--	Post-lab 1
	W	10-Sep	Harvest of energy from glucose	CH. 6 Respiration	--			
4	M	15-Sep	Harvest of energy from the sun	CH. 7 Photosynthesis, Light, and Life	Journey into a Leaf of a Dandelion = Sep 15 at 1:55 pm	Lab 3: Photosynthesis and Respiration	Pre-lab 3	--
	W	17-Sep	Meiosis and Mendelian inheritance patterns	CH. 8 Sexual Reproduction and Heredity	Meiosis AND Meiosis and Mitosis = Sep 17 at 1:55 pm			
5	M	22-Sep	DNA transcription and translation	CH. 9 The Chemistry of Heredity and Gene Expression	Summary of DNA Replication AND Structure of RNA = Sep 22 at 1:55 pm	Lab 4: Mitosis and Meiosis	Pre-lab 4	Post-lab 3
	W	24-Sep	Natural selection and adaptation	CH. 11 The Process of Evolution	--			
6	M	29-Sep	Non-vascular plants	CH. 16 Bryophytes	--	Lab 5: Growth Experiments	--	--
	W	1-Oct	Ferns and lycophytes	CH. 17 Seedless Vascular Plants	Club Moss Sporophyte, Oct 1 at 1:55 pm			
7	M	6-Oct	Conifers and other Gymnosperms	CH. 18 Gymnosperms	Pine Needle = Oct 6 at 1:55 pm	Lab 6: Plant Diversity	Pre-lab 6	--
	W	8-Oct	Flowering plants	CH. 19 Introduction to the Angiosperms	Parts of a Lily Flower = Oct 8 at 1:55 pm			
8	M	13-Oct	Review	--	--	Lab 7: Life History	Pre-lab 7	--
	W	15-Oct	Exam 1					
9	M	20-Oct	Seed development and germination	CH. 22 Early Development of the Plant Body	Mature Grain, or Kernel, of Maize <i>Zea mays</i> = Oct 20 at 1:55 pm	Lab 8: C-fern Genetics	--	Post-lab 7
	W	22-Oct	Seed plant growth	CH. 23 Cells and Tissues of the Plant Body	Shoot and Root Apical Meristems = Oct 22 at 1:55 pm			
10	M	27-Oct	Seed plant roots	CH. 24 The Root: Structure and Development	Exercise: Structure of a Eudicot Root (Mature Vascular Cylinder) AND Structure of a Monocot Root (Mature Vascular Cylinder) = Oct 27 at 1:55 pm	Lab 9: Growth Experiment	Pre-lab 9	--
	W	29-Oct	Seed plant shoots	CH. 25 The Shoot: Primary Structure and Development	Three Basic Types of Organization in the Primary Structure of Stems AND Primary Growth in a Basswood Stem (Detail = Oct 29 at 1:55 pm			
11	M	3-Nov	Wood development	CH. 26 Secondary Growth in Stems	Basswood (<i>Tilia americana</i>) Tree Stem, in Transverse Section = Nov 3 at 1:55 pm	Lab10: Water	Pre-lab 10	Post-lab 9
	W	5-Nov	Transpiration-cohesion-tension mechanism in vascular plants	CH. 30 The Movement of Water and Solutes in Plants	--			
12	M	10-Nov	Plant hormones	CH. 27 Regulating Growth and Development: The Plant Hormones	--	No lab - Veteran's Day		
	W	12-Nov	Plant responses to the environment	CH. 28 External Factors and Plant Growth	--			
13	M	17-Nov	Plant chemicals for defense and communication	--	--	Lab 11: TBA	--	--
	W	19-Nov	Plant adaptations	--	--			
14	M	24-Nov	No Class - Thanksgiving	--	--	No lab - Thanksgiving		
	W	25-Nov	Thanksgiving	--	--			
15	M	1-Dec	Review	--	--	Poster Presentations		
	W	3-Dec	Exam 2					