

# Introduction to Environmental Science

## Course Information

- Semester and Year: Fall 2025
- Course ID and Section number: BIOL-5-E9336
- Instructor's name: Maria Morrow
- Day and time of required meetings: Lectures are every Monday and Wednesday from 10:05-11:30 AM
- Location: Lectures are online, labs are either in the field or in Science 108
  - [Botany Canvas Course](#) (location of lectures and course content)
- Course units: 4

## Instructor Contact Information

- Office location: Science 216-D (upstairs in the little U of offices, back left corner)
- Office hours: Monday-Thursday 1ish-3ish PM or email me to find a time
- Phone number: 707-476-4472
- Email address: Maria-Morrow@Redwoods.edu
- Communication notes: You can call me Maria. If there is something we need to discuss, let's do it in person. Text removes a lot of social cues and it is easier to see each other as humans and assume best intentions when we talk face to face. Email me to find a time to meet!

## Required Materials

All required materials are available for free on our Canvas site and via LibreTexts. A printed copy of the lab manual is available through the CR Bookstore. Physical copies of the textbook and photographic atlas must be printed or ordered through Libretexts.org.

- Textbook: [Botany by Ha, Morrow, and Algiers](#) (2021)
- Lab Manual: [Botany Lab Manual by Morrow](#) (2020)

Recommended: [A Photographic Atlas for Botany by Morrow](#) (2021) and colored pencils or pens.

## Catalog Description

A comparative study of plant, fungal, and algal structure and function, with additional studies of developmental biology, phylogeny/systematics, plant ecology, and conservation biology. NOTE: This course is intended for biology majors.

## Course Student Learning Outcomes

1. Recognize structural characteristics of plant, fungal, and algal groups, and use these characteristics to define their phylogenetic relationships.
2. Correlate plant form with function at cellular and whole organism levels.

- Describe specific examples of how plants, fungi and algae interact at the population, community and ecosystem levels, and how the flow of energy and matter maintain ecosystem function.
- Use the scientific method and inquiry-based laboratory tools to critically evaluate and explain observable phenomena.

## Course Calendar

Week	Lecture Topic	Lab	Other Notes
1	Introduction to Botany Pollination & Dispersal	Lab 1: Into to Ecology (Tuesday) Lab 20: Angiosperms, Part I* (Thursday)	Tuesday's lab includes an on-campus field trip Bring flowers on Thursday (if you'd like to)
2	Plant Cells & Tissues	Lab 2: From Prokaryotes to Eukaryotes Lab 3: Cells and Tissues	
3	Reproduction	Lab 4: Multicellularity and Asexual Reproduction Lab 12: Meiosis, Fertilization, and Life Cycles	
4	Photosynthesis Descendants of Primary Endosymbiosis	Lab 10: Photosynthesis and Plant Pigments Lab 15: Red & Green Algae	Looking into an open lab on Saturday or Sunday morning
5	Check-in Discussion The Big Phylogeny	<b>Lab Practical 1</b> Lab 16: Evolution of the Embryophyta	<b>Lecture Assessment 1</b> Thursday's lab includes an on-campus field trip
6	Bryophytes Seedless Vascular Plants	Lab 17: Bryophytes Lab 18: Seedless Vascular Plants	

7	Gymnosperms Angiosperms, Part I	Lab 19: Gymnosperms Field Trip to Botanical Garden (meet in SC108)	Both labs this week will involve on-campus field trips where we will be outdoors on campus.
8	Fruits (aka Angiosperms, Part 2) Microfungi	Lab 21: Angiosperms, Part 2 Lab 13a: Microfungi	
9	Macrofungi	Lab 13b: Macrofungi Surveying and Collecting Fungi	Bring mushrooms/fungi to lab! Thursday, we'll be collecting specimens on campus for DNA sequencing
10	Heterokonts	Lab 14: Heterokonts <b>Lab Practical 2</b>	<b>Lecture Assessment 2</b>
11	Experimental Design Water in Plants	New lab! I will print for you. <b>Lab 5a and 5b: Roots and the Movement of Water</b>	Due to the Tuesday holiday next week, we are squeezing as much of the water content as we can into Thursday's lab!
12	Roots Shoots	No lab Tuesday (holiday) Lab 6: Shoot Anatomy and Morphology	
13	Secondary Growth Leaves	Lab 9: Secondary Growth Lab 7: Leaves	On-campus field trip on Tuesday
Fall Break			
14	Plant Adaptations	Lab 8: Plant Adaptations	<b>Off-campus field trip on</b>

		<b>Field Trip to Cal Poly Humboldt Greenhouse</b>	<b>Thursday</b>
15	Conservation	Review <b>Lab Practical 3</b>	
<b>Finals Week</b>	No labs during finals week (for any classes)	<b>Design a Plant Due</b>	

## Evaluation and Grading Policy

Grades in this course are weighted as follows:

**40% Lab Practicals** - at the end of each of the three units, we'll have a lab practical. There will be stations set up all over the lab that you will work through answering questions about, as well as performing skill-related tasks. We'll practice for these with our weekly lab quizzes. The first one will be worth 40 points, the second one is worth 60 points, and the final lab practical is worth 100 points. This way even if you struggle with the first lab practical, you can make it up with the final.

**30% Lecture Assessments** - at the end of each of the three units, you'll have at least a week to complete an assessment based on the lecture content. These will take place in class on the Lecture Assessment days marked on your schedule.

**15% Lab Quizzes** - every Tuesday at the start of class, we'll have a quiz on the previous week's labs. These quizzes are low-stakes (a relatively small percent of your final grade) and are intended to give you practice for the unit lab practicals. These keep you up on studying the material and practicing your skills.

**15% Lecture Notes** - because our lectures are online, I need a way to make sure you are engaging with the lecture content. For each lecture, you'll take detailed notes that you'll bring to lab each day. The lecture material will prepare you for the lab, so it is essential that you watch the lecture and take notes BEFORE the lab they are related to. Notes must be good quality for full points.

**Assignments must be submitted on time for credit.** Any plagiarism or identified use of AI to complete projects can result in a 0 for the assignment and a report to the Chief Student Services Officer. The Student Code of Conduct (AP 5500) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the College Catalog and on the College of the Redwoods website.

College of the Redwoods has a standardized grading system for converting percentage points to GPA:

>92% A, 90-92% A-, 87-89% B+, 83-86% B, 80-82% B-, 77-79% C+, 70-76% C, 60-69% D, <60% F

## Note About This Course

Taking notes on the lecture content is a required part of the course and is a part of your individual assignments grade. You can attend these in person or watch the recorded lectures online. Lecture assessments will take place IN PERSON, so make sure not to miss these days.

If you need information about what you missed in class on a particular day or what we are doing for a future class, you'll need to find it on Canvas or ask a classmate. If you need to contact me (Maria) about something that is relatively simple, you can email me at [maria-morrow@redwoods.edu](mailto:maria-morrow@redwoods.edu). **If you need to talk to me about something more serious** that might require a longer answer or some discussion, you'll need to make an effort to speak to me in person. You can request a time to meet via email or talk to me before or after class. This will ensure that we can have additional information, options, and support during a more difficult or serious conversation.

### Important Dates

You will have lab practicals on **2/13, 3/26, and 5/2**. You will have lecture assessments on **2/12, 3/20** (submit online), and **5/1**. Your final will be due on **5/8**.

We will have **two off-campus field trips** at the end of the semester: Friends of the Dunes in Manila (4/25) and the Dennis K. Walker Greenhouse at Cal Poly Humboldt (4/30).

You can find our weekly schedule on Canvas.

## Educational Accessibility and Support

College of the Redwoods is committed to providing reasonable accommodations for qualified students who could benefit from additional educational support and services. You may qualify if you have a physical, mental, sensory, or intellectual condition which causes you to struggle academically, including but not limited to:

- Mental health conditions such as depression, anxiety, PTSD, or bipolar disorder
- Common ailments such as arthritis, asthma, diabetes, autoimmune disorders, and diseases
- Temporary impairments such as a broken bone, recovery from significant surgery, or a pregnancy-related disability
- Neurodevelopmental disorders such as a learning disability, intellectual disability, autism, acquired brain injury, or ADHD
- Vision, hearing, or mobility conditions

Available services include extended test time, quiet testing environments, academic assistance and tutoring through the [LIGHT Center](#), counseling and advising, alternate formats of course materials (e.g., audio books, braille, E-texts), assistive technology, learning disability assessments, approval for personal attendants, interpreters, priority registration, on-campus transportation, adaptive physical education and living skills courses, and more. If you believe you might benefit from disability- or health-related services and accommodations, please contact [Student Accessibility Support Services \(SASS\)](#). If you are unsure whether you qualify, please contact Student Accessibility Support Services (SASS) for a

consultation: [sass@redwoods.edu](mailto:sass@redwoods.edu).

## SASS office locations and phone numbers

### Eureka campus

- Phone: 707-476-4280
- Location: Learning Resource Center (Library)

### Del Norte campus

- Phone: 707-465-2353
- Location: main building, near the Library

### Klamath-Trinity campus

- Phone: 707-476-4280