PLP 2311: WHAT ARE PLANTS TALKING ABOUT?

Quest 2

I. General Information

Class Meetings

- T10:40 AM – 11:30 AM, R10:40 AM – 12:35 PM
- BLRB 154

Instructor

- Samuel Martins – (please use CANVAS message to communicate with me)
- Office: 2413 Fifield Hall; Box 110680
- Office hours: By appointment
- Phone: (352) 273-4649

Teaching Assistant

- Sophia McDuffee - smcduffee@ufl.edu
- Office location: Fifield Hall
- Office hours: By appointment

This syllabus is subject to change by the instructor if needed.

Course Description

Plants are essential for the survival of most life forms on Earth as they provide us oxygen, wood, food, fiber, medicine and other resources. In the movie *The Martian*, one of the first approaches that Matt Damon took on the new planet was to engineer a way to grow potatoes to survive on the hostile planet.

We tend to think of plants as passive organisms, but plants have been inhabiting this planet for hundreds of millions of years, way before us humans, and have developed sophisticated adaptation mechanisms to sense their environment and to cope with biotic and abiotic stresses. In the last decades surprising discoveries have been made in the plant science field, and there are still many more waiting to be made, as our society still faces challenges like hunger and malnutrition, desertification, soil erosion, pests and plant diseases. Moreover, emerging pathogens and pests are threatening our plants, killing trees and reducing crop yields. Are plants crying out for help and we can't hear? This and other intriguing and scientifically pressing questions will be addressed in this course through the lenses of how we can better understand plants and what we can do to mitigate the aforementioned issues, creating a better place to live and preserving our resources for future generations. This is a multi-disciplinary course within plant science and addresses topics about plant physiology, plant pathology, entomology, and microbiology.

Quest and General Education Credit

- Quest 2
- Biological Sciences

This course accomplishes the Quest and General Education objectives of the subject areas listed above. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.

Required Readings and Works

What a Plant Knows: A Field Guide to the Senses by Daniel Chamovitz (2017). Additional readings will be distributed in class or added on the course site in Canvas.
Materials and Supplies Fees: n/a

II. Graded Work

Description of Graded Work

There will be 10 quizzes (8 required), 3 tests (two-stage style), 2 group assignments, 1 experiential learning assignment, and 1 self-reflection, 3 kahoots.

Quizzes: All quizzes will happen on Thursdays (3 to 6 questions each quiz), and each week students will alternate between responding to the instructor/TA questions and creating and answering their own questions (3 to 6 questions selected by the instructor/TA). For quiz 1 the instructor/TA will provide the questions, quiz 2 students will create the questions, quiz 3 the instructor will provide the questions, quiz 4 students will create the questions, and so forth. For the student-created quizzes, students will use a Google Doc to record their questions, and the link will be provided right before our first student quiz. Students are encouraged to bring a laptop, tablet, or smartphone to class every other Thursday (one Thursday I will provide the questions, the other you will write the questions on Google Docs). If you don't have a laptop/smartphone/tablet, that's fine too. Just communicate with me and we will find a solution.

Each student will create:

- 1 question based on the Tuesday class
- 1 question based on the Thursday class

Then, the instructor/TA will select 3 to 6 questions for the student quiz. We will go over all the quiz questions together immediately after the quiz. The TA will grade the quizzes later and add the grades to Canvas.

In total, we will have 10 quizzes throughout the course, and the 2 quizzes with the lowest grades will be dropped. If you miss up to two quizzes it will not affect your quiz grades, *as you only need 8*. If you miss 3 quizzes, *all with justified reasons*, you are welcome to contact the instructor and TA for a make-up quiz. This is the only circumstance under which a make-up quiz will be given.

Desirable Questions for the Quizzes

- Questions that correlate daily life with the topic taught in class are highly encouraged.
- If a question is multiple choice, it has to have at least four options.
- The point is not to create memorization questions. Try to be creative.
- You cannot create true or false questions, unless you make a false statement and ask why it is wrong and how to correct it.

Tests

The test questions will be 50% compiled from the questions the students create for the quizzes, and the remaining 50% will be new questions created by the instructor. Students will complete an individual copy of the exam questions alone first, which will account for 70% of their test grade. Then, students will work together in small groups (4-5 people) to answer the same exam questions – each group will submit one set of answers that they will collaborate and agree on, and everyone in each group will receive the same score, which accounts for 30% of the exam grade.

During the second stage of the 2-stage exams students are required to take turns physically writing the answers. Everyone is expected to practice active listening and respect their peers' points of view in interpreting the question and results. Before starting the second stage of the exam, students should discuss how they will proceed in case of a disagreement on an answer. For example, one solution could be that the majority's opinion will be the final answer and in case of an even disagreement (eg. two members believe the correct answer is A and 2 other students think that the correct answer is B), the student who is holding the paper and pen/pencil will decide on the final response.

Experiential Learning

Searching for Signs of Plant Interactions: By the end of week 9, students are expected to be familiar with plant senses and some of the interactions (the good and bad ones) that plants have with the environment and other organisms.

Students will present their findings during class via PowerPoint and show the interaction that they identified (signs of plant responses or interactions with biotic and abiotic factors). Students will need to show a picture (*taken by the student*) of the plant and explain the plant's responses and/or interaction, location, and why the interaction is happening. Only one plant interaction between plant and other organisms/environment is expected to be explained. My expectation for the assignment is that you would use materials from class, including the book *What a Plant Knows*, but if you would also

like to include outside sources you are welcome to. For the citations, you can use any style as long as it is used correctly.

This is an individual assignment and is worth a total of 10 points. The written part (min 200 words and max min 500 words) is worth 5 points and the presentation (~ 4 min long) is worth 5 points. The presentation will be during class and you will need upload your presentation to the class Google Drive folder (it will be provided in Canvas) a day before your presentation. As soon as you take your picture and know your plant interaction, be sure to write your name, date, and the interaction that you will be presenting in the Google Drive to avoid repetitive presentations. In case of repetitive topics, the student who filled out the form first will present. The other student needs to take another picture about another plant interaction. If the interaction is not already listed in the Google drive: https://docs.google.com/spreadsheets/d/1vhJdSU-7rfOOGHw-MgpO7KSraF8kYmsb/edit?gid=687052406#gid=687052406, students need to obtain approval from the instructor to present on that interaction.

Self-Reflection

Genetically modified food: Pros vs Cons

After debating in class about the use of biotechnological approaches to grow and manage plants, students will be asked to write a self-reflection essay about their point of view on the use of biotechnological approaches in agriculture (min 500 words; max 900 words). There is no right or wrong side. You won't be evaluated based on your point of view. The justifications and points you make will be assessed in the self-reflection. Students are supposed to submit the assignment individually via Canvas. The self-reflection should cover at least the following points:

- Are you pro or anti GMOs?
- What is the main reason that makes you pro or anti GMO?
- Give a real example that justifies your perspective on this issue.
- Present at least 2 more reasons that make you pro or anti GMO and give examples.
- What are the possible consequences in the short and long term with or without GMOs, depending on the side you defend? If you are pro GMO you will talk about the consequences without it and vice-versa.

For the citations, you can use any style as long as it is used correctly.

Group Assignments

Group Assignment I: Plants Can Save the World!

A group of 3 students will identify a plant/tree that can be used to mitigate a problem that our society faces.

A few examples of problems that can be remediated by using plants are, but are not limited to:

- Plants used to control human or plant parasites (nematodes)
- Phytoremediation: the use of plants to remediate contaminated soils
- Plants that mitigate soil erosion
- Plants and human health (e.g. anxiety, Alzheimer, Parkinson's disease, etc.)
- Plants and air pollution mitigation
- Plant disease control with other plants
- Hidden hunger solved with plants
- Plants used to solve crimes
- The use of plants as biofuels (corn, sugarcane, other, if any)

- Others

Students are welcome to identify other environmental, agricultural, human, etc. issues and select a specific plant to develop their work. Once the plant and problem are identified, each group needs to send this information to the instructor/TA two weeks after the first day of class. A google doc was created (https://drive.google.com/drive/u/1/folders/1F8IN7ceVlXKJr4mzT3_Zu7lXy1Vm9Gtb), and each group is encouraged to take a look at the doc before choosing their plant and problem, to prevent topic overlap from happening.

Each group will have 8 to 12 minutes to present about their topic. In addition to the presentation, a written report (min 500 words; max 900 words using Times New Roman size 12 and 1" margins) should be submitted via Canvas. The following subtopics should be part of the written report and presentations:

- What is the problem that your group selected, and what impact does the problem have on our society?
- Are there methods used to mitigate the problem that you selected? If yes, is there any drawback about using these method(s)?
- Common name and scientific name of the plant that your group chose
- Origin and distribution of the plant
- Ideal conditions to grow it
- Include some special characteristics of the plant (e.g. it is used for decoration because of the beauty of the flower, the wood is highly valuable in the marketplace, etc.)
- How can the plant mitigate the problem that you selected? If possible, explain the mechanism
- How widely the plant is/can be used/applied.
- Is it economically viable to use the plant compared to other methods?
- What is your opinion about the use of the plant? Do you have an opinion on something that needs to be changed/improved?

The work should be split equally among students in the group, and each student will use a different font color and present a legend at the end of the assignment. E.g. First paragraph (topics Z, Y, etc), Second paragraph (topics X, T, etc). Legend: Maria, Joe.

Important note: For any assignment, if you submit it late, your score will be reduced by 0.5 points per day. For example, if you submit your assignment that is worth 10 points 2 days after the deadline, your submission will earn a maximum of 9 points. **Therefore, plan to submit your assignment early. No excused can be made in case of technical/internet problems**. For the citations, you can use any style as long as it is used correctly.

The following rubric will be followed to assess the group assignment:

- *Written part:*
  - Were all subtopics present? Yes=100%; missing some=80%; less than half=50%
  - Is the written part less than 900 words? Yes=100%; no=80%; double=50%
  - Is the text properly cited? Yes=100%; no=70%
- *Presentation part:*
  - Were all subtopics present? Yes=100%; missing some=80%; less than half=50%
  - Did the presentation fit within the time scheduled? Yes=100%; no=80%; double=50%
  - Did everyone in the group present? Yes=100%; no=70%; just one person=50%

Group assignment Submission: Only one student from each group needs to submit the written assignment on behalf of the group via Canvas. Similarly, one student will need to upload their presentation to the Google Drive (it will be provided in Canvas) before class.

Group Assignment II: Jigsaw Activities

During some classes students will be divided in groups of 3 to 4 students and given a specific topic related to the lecture. The students in each group will work together to understand the topic thoroughly. Then the students from each group will be reconfigured into new groups that include one member of each of the original student groups. In these new groups, each student will explain their topic to the members of the new group. In the end, the objective is to give out the main points of the lecture as "jigsaw pieces" to the first student groupings, and to then rearrange students to complete the "puzzle" of material being covered, with the intention of a deeper understanding and engagement from the students. The Jigsaw activity is an efficient way to learn the course material in a cooperative learning style, and it encourages listening, engagement, and empathy by giving each member of the group an essential part to play in the academic activity.

Grading Scale

For information on how UF assigns grade points, visit: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

A	94 – 100%		C	74 – 76%
A-	90 – 93%		C-	70 – 73%
B+	87 – 89%		D+	67 – 69%
B	84 – 86%		D	64 – 66%
B-	80 – 83%		D-	60 – 63%
C+	77 – 79%		E	<60

Grading Rubric(s)

List of Graded Work

Assignment	Description	Type	Points
Quizzes	8 quizzes at 3 points each (total=24)*	Individual	24
Group Assignment II	Plants Can Save the World! (written part)	In Group	8
Group Assignment II	Plants Can Save the World! (presentation: 8-12 min)	In Group	8
Kahoot 1**	Non-cumulative (1st third)	Individual	1
Test 1	Non-cumulative (1st third)	2-stages	14
Experiential Learning	Searching for Signs of Plant Interactions (written part)	Individual	5
Experiential Learning	Searching for Signs of Plant Interactions (presentation in class: 4 min)	Individual	5
Kahoot 2	Non-cumulative (2nd third)	Individual	1
Test 2	Non-cumulative (2nd third)	2-stage	14
Self-reflection	Genetically modified food: Pros vs Cons	Individual	6
Kahoot 3	Non-cumulative (3rd third)	Individual	1
Test 3	Non-cumulative (3rd third)	2-stage	13
***Total points			100

*There will be 2 extra quizzes, but the maximum grade for the quizzes you can earn is 24. If you miss 3 quizzes, ***all with justified reasons***, you are welcome to contact the instructor and TA for a make-up quiz. This is the only circumstance under which a make-up quiz will be given.

** You need to be present in class and play the Kahoot to receive the 1 point participation.

***A satisfactory grade will be earned with the equivalent of a "C-" grade or better (70-100 points). There will be no rounding up for final grades, except if the difference to reach a whole number is ≤ 0.05%. Eg. 90.95% will be rounded up to 91. However, 90.94% will remain 90.94%.

III. Annotated Weekly Schedule

Week/ Date	Activity	Topic/Assignment (Question/Subject)
		MODULE I
Week 1 Jan 9 - 11	Topic	• Introductions • Course Overview • Why Do Plants Matter? Are Plants Aware?
	Summary	This first week you will get to know me (instructor and the TA) and your classmates and become familiar with the course structure. We will also discuss the importance of plants to our planet and learn how plants are acutely aware of the world around them.
	Readings/Works	Course Syllabus Why Humans Couldn't Exist Without Plants (1 page) Epilogue: The Aware Plant (from page 157 to 163). Charmovitz D, 2017.
	Assignment	Think-Pair-Share
Week 2 Jan 16 - 18	Topic	• What is the Scientific Method? • Organic Molecules • DNA & Mutations: The Raw Material for New Features
	Summary	This week we will begin to talk about the steps of the scientific method. We will also identify the types of organic molecules, their structural components and functions, which will help us to understand the signaling molecules that plants use to interact with their surroundings and communicate. We will talk about the impact of mutations on creating different types of cells, organisms, and populations, ranging for example from photosynthetic to carnivorous plants.
	Readings/Works	How are gene mutations involved in evolution? (1 page) Plants turn caterpillars into cannibals (2 pages) Science at FMNH - Early Land Plants (5:35 min video)
	Assignment	Quiz 1 & Quiz 2; Online poll

Week/ Date	Activity	Topic/Assignment (Question/Subject)
Week 3 Jan 23 - 26	Topic	• Scientific Method: Step 1: Research Step (Guest Lecture: Suzanne Stapleton) • The Plant Cell Structure • The Plant Structure
	Summary	This week we will learn at Marston Library how to do a research search, gaining hands-on experience guided by a librarian. We will also explore the inside of a plant cell and understand the cell components and their functions as well as different plant structures, some of them used in plant communication.
	Readings/Works	Plant Cell Structure (2 pages) Plants and Their Structures (4 pages)
	Assignment	Quiz 3; Online poll
Week 4 Jan 30 – Feb 1	Topic	• Plant Signaling Molecules • Kahoot & Test 1
	Summary	This week we will talk about the signaling molecules that plants use to interact with their surroundings and to communicate among themselves.
	Readings/Works	Plants Have Hormones, Too, and Tweaking Them Could Improve Food Supply (3 pages)
	Assignment	Online poll
		MODULE II
Week 5 Feb 6 - 8	Topic	• Scientific Method: From Observation to Hypothesis • Do Plants See? • Do Plants Smell?
	Summary	This week we will focus on explaining the first steps of the scientific method and will also start talking about plant senses. We will start with sight and smell and discuss ways that plants communicate with one another and with other organisms from different kingdoms.
	Readings/Works	What a Plant Sees (pages 9 to 26). Chapter 1, Charmovitz D, 2017. What a Plant Smells (pages 27 to 48). Chapter 2, Charmovitz D, 2017. Climate Change May Make Plants More Fragrant (2 pages)
	Assignment	Quiz 4

Week/ Date	Activity	Topic/Assignment (Question/Subject)
Week 6 Feb 13 - 15	Topic	• Scientific Method: Data Analysis • Do Plants Feel? • Do Plants Remember?
	Summary	This week we will talk about data analysis for the scientific method part. We will also continue to talk about plant senses and will explain the ways that plants can remember by responding differently to the same event, including touch, that happened in the past.
	Readings/Works	What a Plant Feels (pages 69 to 90). Chapter 3, Charmovitz D, 2017. What a Plant Remembers (pages 135 to 156). Chapter 6, Charmovitz D, 2017. Plants Can Sense Animal Attacks Coming (2:34 min audio) Do Plants Think? (3 pages)
	Assignment	Quiz 5; Online poll
Week 7 Feb 21 - 23	Topic	• Student Presentations for Group Assignment II: Plants Can Save the World!
	Summary	This week students will present in groups (15 min each presentation) about a solution to a current problem by using a plant.
	Readings/Works	No Readings This Week
	Assignment	Student Presentations for Group Assignment II: Plants Can Save the World!
Week 8 Feb 20 – 22	Topic	• Scientific Method: Data Analysis (Part II) – Report & Conclusion • Do Plants Hear? • Do Plants Taste? • Proprioception: The Plant's 6th Sense
	Summary	This week we will talk about the final steps of the scientific method. Students will have hands-on experience in data analysis. We will also look at plants' sense of hearing and learn how plants know where things are. We will examine the plant's response to gravity and look at some examples such as the sunflower, which daily responds to the sunlight.
	Readings/Works	What a Plant Hears (pages 91 to 112). Chapter 4, Charmovitz D, 2017.

Week/ Date	Activity	Topic/Assignment (Question/Subject)
		Do Plant Taste? (pages 49 to 68) Chapter 3, Charmovitz D, 2017. How Does a Plant Know Where It Is? (pages 91 to 113). Chapter 6, Charmovitz D, 2017. Plants May Let Out Ultrasonic Squeals When Stressed (2 pages)
	Assignment	Quiz 6; Online poll
Week 9 Feb 27 - 29	Topic	• Kahoot • Test 2
	Summary	This week we will do a review using trivia (kahoot) and do the second test for the first half of the course.
	Readings/Works	No readings for this week
	Assignment	Kahoot; Test 1
		MODULE III
Week 10 Mar 5 - 7	Topic	• Plant Domestication & Plant Taxonomy • The Bad Interactions: Weeds (Guest Lecture: Carlene A. Chase) • The Bad Interactions: Plant Diseases
	Summary	Now that we have seen the plant senses, we will explore plants' interactions with the world around them. First, we will learn how plant domestication impacted the way plants interact with the environment (good and bad interactions) and the importance of classifying and giving names to plants (plant taxonomy). We also will talk about diseases and weeds, which are part of the bad interactions.
	Readings/Works	Where Did Agriculture Begin? Oh Boy, It's Complicated (2 pages) Monoculture Farming in Agriculture Industry (7 pages) The Plant Disease Doughnut, a Simple Graphic to Explain What is Disease and What is a Pathogen (2 pages) What are Weeds and Why do we Care? (2 pages) Hungry Planet: Stories of Plant Diseases (3 pages)
	Assignment	Quiz 7
Week 11 Mar 12 - 14		---------- **Spring Break** ----------
Week 11 Mar 19 - 21	Topic	• The Bad Interactions: Pests (Guest Lecture: Morgan Byron) • Experiential Learning Presentations: Signs of Plant Interactions
	Summary	This week we will finalize the bad interactions with talking about pests.

Week/ Date	Activity	Topic/Assignment (Question/Subject)
		Students will present their experiential learning assignments.
	Readings/Works	Plants Turn Caterpillars into Cannibals (2 pages)
	Assignment	
Week 12 Mar 26 - 28	Topic	• The Good Interactions: Do Plants Cooperate Among Themselves? Plants and Beneficial Microbes • Plants and Soil Health (Guest Lecture: Dr. Yang Lin)
	Summary	This week we will look at the relationship between plants and beneficial microbes, such as bacteria and fungi, as well as viruses. We will explain where these microbials and viruses are found in the plant and what the benefits are for the plant to have them around. We will also see ways that plants cooperate with their neighbors. We will discuss the benefits that modern agricultural systems have brought us, but also some ecologically destructive impacts and other challenges that we currently face when dealing with plants in food production. We will go over the factors that make up healthy soil, which will help grow healthier and stronger plants.
	Readings/Works	Tiny Microbes, Big Yields: Enhancing Food Crop Production With Biological Solutions (3 pages) Healthy soil is the foundation of productive, sustainable agriculture (1 page & 2 min videos)
	Assignment	Quiz 8; Online poll
Week 13 Apr 2 - 4	Topic	• Plants and Pesticides • Plants, GMOs, CRISPR, and Food Security
	Summary	This week we will explore and debate on the use of biotechnological approaches used in agriculture, such as genetically modified organisms (GMOs) and clusters of regularly interspaced short palindromic repeats (CRISPR). Are they friends or foes? We will also discuss the impact that pesticides have had on agriculture.
	Readings/Works	Potential Health Effects of Pesticides (5 pages) GMOs – Top 3 Pros and Cons (2 pages) These Charts Show Every Genetically Modified Food People Already Eat in the U.S. (4 pages) The Food of the Future (51:44 min video) CRISPR in Agriculture: An Era of Food Evolution (6 pages)
	Assignment	Quiz 9, Debate

Week/ Date	Activity	Topic/Assignment (Question/Subject)
Week 14 Apr 9 - 11	Topic	• Biofortification: Fighting the "Hidden Hunger" (Guest Lecture) • Growing and Managing Plants with AI (Guest Lecture)
	Summary	This week we will discuss the role of biofortification in bringing food with more nutritional value home and the impact of "hidden hunger," or micronutrient deficiency, on the human population. We will end the week talking about how artificial intelligence has transformed the way we grow and manage plants.
	Readings/Works	Biofortification: It All Starts with A Seed (2:42 min video) The Futuristic Farms That Will Feed the World (6:19 min video) Agriculture's Improving Image: Drones, satellites & data analysis drive a new agricultural revolution (2 pages)
	Assignment	Self-Reflection Assignment Due Quiz 10
Week 15 Apr 16 - 18	Topic	• Are Plants Crying out for Help? • Final Message
	Summary	In this final week we will go over the journey we have been on discussing the plant senses. We will identify the benefits and issues that the advent of agriculture brought us as well as the new technologies currently being used to mitigate the challenges we face while growing plants. We will discuss the evidence that plants have given that we need to change the course of our actions in order to preserve our planet.
	Readings/Works	New Research On Plant Intelligence May Forever Change How You Think About Plants (23:48 min audio) When plants cry out for help, their neighbors start screaming, too (2 pages) Are Giant Sequoia Trees Succumbing to Drought? (10 pages)
Week 16	Assignment	Exam 3

IV. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the Quest and General Education learning outcomes as follows:

Content*: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline(s)*.

- Students will be able to identify, describe, and explain:
    - the importance of plants to our planet.
    - the similarities of human senses and plant senses.
- **(Quest 2 SLOs:** Identify, describe, and explain the cross-disciplinary dimensions of a pressing societal issue or challenge as represented by the social sciences and/or biophysical sciences incorporated into the course.)
- **Assessment:** Student competencies will be assessed through class participation, jigsaw activity, quizzes, and test 1

Critical Thinking: *Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).*

- Students will be able to analyze and evaluate:
    - how plants interact with their surroundings: the good and bad interactions.
    - the impact of monoculture on plant health and on the environment.
    - how we can better understand plants and what can we do to mitigate issues associated with plants (e.g. pests, diseases, pesticide overuse, soil erosion, etc.) in order to preserve our planet.
- **(Quest 2 SLOs:** Critically analyze quantitative or qualitative data appropriate for informing an approach, policy, or praxis that addresses some dimension of an important societal issue or challenge.)
- **Assessment:** Student competencies will be assessed through class participation, quizzes, test 2, and experiential learning

Communication: *Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline(s).*

- Students will be able to develop and present:
    - the importance of a selected plant in mitigating an important environmental issue.
    - solutions to the negative impact that modern forms of growing and managing plants have brought us.
    - parts of the course material in a cooperative learning style in a small group of students (3 to 4 students).
- **(Quest 2 SLOs:** Develop and present, in terms accessible to an educated public, clear and effective responses to proposed approaches, policies, or practices that address important societal issues or challenges.)
- **Assessment:** Student competencies will be assessed through class participation and group projects

Connection: *Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.*

- Students will be able to connect course content with their own personal beliefs and behaviors regarding the pros and cons of modern technological approaches used to grow plants in our society.
- **(Quest 2 SLOs:** Connect course content with critical reflection on their intellectual, personal, and professional development at UF and beyond.)
- **Assessment:** Student competencies will be assessed through discussion (debate) and self-reflection

V. Required Policies

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report

any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: http://www.counseling.ufl.edu/ , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at http://writing.ufl.edu/writing-studio/ or in 2215 Turlington Hall for one-on-one consultations and workshops.

Use of AI for Written Assignments Only

It is crucial for you to ensure you understand the material and can independently apply critical thinking and analysis to the assignment. Language models/Chatbots, such as ChatGPT, can aid in exploring perspectives and refining arguments. If you decide to use language models for your written assignments be sure to verify the information provided, as the assignment will be evaluated based on your critical analysis and incorporation of the response generated by AI into your essay.

In-Class Recordings

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the

publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.