

# **Botany 1010 Plant Biology**

## **Spring 2020 Syllabus**

Lecture:  
T/TH 2-3:15pm  
Bizzini 102

Lecturer:  
Assistant Professor of Botany  
Andrew Gardner  
agardner1@csustan.edu  
Naraghi 261

Office Hrs:  
M/W noon-1pm,  
T 1-2pm,  
or by appt.



### **Course description**

Botany 1010 is a class about plants and our myriad relationships with them. It is also about science. We'll cover domestication, invasive species, agricultural innovations, and genetic modifications and learn about the scientific fields of evolutionary biology, ecology, ethnobotany, and genetics. While this is predominantly a lecture course, we will also explore and characterize our campus landscaping, visit the greenhouse, and participate in debates. With knowledge of the history and dynamics of many human-plant interactions, you'll be better armed to see beyond the headlines. **This course satisfies area B2 of the general education requirement.**

### **Major learning objectives**

This course addresses two GE learning outcomes (Course exercises used to assess them):

- 2.1 Explain and apply basic scientific methods.  
(Tree Phenology project worksheets)
- 2.2 Demonstrate an understanding of the living and non-living physical world.  
(Quizzes, exams, debates)

### Additional learning objectives of this course

1. Understand and apply the structure of scientific argument using tools such as hypothesis testing, replicates, and controls.
2. Understand core plant functions such as photosynthesis and respiration, water, air, and nutrient requirements, transport, etc.
3. Relate plant adaptations at the organ, tissue, and cellular levels to the environmental conditions of its habitat.
4. Connect plant science to current challenges/issues/opportunities (GMOs, water demands, climate change, etc.) that drive political debate.
5. Develop professional communication skills in multiple contexts.

## **Suggested Readings**

I will hold you responsible for only the concepts and content I present during lecture, and because there are no required readings. Additionally, we will be reading and discussing scientific and popular articles this semester. I will provide these via Blackboard and we will use google docs to work together.

Many students find books to be great learning resources, and I will be drawing lecture content from several, including: Bell. *Plant Form: An Illustrated Guide to Flowering Plant Morphology*; Raven, Evert, and Eichhorn. *Biology of Plants*; Graham, Graham, and Wilcox. *Plant Biology*; Judd, et al. *Plant Systematics; a Phylogenetic Approach*

## **Assessment**

To do well in Botany 1010, you will need to come to class and participate actively. In addition, you must be diligent in your studying and group project participation. As with most fields, you will have to master a new vocabulary and practice learning to see patterns which will speed and deepen your comprehension.

Quizzes and exams account for roughly two thirds of your grade. In an exam, you need to articulate a correct answer. Exams will cover the concepts from lecture, and will be multiple choice with matching, short answer and/or diagram questions. You may not leave the room during an exam without my permission. You must turn off cell phones and remove your hats during exams. Accessing your cell phone during an exam is considered cheating and your exam will be treated as such. If you arrive late, after someone has finished the exam and left the room, you will not be able to take the exam.

You need to notify me prior to missing any exam. I rarely administer exams early, but if you have a serious extenuating circumstance, we may be able arrange this. If an emergency suddenly arises causing you to miss an exam, it is your responsibility to notify me via phone or email as soon as practical. Hospitalization, death of a family member, or other serious events would be valid reason for missing an exam without prior notification. Documentation for why you missed the exam is required if you want to take a make-up exam. Make-up exams are different than the regular exams given to the rest of class.

Additionally, you can earn points in several additional activities, including a worksheet, debates, and a project. Late material will lose 25% for each day missed after the deadline.

I'll undoubtedly make a couple of mistakes along the way. If you think I've graded something incorrectly, send me an email and tell me about it and I'll make sure it's right. However, I do have a statute of limitations on regrades: one week from when I return them. February 21 is the census date, which is the last day to drop or add a class, or to switch to CR/NC. Consult with your advisor before making your decision.

Grades are based on the percentage of total points earned and are not "curved."

A	93-100%	C+	77-80%	D-	60-63%
A-	90-93%	C	73-77%	F	0-60%
B+	87-90%	C-	70-73%		
B	83-87%	D+	67-70%	CR	70-100%
B-	80-83%	D	63-67%	NC	0-70%

The schedule is subject to change and will be updated as needs arise.

Date	Activities	Graded items (GE alignment)	Points
T 28-Jan	L1: Syllabus, Plants in religion and symbolism		
R 30-Jan	L2: What's a plant?		
T 4-Feb	L3: Wood and fibers	Q1 (2.2, and other quizzes)	10
R 6-Feb	L4: Morphological diversity		
T 11-Feb	<i>Campus Walk</i>	worksheet	10
R 13-Feb	L5: Starch	Q2	10
T 18-Feb	<b>Exam 1</b>	Exam 1 (2.2, and other exams)	40
R 20-Feb	<i>Tree Phenology start</i>		
T 25-Feb	L6: Life Histories and flowers		
R 27-Feb	L7: Gametophytes, seeds, and fruits		
T 3-Mar	L8: Development and variation	Q3	10
R 5-Mar	L9: Evolution and domestication		
T 10-Mar	L10: GMOs		
R 12-Mar	L11: Grasses	Q4	10
T 17-Mar	<i>GMO debate</i>	Active or audience participation (2.2)	25
R 19-Mar	<b>Exam 2</b>	Exam 2	50
T 24-Mar	SPRING BREAK	SPRING BREAK	
R 26-Mar	SPRING BREAK	SPRING BREAK	
T 31-Mar	Cesar Chavez Day	(Campus Closed)	
R 2-Apr	L12: Ecology	tree phenology worksheet 1 (2.1)	10
T 7-Apr	L13: Legumes		
R 9-Apr	<i>Campus Landscapes 1 (begin)</i>		
T 14-Apr	L14: Agriculture		
R 16-Apr	L15: Climate change		
T 21-Apr	L16: Plant movement	Q5	10
R 23-Apr	<i>watershed debate</i>	Active or audience participation (2.2)	
T 28-Apr	L17: Herbs and Spices		
R 30-Apr	L18: Alcohol, caffeine, and psychoactives		
T 5-May	<i>Campus Landscapes 2 (peer review)</i>	tree phenology worksheet 2 (2.1)	15
R 7-May	L19: Drugs, poisons, and allergens	Q6	10
T 12-May	<i>Campus Landscapes presentations 1</i>	Campus landscapes presentation	30
R 14-May	<i>Campus Landscapes presentations 2</i>		
T 19-May	<b>Exam 3 (2pm - 4pm)</b>	Exam 3	60
		Total	300

## **Expectations related to the learning environment**

### **Students**

- a. I expect students to actively participate in class discussion, group activities, and peer-peer teaching.
- b. I expect students to be prepared for class each day.
- c. I expect students to respect each other, me, the environments in which we'll operate, and themselves.
- d. I expect students will not cheat, but if students do so, they will not be surprised by an automatic F for the assignment or a referral to the appropriate disciplinary committee. Cheating is "submitting an in-class assignment for a student who is not present or submitting work that is not your own, but claiming that it is your own original work." Lying is "communication with intent to deceive" and cheating falls into that category.
- e. Please don't allow your phones to distract you from class. Please restrict your computer and internet usage to relevant classroom activities to keep from distracting your classmates or me.
- f. Please discuss with me any circumstances or accommodations you would need so we can ensure that the class is an environment in which you can learn and have fun. Please do so within the first full week of class, but don't hesitate to talk to me at any time about anything that is impeding your success in class.
- g. Plan ahead and keep up with the assignments; and don't hesitate to talk to or email me if you're having a hard time doing so.
- h. Through this course, we will foster a sense of community as we learn to be better communicators, critical thinkers and citizens. To do this, we must all work to make our class a welcoming and productive place to learn for everyone, regardless of race, ethnicity, sexual orientation, gender identity, age, size, socioeconomic background, religion, spirituality, physical ability, mental ability, or any other aspect of one's identity.

### **Professor**

- a. I will come to class prepared to teach an informative lecture containing information relevant to the learning objectives.
- b. I will strive to help you prepare for your exams by giving you 'signposts' along the way to focus your study.
- c. I will not purposely be sneaky on quizzes or exams, but I have high expectations of everyone, including myself.
- d. I will answer questions respectfully and will begin and end class on time.
- e. I will set policy and strive to be fair to all students.
- f. I will return assignments/tests promptly with useful comments.
- g. I enjoy writing letters of recommendation. Because they are letters of recommendation I do like to be able to recommend the candidate. If you do think you will need a letter from me, make sure you work hard in this class and communicate with me.

TUTORING ON CAMPUS – Free tutoring services are available to assist you in most disciplines, including in biology! - Library 112 - (209) 667-3642 - [www.csustan.edu/Tutoring](http://www.csustan.edu/Tutoring)

CAMPUS COUNSELING SERVICES – Overwhelmed by the stress of juggling classes and your home life? Our campus offers excellent counseling services to help support you! - MSR 210 - (209) 667-3381 - [www.csustan.edu/Counseling/](http://www.csustan.edu/Counseling/)

STUDENT HEALTH CENTER – You have already paid for access to health care on campus. Services include: birth control, flu shots, immunizations, pharmacy, check-ups, HIV testing, TB tests, and doctor's notes for when you are sick! - (209) 667-3396 - [healthcenter.csustan.edu](http://healthcenter.csustan.edu)

ALSO: The Commons, Student Support Services (MSR 230), The Biology Student Association and other student orgs, etc.