

# BZ 104-001 (FA2023) Basic Concepts of Plant Life

Canvas Page: https://colostate.instructure.com/courses/166951

Students have automatic access to the Canvas site for the course. Canvas is necessary to access grades, assignments, exams, discussions, lecture materials, and other resources.

#### INSTRUCTOR

Salah Abdel-Ghany, (Associate Professor), 408 biology. <u>Salah.abdel-ghany@colostate.edu</u> Please indicate "BZ104-FA22" in the subject line when you send me emails.

## LECTURES

Tuesday & Thursday (9:30-10:45), Room136 (Auditorium, Biology building).

## OFFICE HOURS AND REVIEW SESSIONS

- Weekly office hours: Thursday 3:30 5:00 pm (Bio128).
- Review sessions: Will be scheduled before each exam. I will hold a review session before each exam to answer questions and work through exam-related materials.
- **Special appointment:** To make an appointment outside these times, send me an email with few options for when you can meet.
- After the lecture: short questions or requests can be addressed after the lecture.

#### TEXTBOOK

<sup>5</sup>*Stern's Introductory Plant Biology*" by Bidlack and Jansky, McGraw-Hill Publishing. For physical copies you can buy/rent the 14<sup>th</sup> edition or the most recent 15<sup>th</sup> edition if you would like to have a hard copy (which I prefer). Textbook can be purchased from the bookstore. Also, you can subscribe to the electronic textbook (if you prefer reading online) by clicking the Connect link on Canvas. Your CSU student account will be billed for Connect after the add/drop date.

#### COURSE DESCRIPTION

Basic Concepts of Plant Life (BZ 104) is an introductory course for non-biology major students who explore the basic principles of plant biology through focusing on the unique features of plants. My specific goal in this course is to make you understand the biology of plants in general and to acknowledge the crucial role of plants in all forms of life for all organisms.

We will discuss the structure of plant body, how does the structure fit the function, plant reproduction; plant ecology; the importance of plants to human, economics, and civilization. We will also discuss botany as a science. In botany we will introduce basic knowledge about plant metabolism, plant growth, plant development, plant breeding, plant classification and plant biotechnology.

#### SPECIFIC LEARNING OBJECTIVES

Upon completion of this course, students will be able to:

- Describe the basic features of biological life, including cell biology, heredity, and evolution.
- Explain the fundamental aspects of plant structure and function.
- Synthesize and apply knowledge to better understand and manage plant-based systems.
- Compare characteristics of the major groups of plant kingdom and the relationships between them.
- Apply knowledge of plant structure, function, and diversity to real-world questions with emphasis on crop production, human health, nutrition, and ecology.
- Explore if any of plant biology fields is the career of interest.

#### Study tips:

Golden tips that help you achieving both learning objectives and course goal:

- 1. Attend lectures, make you notes during lectures, re-work your notes the same day and then make your summaries. While doing this, highlight the important parts.
- 2. Important parts are those I repeat or those covered as questions in the lecture or those highlighted/underlined/written in different fonts or colors in the presentations.
- 3. Ask questions whenever is needed. Never feel shy asking question. By asking relevant questions, you are helping yourself and your classmates. Do not underestimate any question you might ask. "Part of my job tasks is to answer your relevant questions".
- 4. Study in groups and share notes whenever possible especially during exams preparations.
- 5. Participate in review sessions and office hours. My previous analyses in this course and others have shown that students who attend review sessions and office hours achieve the highest grades among their peers.

## ASSESSMENT

I use the following tools to assess students' performance:

1. Midterms and Final Exam (350 points ~68%)

There will be TWO non-comprehensive midterms (100 points each) and ONE comprehensive final exam (200 points). Exams will be on Thursdays (see dates and times below).

Exam	Date	Time	Covered Material	Points
Midterm 1	September 21 (TH)	During lecture	Weeks 1 → 5	100
Midterm 2	October 26 (TH)	During lecture	Weeks 6 → 10	100
Final Exam	December 14 (TH)	6:20 pm - 8:20 pm	Weeks 1 → 16	175

• Exams must be taken on the scheduled dates.

• Makeup exams will only be given to students with a university-approved proof of excuse.

 If you belong to any university sponsored group, you must inform me of known conflicts with exams at least one week before the exam day. In addition, it is <u>your responsibility</u> to follow up with a reminder email within 24 hours before the exam day and confirm receiving the email.

#### 2. Weekly assignments (80 points total, ~18%)

One assignment (10 pts) will be posted each week (except the first week and weeks when there will be exams). Assignments will be posted on Canvas no later than the Sunday night preceding the week and will be due on Canvas by 11:59 pm on Sunday of the following week (i.e., seven days later). There will be a total of **11** weekly assignments, and students may drop the lowest score. The reason for dropping the lowest score is to accommodate for unforeseen events, including those that prevent on-time submission. Therefore, late submissions might not be accepted and will have to be counted towards the one drop.

- 1. Assignment 1: Sunday, 9/03
- 2. Assignment 2: Sunday, 9/10
- 3. Assignment 3: Sunday, 9/17
- 4. Assignment 4: Sunday, 10/01
- Assignment 5: Sunday, 10/08
  Assignment 6: Sunday, 10/15
- 7. Assignment 7: Sunday 10/22
- 8. Assignment 8: Sunday, 11/05
- 9. Assignment 9: Sunday, 11/12
- 10. Assignment 10: Sunday, 12/03
- 11. Assignment 11: Sunday, 12/10

## 3. In class participation, iClicker (75 points total, ~14 %)

I will use iClicker Cloud technology to ask interactive questions during the lectures. These questions will be graded for completion, so students will receive full credit (3 pts per lecture) for submitting answers. I will drop the five lowest scores for iClicker participation, so students can still receive full credit (75 pts) if they miss up to five lectures. The reason for dropping the five lowest grades is to accommodate for unforeseen events that prevent attendance and participation in individual lectures. Therefore, missed classes will have to count towards these five drops. Please do not ask for a waiver unless you have a university approved reason. Visit the Student iClicker Information page (<u>https://canvas.colostate.edu/iclicker/student-information/</u>) for instructions on setting up an iClicker Cloud account or click this invitation link to get enrolled (<u>https://join.iclicker.com/JWXK</u>). This technology allows you to answer polling questions with a personal device such as a smart phone or a laptop. If you do not have access to such a device, iClicker remotes can also be purchased from the bookstore, but the specialized remotes are otherwise not required for participation in iClicker Cloud. IClicker questions or like ones that could be part of the exams.

#### GRADING SCALE

Grades will be calculated according to the following breakdown:

Midterms	200
Final Exam	150
Weekly assignments	100
In class iClicker participation	100

Total

## = 550 points

Individual assignments or exams will not be curved. At end, the individual student's fractional grades will be rounded to the nearest whole number (e.g., 69.6 = 70 and 69.4 = 69). Then letter grades will be assigned on the following scale:

>96% A+ 91% - 95% A 86% - 90% A-81% - 85% B+ 76% - 80% B 71% - 75% B- 66% - 70% C+ 61% - 65% C 56% - 60% D < 55% F

If the class average is less than 76% (B), the final grade will be curved to bring the class average to 76%.

#### REGRADING OF EXAMS AND ASSIGNMENTS

If students have concerns about grading, they must present their request for regrading within one week of when it was returned. I am happy to discuss how an exam or assignment is graded at any point, but formal regrade requests will only be accepted within the one-week time window. For any regrade requests, the entire assignment or exam (not just individual question) will be regraded. Therefore, it is possible to lose points on a regrade if I find that credit was mistakenly given for incorrect answers.

### ACADEMIC INTEGRITY

This course will adhere to the CSU Academic Integrity Policy as found on the student responsibilities page of the CSU General catalog. <u>http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/#academic-integrity</u>.

While you will not be required to affirm the honor pledge, you will be asked to affirm the following statement at the start of your exams: "I have not given, received, or used any unauthorized assistance."

Violations will result in a grading penalty and a report to the Office of Student Conduct Services.

#### STUDENTS WITH SPECIAL NEED

Students requesting exams or classroom accommodations should contact the student disability center located in room 121 TILT building. The phone number is (970)491-6385. They will approve the request and communicate with me.

#### TENTATIVE LECTURE SCHEDULE AND TOPICS

Week	Start Date	Modules	Chapter	Exams/assignments
1	21-Aug	Overview of science	1 & 2	none
2	28-Aug	Molecular and cellular bases of life	3 & 4	Assignment 1, Sunday 09/03
3	04-Sep	Plant form and function: roots, stems, and leaves	5 - 7	Assignment 2, Sunday 09/10
4	11-Sep	Plant form and function: flowers, fruits, and seeds	8	Assignment 3, Sunday 09/17
5	18-Sep	Transport of water and organic molecules	9	Midterm 1, Thursday, 09/21
6	25-Sep	Plant metabolism: photosynthesis and cellular respiration	10	Assignment 4, Sunday 10/01
7	02-Oct	Plant growth and development	11	Assignment 5, Sunday 10/08
8	09-Oct	Plant reproduction: meiosis and alternation of generations	12	Assignment 6, Sunday 10/17
9	16-Oct	Genetics and Molecular Biology	13	Assignment 7, Sunday 10/22
10	23-Oct	Plant breeding, propagation, and biotechnology	14	Midterm 2, Thursday, 10/26
11	30-Oct	Plant classification	16	Assignment 8, Sunday 11/05
12	06-Nov	Bacteria, Archaea, Protists, Fungi	17 - 19	Assignment 9, Sunday 11/12
13	13-Nov	Origins of plants: nonvascular plants, and seedless vascular plants	20 - 21	none
0	20-Nov	Thanksgiving Break		No class
14	27-Nov	Seed plants: gymnosperms and angiosperms	22 - 23	Assignment 10, Sunday 12/03
15	04-Dec	Flowering plants and civilization	24	Assignment 11, Sunday 12/10
16	11-Dec	Final week	Review	Final exam, Thursday 12/14 6:20 pm – 8:20 pm