BOTANY 1203 - Plant Biology

Lecture: M, W, F, 8:30-9:20, 11:30-12:20, Room: Virtual Instructor: Dr. Jim Cohen Pronouns: he/him/his Office: Tracy Hall 424 E-mail: jamescohen@weber.edu Phone: (801) 626-6174 Student hours: W 1-3 PM or by appointment

Course Objectives: The objective for this course is to introduce you to the unique features of plant biology. We will cover the origins of life; important plants of the world and their habitats; plant diversity, structure, function, and reproduction; plants and environmental science; plants that changed history; practical botany; and botany as a science.

According to Socrates, "Education is the kindling of a flame, not the filling of a vessel." By gathering and discussing botanical knowledge throughout this course, you will have the opportunity to stoke your intellectual flame. If you do so, your flame will burn brighter, and your ability to create, analyze, and synthesize information will grow. If not, the kindling will sit idle, not helping build the fire of your botanical intellect.

The Big Question for this class is: How did Earth's plant diversity evolve?

There are no prerequisites for this course.

- **Student Learning Outcomes**: Upon successful completion of this course, you will be able to: - Summarize the process of Science as a Way of Knowing and interpret scientific findings and how they impact humanity.
 - Define and describe basic terms and concepts for the description and study of plants.
 - Identify plant structures and describe their role in survival and reproduction.
 - Show how basic biological principles shape and affect all aspects of plants.
 - Describe plant energy metabolism.
 - Describe the role of plants as a critical component in biological and ecological processes.

This course is designed to meet the Natural Sciences and Life Sciences Learning Outcomes of Weber State University.

Text: *Botany for Dummies* by Rene Fester Kratz, 2011, ISBN: 978-1-118-00672-6; Additional readings will be provided.

Grading:

Total	700 points
Final Exam (Cumulative)	150 points
Signature Assignment	100 points
Quizzes	50 points
Discussion and reflection assignments	100 points
Exam 3	100 points
Exam 2	100 points
Exam 1	100 points

Course Schedule

Date	Торіс	Reading
Aug. 24	Introduction	349-354
Aug. 26	What is life? What is a plant?	
Aug. 28	Building blocks of life	13-28
Aug. 31	Building blocks of life and cells (V for asynchronous virtual class)	29-42
Sept. 2	Cells	
Sept. 4	Cell division and polyploidy	179-194, 223
Sept. 6	No class - Labor Day	
Sept. 9	Angiosperm morphology, anatomy, and reproduction	81-99
Sept. 11	Angiosperm morphology, anatomy, and reproduction, reflection	43-55
Sept. 14	Angiosperm morphology, anatomy, and reproduction (V)	56-80
Sept. 16	Pollination in the field discussion	
Sept. 18	Apple - Botany of Desire, discussion	Botany of Desire
Sept. 21	Pollination (V)	286-288
Sept. 23	Secondary growth	63-65
Sept. 25	Reflection and discussion	
Sept. 28	Xylem and water transport (V)	147-159
Sept. 30	Phloem and sugar transport	160-162
Oct. 2	Review	
Oct. 5	Exam 1	
Oct. 7	Plant hormones	163-178
Oct. 9	Tulip - Botany of Desire, discussion	Botany of Desire
Oct. 12	Pigments (V)	
Oct. 14	Photosynthesis	109-130
Oct. 16	No class - Fall Break	
Oct. 19	Photosynthesis and cellular respiration	131-146
Oct. 21	Genetics	199-214
Oct. 23	Scientific method and experimental design and reflection	
Oct. 26	Economic botany and ethnobotany (V)	323-340
Oct. 28	Review	
Oct. 30	Scary plants	344-346
Nov. 2	Exam 2	
Nov. 4	Biomes	304-310
Nov. 6	Evolution	215-223
Nov. 9	Conservation biology (V)	
Nov. 11	Algae and Bryophytes	243-253
Nov. 13	Ferns and fern allies and reflection on plant love story	253-264
Nov. 16	Gymnosperms (V)	265-274
Nov. 18	Angiosperms	275-285
Nov. 20	Signature assignment draft discussion	
Nov. 23	Review	
Nov. 25	Thanksgiving plants	
Nov. 27	No class - Thanksgiving	
Nov. 30	Exam 3	
Dec. 2	Potato - Botany of Desire, discussion	Botany of Desire
Dec. 4	Climate change and plants	

The instructor reserves the right to make any changes necessary to the course and will inform the students as changes occur.

Class Behavior: Be respectful of your classmates, and do not disturb them by talking in class, arriving late, or participating in other disruptive behavior. Furthermore, you are not permitted in class to use cellular phones, pagers, two-ways, or other similar types of devices. If you use your cellular phone or other device in class, you may be asked to leave class due to the disruptive nature of your activity. Remember to act as you wish others would act.

Email Policy: I will respond to emails within 48 hours of receiving them, but only if the email includes all of the following: subject, salutation, body, and signature. Correct spelling and grammar are expected.

Make-up Exams and Late Assignments: Turning in assignments after the deadline or scheduling a make-up exam will not be possible unless you discuss the matter with the professor at least 24 hours before the assignment is due or the test is administered. Should there be extenuating circumstances (e.g., severe illness, funeral, accident), contact me as soon as possible in order to reschedule. Should you not follow these guidelines, you will receive a zero for the assignment or exam.

ADA accommodations: Any student requiring accommodations or services due to a disability must contact Disability Services (DS) in room 181 of the Student Services Center or Room 256 at the Davis Campus. Disability Services can also arrange to provide course materials (including this syllabus) in alternative formats upon request.

Academic integrity: The WSU Student Code defines plagiarism as 'the unacknowledged (uncited) use of any other person or group's ideas or work' (Section 6-22, part IV, subsection D, 2, b). Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, falsification, accessing unauthorized course or test information, using unauthorized resources, or breaches of copyright laws. None of these will be tolerated in this class. The penalty for academic dishonesty in this course is failure on the assignment and possibly the course, depending on circumstances.

Inclusive (virtual) classroom: Pivotal to Weber State University's mission is the need to embrace and value the diversity of its members. Acknowledging the uniqueness of each individual, we seek to cultivate an environment that encourages freedom of expression. Because the University is a community where inquiry is nurtured and theories are tested, every individual has the right to feel safe to express ideas that differ from those held by other members of the community. However, all persons who aspire to be part of our campus community must accept the responsibility to demonstrate civility and respect for the dignity of others. Recognizing that the proper balance between freedom of expression and respect for others is not always apparent or easy to achieve, we must continually challenge ourselves and each other in an atmosphere of mutual concern, good will and respect. Therefore, expressions or actions that disparage an individual's or group's ethnicity, gender, religion, sexual orientation, marital status, age or disability are contrary to the mission of Weber State University.

Core beliefs: According to the University's Policies and Procedures Manual (PPM 6-22 IV), students are to "[d]etermine before the last day to drop courses without penalty, when course requirements conflict with a student's core beliefs. If there is such a conflict, the student should consider dropping the class. A student who finds this solution impracticable may request a

resolution from the instructor. This policy does not oblige the instructor to grant the request, except in those cases when a denial would be arbitrary and capricious or illegal. This request must be made to the instructor in writing and the student must deliver a copy of the request to the office of the department head. The student's request must articulate the burden the requirement would place on the student's beliefs.

University closure: If for any reason the university is forced to close for an extended period of time, we will conduct our class via Canvas, e-mail, or whatever form of communication is most conducive to our class structure for each class.

Course Fees: There is no course fee associated with this class.

General Education Course Information: This course is part of the WSU General Education program. GE courses introduce students to academic disciplines through important "big questions" (BQ). At their core, "big questions" provide students the opportunity to integrate and apply their knowledge of the discipline to address a significant, personal, social, or professional issue. GE courses also introduce students to underlying foundational knowledge and intellectual tools that run through all academic areas and are part of the ongoing preparation to address real world problems.

All WSU General Education courses have "signature assignments" (SA) that require you to integrate and apply course content to address a big question with, for instance, critical or creative thinking, problem solving, or analysis. Signature assignments 1) will address a specific audience, 2) will tackle personal, social, or a professional question or issue, and 3) will integrate and apply course content through the use of 4) intellectual tools.

You are enrolled in the WSU General Education course Plant Biology (BTNY 1203) which is designed to tackle the following big question (BQ) "How did Earth's plant diversity evolve?" through the signature assignment (SA) on regional plant diversity. Get excited for more detailed information about the signature assignment for this course.

Covid-19 Revised Course Delivery Information: Our course this semester will include synchronous (meaning that we will meet together, online, at our regularly scheduled class time) online class sessions and asynchronous class material. You can enhance your success in these synchronous sessions by following the guidelines below:

- 1. Students will be required to use web conferencing software such as Zoom, Google Meet and Canvas Conferences for both office hours and synchronous class sessions. A webcam and mic are required to participate effectively in web conferencing sessions.
- 2. Access to video conferencing will be provided via a link in a course announcement. If you are new to Zoom, find easy set up and access information here.
- 3. Copy and paste the URL (or click on the web link) provided by your instructor at the time specified for the meeting. Launch the app (after initially downloading, installing, and logging in), and you will enter the meeting immediately.
- 4. You may choose to use your mobile device.
- 5. Please take note of the following:
 - Make every effort to be logged in to the class session 5 minutes early so we can start on time.
 - Mute your microphone at all times unless you are speaking.
 - When participating in a web conference, it is beneficial for our learning community to see you. Please have your camera on during the event. When

presenting or speaking to the class during a web conference, students are highly encouraged to activate their webcam so others receive the full message, including non-verbals. *NOTE: If you are unable to or wish not to use the video feature, please contact me and we can discuss options.*

- Demonstrate etiquette for online engagement (i.e. pause between speakers so as not to interrupt, use the hand-raising icon to speak, please dress as if you were coming to a face to face class).
- If you need to take a break, please turn off your video and mute yourself. Do not take your device.
- Be engaged! This should be an enjoyable experience.
- 6. I would like you to use a webcam in my class because I want to:
 - know who is in my Zoom lecture for security.
 - get to know my students, especially during these uncertain times.
 - do breakout rooms on Zoom and you need to know who is in your breakout group. I want you to feel comfortable.
 - go around to the breakout room and check in with you. By seeing your name and face, I can see your screen sharing and assess your engagement more effectively.
- 7. For your security, I request that you use your first name and last initial only on your Zoom profile.