

Course Syllabus – Spring 2025

Course Information

BIOL 3V00

Intro to Botany

MW, 2:30–3:45 PM, SLC 2.302

Professor Contact Information

Dr. Stefanie Boyd, FO 3.610, stefanie.boyd@utdallas.edu

Office Hours

Monday and Wednesday, 12:30-2:15 PM or by appointment

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Prerequisites: ([BIOL2281](#) or [CHEM2401](#) or equivalent) and [BIOL2311](#) and [BIOL 2312](#) or equivalent.

Course Description

This course focuses on the introduction of biological concepts such as plant physiology, life cycle, growth and development, structure and function, cellular and molecular metabolism, and evolution. The course will also discuss different plant classifications, comparing and contrasting structure and general life cycles of the simplest unicellular plants (algae) to complex multicellular land plants and the role of plants in the environment.

Student Learning Objectives/Outcomes

This undergraduate course provides students with knowledge of plant life and the role of plants in the environment. Intro to Botany is devoted to mastering: 1) plant physiology and 2) metabolism. Fundamental principles that drive growth and development and the mechanisms that fine-tune them are stressed to provide students insight into plant metabolism and evolution. Relevance to roles in the environment, medicine, and industrial applications is used to stimulate students to begin the integration of botany with other disciplines.

At the end of the course, students will be able to:

1. Describe the plant genetic basis of inheritance and evolution
 2. Explain the different plant ecological systems
 3. Classify plants based on taxonomy and distinguish among the major plant classifications
 4. describe the functions of a plant cell and its organelles, and summarize the differences between plant and animal cells
 5. identify and illustrate plant structure, growth and reproduction
 6. summarize some of the evidence for evolution from fossils and living species, and give several examples of how plant structure relates to its function
 7. explain the ecological and economic significance of wood, flowering plants, gymnosperms, ferns and mosses
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Required Textbooks and Materials

All subject material will be supplied but students can purchase the textbook to supplement.
Textbook: Biology of Plants 8th Edition, by Raven, PhD; Macmillan

Assignments & Academic Calendar

1. Botany: An Introduction
2. The Plant Cell
 - a. Chemical Composition
 - b. Cell Structures
 - c. Metabolism in Cells, including Photosynthesis
3. Plant Structure and Life Processes
 - a. Plant Tissues
 - b. Plant Organs: Roots, Stems and Leaves
 - c. Flowers, Fruits and Seeds
 - d. Mineral, Nutrient and Water Transport in Plants
 - e. Growth Responses and Regulation of Growth
4. The Continuity of Plant Life
 - a. The Molecular Basis of Inheritance
 - b. Evolution of Populations and Species
5. Diversity of Plants
 - a. The Classification of Plants
 - b. Human Uses of Plants in Agriculture, Commerce, Medicine and Ecology
6. Plant Ecology
 - a. Ecosystems
 - b. Biomes of the World

- Ch 1: Botany: An Introduction
- Ch 2: The Molecular Composition of Plant Cells
- Ch 3: The Plant Cell and the Cell Cycle
- Ch 4: The Movement of Substances into and out of Cells
- Ch 5: The Flow of Energy
- Ch 6: Respiration
- Ch 7: Photosynthesis, Light, and Life
- Ch 8: Sexual Reproduction and Heredity
- Ch 9: The Chemistry of Heredity and Gene Expression
- Ch 11: The Process of Evolution
- Ch 12: Systematics: The Science of Biological Diversity
- Ch 16: Bryophytes
- Ch 17: Seedless Vascular Plants
- Ch 18: Gymnosperms
- Ch 19: Introduction to the Angiosperms

- Ch 21: Plants and People

Grading Policy

Assignments 20%
 Exam 1 20%
 Exam 2 20%
 Exam 3 20%
 Exam 4 20%

Exams: Exams will be given during classtime. No make-up exams will be given for reasons other than extreme illness (doctor's note required), absence with the instructor's prior approval, or when a student is on official University business (documentation required). Make-up exams will be scheduled at the Instructor's convenience.

Grades: At the end of the semester an average of the four exam scores plus the assignments will be computed and scaled between 0 and 100 points. Your final letter grade will be no worse than that based on the following scale:

| Letter Grade | Score Range |
|--------------|-------------|
| A- to A+ | 90-100 |
| B- to B+ | 80-89 |
| C- to C+ | 70-79 |
| D- to D+ | 60-69 |
| F | < 60 |

Course & Instructor Policies

Make-up exams

No make-up exams will be given for reasons other than extreme illness (doctor's note required), absence with the instructor's prior approval, or when a student is on official University business (documentation required). Make-up exams will be scheduled at the Instructor's convenience.

Class Participation

Notes and slides used in lecture, class announcements, scores, and supplemental information will be posted on eLearning, which is accessible through Orion on the UT Dallas Homepage.

Classroom Citizenship

Please avoid using cellphones and other behaviors that distract students around you.

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with

those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Attendance

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes. Faculty have the discretion to set an attendance policy for their in-person meetings.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

The instructor may record meetings of this course. These recordings will be made available to all students registered for this class if the intent is to supplement the classroom experience. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

Academic Support Resources

The information contained in the following link lists the University's academic support resources for all students. Please see <http://go.utdallas.edu/academic-support-resources>.

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please review the catalog sections regarding the [credit/no credit](#) or [pass/fail](#) grading option and withdrawal from class.

Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.