

Plants, Plagues, and People

I. Course Information

Course term: [Spring 2021](#)

Meeting Day/Time: [Tuesday \(10:40 AM – 11:50 AM\) & Thursday \(10:40 AM – 12:35 PM\)](#)

Location: [FIF2318](#)

General Education Designation: [Biological Sciences & History](#)

A minimum grade of C is required to earn general education credit. More information on grades and grading policies can be found here:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Instructor

Samuel Martins – sj.martins@ufl.edu

Office: [2413 Fifield Hall](#)

Office hours: [Friday, 3:00 – 5:00 PM. Emailing for an appointment will ensure that there will be no waiting time.](#)

Phone: [\(352\) 273-4649](tel:(352)273-4649)

Teaching Assistant (TA)

Nichole Barber: nbarber@ufl.edu

Office hours: [1444 Fifield Hall](#)

Office hours: [by appointment](#)

[This syllabus is subject to change by the instructor if needed.](#)

Course Description

Plants, Plagues, and People is a biohistory course. Within biology we discuss the origin of life and life diversity and its interactions. We will address how life has evolved and why things are the way they are. Students will be able to reflect upon the environmental factors and life interactions that have been influencing life on Earth since its beginning and how those interactions influence and constrain human activities. Course themes include geologic times, origin of life, first forms of life on Earth, environmental pressures and resource limitations, diseases, and the roles that these factors have played in human civilization up to modern times.

Required & Recommended Course Materials (to purchase/rent)

There is no required text. Selected readings will be distributed in class or provided electronically within the course modules in Canvas.

II. Coursework & Schedule

There will be 14 quizzes, 2 tests, and multiple participation opportunities. The grading scale is built on a point-based system, with “extra credit” points built in.

1. List of Graded Work

Assignment	Description	Points
Quiz Scores	14 quizzes at 3 points each (total=42)	30
Test 1		25
Test 2		25
Participation		20
Total points		100

A satisfactory grade will be earned with the equivalent of a “C-” grade or better (70-100 points).

Quizzes: Students will be divided in three or two groups, depending on the number of students. Ideally, we will have groups with 3 students each. Groups will work collaboratively on quizzes and assignments.

In your collaborative quiz groups, you will be responsible for selecting a question theme and creating:

- 1 question based on the Tuesday class
- 1 question based on the Thursday class
- Complete answers to both questions

Even though the two questions can be related, they should not be rephrased to ask the same thing.

Quiz 1 will be provided by the instructor and TA and offer a good example of the types of quality questions you should be creating with your group. Subsequent quizzes will include three questions created by other groups. 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. We will have 14 quizzes throughout the course, and the four quizzes with the lowest grades will be dropped. If you miss up to four quizzes, for example, it will not affect your quiz grades, as you only need 10. However, your chances for a stellar grade improve with each quiz and you are more likely to receive a better grade if you complete all 14 quizzes. Therefore, plan to participate in class as much as you can.

Desirable Questions for the Quizzes

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

Tests: About 50% of the questions you and your classmates create will be used in the midterm and final exam. Students will first take the test individually (worth 60% of the total points in the test).

The individual tests will be collected, and a new sheet with the same questions will be distributed to each student. This time they will be asked to answer to the same questions in groups, and this test score will be worth 30% of the total test grade. This part will be distributed for the last 30 minutes of class or right after all the last students finish the first part.

For the remaining 10% of the test, students will be asked to individually write a reflection about the test method used by answering these ten questions:

- What did you think about doing the test individually as compared to in a group?
- Did you learn anything from your colleagues that was not clear before?
- Did you find it faster to do the test in a group than by yourself? If yes, why?
- Did you find it easy to collaborate with your peers? If yes, why?
- Were there any problems when doing the test in groups?
- Did any of the questions you created show up on the test? If yes, do you think you remembered the answer?
- Explain why you agree or disagree with the following statement: Creating questions helped me to learn the subject.
- Do you have any preference regarding answering quiz questions made by your peers as compared to your instructor? Why?
- Any additional comments?

There are no right or wrong answers for this part. As long as you write something that is truthful and understandable to whoever reads it, you will receive 10%.

Participation: There will be multiple opportunities for participation in class throughout the semester in addition to regular questions and comments made by students during classes. Some examples of other participation activities are a one minute paper, where students will have the opportunity to write down questions and feedback, jigsaw, where students will work in groups to learn a specific subject and then share with the other students, communicating errors in the syllabus (broken links and others) to the instructor/TA, etc.

Extra Credit: There are 12 extra credit points built into the course (12%) distributed in 4 extra quizzes. These extra quiz points allow you the flexibility to “make up” missed quiz or test points by doing the four additional quizzes. There will, however, be no “individual” extra credit opportunities offered; the only extra credit offered will be from assignments available to the entire class.

2. Weekly Course Schedule

Week/ Date	Activity	Topic/Assignment (Question/Subject)
Week 1 Jan 12 Jan 14	Topic	Introductions Geologic time and the Human Speck Organic molecules: life’s building blocks
	Elective Online Readings	<ul style="list-style-type: none"> • University of California Museum of Paleontology (1997). <u>Plate Tectonics: The Rocky History of an Idea (1 page)</u> • University of California Museum of Paleontology (1997). <u>Plate Tectonics: The Mechanism (1 page)</u> • Utah Geological Survey (Milligan, 2011). <u>How do Geologists Know How Old a Rock Is? (1 page)</u>
Week 2 Jan 19 Jan 21	Topic	Origins of life Reading DNA, Writing Proteins Mistakes in the code (Good news? Bad news? Who knows?) Mutations and Populations
	Elective Online Readings	Video: <u>How Life Began (11 min)</u> <u>Life On Earth (8 page)</u> <u>Genetic Code (3 page)</u> <u>Reading the Genetic Code (1 page)</u> <u>Lactose Tolerance (1 page)</u> <u>Genes Involved In Tomato Color And Flavor (3 page)</u> Video: <u>Natural Selection (7 min)</u>
Week 3 Jan 26 Jan 28	Topic	Prokaryotes: hot, fast, cheap and easy Eukaryotes: cells get organized & the invention of sex The Mechanics of Sex (no, not THAT kind of mechanics...)
	Elective Online Readings	<u>Endosymbiotic Hypothesis (1 page)</u>

		<u>Eukaryotic Cells (4 page)</u> <u>Chromosomal Abnormalities: Aneuploidies (2 page)</u>
Week 4 Feb 2 Feb 4	Topic	Energy production and transfer: making and breaking bonds Energy storage and use: food chains to fossil fuels Sea of Life: Cells get together and make critters Sea of Life: Diversity of Life
	Elective Online Readings	<u>Overview of Metabolism (4 page)</u> <u>Food Chains & Food Webs (6 page)</u> <u>How CO2 Moves Among Different Carbon Pools (1 page)</u> <u>Volvox, Chlamydomonas, and the Evolution of Multicellularity (4 page)</u> <u>Homeotic Genes (6 page)</u> <u>Expanded Gallery Of Animal Phyla (14 page)</u>
Week 5 Feb 9 Feb 11	Topic	Land Invasion, I: Plants Land Invasion, II: Fungi and Stramenopiles
	Elective Online Readings	<u>Evolution of Plants (3 page)</u> <u>World of Fungi (2 page)</u> <u>Florida Museum Article (2 page)</u>
Week 6 Feb 16 Feb 18	Topic	Land Invasion, IV: Animals, the Vertebrates Land Invasion, III: Animals, the Arthropods Land Invasion, V: The Cheaters, part 1 (protozoans and flatworms) Land Invasion, V: The Cheaters, part 2 (roundworms of plants & people)
	Elective Online Readings	<u>African Sleeping Sickness (Trypanosomiasis) (1 page)</u> <u>Chagas Disease (1 page)</u> <u>Chagas Disease More Prevalent in US Than Thought (2 page)</u> <u>Leishmaniasis (1 page)</u> <u>Malaria (1 page)</u> <u>Schistosomiasis (1 page)</u> <u>Liver Flukes (1 page)</u> <u>Tapeworms (1 page)</u> Documentary: <u>NOVA Wonders What's Living in You? (54 min)</u>
Week 7 Feb 23 Feb 25	Topic	I'm an Amniote, and I'm ok Mammals: from belly buttons to nipples The Precarious Rise of the Mammals

		Primate Primer From Primates to People (Lucy's got a big ol' butt)
	Elective Online Readings	<u>Introduction to the Amniotes (1 page)</u> <u>How The Earliest Mammals Thrived Alongside Dinosaurs (7 page)</u>
Week 8 Mar 2 Mar 4	Topic	Test 1 Case Studies in Extinctions Mechanisms of speciation and extinction
	Elective Online Readings	No Readings For This Week
Week 9 Mar 9 Mar 11	Topic	Hunting and Gathering to the Advent of Agriculture Early Agriculture and Domestications Human Populations: Carrying Capacities and Malthusian Limits The Rise (and fall and rise and fall ...) of Civilization: Sumerian The Rise (and fall and rise and fall ...) of Civilization: Harrapan The Rise (and fall and rise and fall ...) of Civilization: Egyptian
	Elective Online Readings	Reading(s) are available on Canvas
Week 10 Mar 16 Mar 18	Topic	Meanwhile, on other parts of the planet... Asia Peopling and Civilizations of the Americas Back in the Fertile Crescent: from States to Empires Greeks and Science
	Elective Online Readings	<u>The Tangled Roots of Agriculture (3 page)</u> <u>Exponential and Logistic Growth</u> <u>Population Dynamics Lesson (4 page)</u> <u>The World's First Big City (5 page)</u> <u>Five Things I Learned About Sumerian Beer (3 page)</u> <u>The Fall of the Egyptian Old Kingdom (4 page)</u> <u>Statue of Ramesses II (1 page)</u>
Week 11 Mar 23 Mar 25	Topic	Roman Rise, and Roman Science The Decline and Fall of Rome: Logistics & Disease Civilization and Human Diseases Density-dependent Diseases: 8 diseases that love a crowd Civilization and Plant Diseases: Infecting your food
	Elective Online Readings	<u>Account of the Murder of Hypatia (1 page)</u> <u>Measles May Have Emerged When Large Cities Rose, 1500 Years Earlier Than Thought (2 page)</u>

		<u>From Poisoning to Pharmacy: a Tale of Two Ergots (4 page)</u> <u>Phytophthora infestans (4 page)</u> <u>Clues and Evidence (1 page)</u>
Week 12 Mar 30 Apr 1	Topic	The Middle Ages: Shifting Climates, Shifting People Black Death
	Elective Online Readings	<u>The Black Death May Have Transformed Medieval Societies In Sub-Saharan Africa (2 page)</u>
Week 13 Apr 6 Apr 8	Topic	The Columbian Exchange I: Race for Resources The Columbian Exchange II: The Unintended Exchanges Fuel for a Renaissance: Imperialism & Slavery Renaissance Culture & Science
	Elective Online Readings	<u>The "Muslim Curtain" (1 page)</u> <u>William Bradford, 1633, describes the effects of smallpox on the Native Americans (1 page)</u> <u>Olive Tree (11 page)</u>
Week 14 Apr 13 Apr 15	Topic	Industrial Revolution I: Power and Invention Industrial Revolution II: Biology and Medicine Industrial Revolution II: Culture and Consequences Global Economics and Resource Conflicts in the Modern Era Green Revolution
	Elective Online Readings	<u>The Day We Discovered The Cause Of The 'White Death</u> <u>Potato Bright And Irish Famine (2 page)</u> <u>Louis Pasteur: Scientist, Beer Brewer, Zit-Popper (2 page)</u> <u>Friederich Engels, excerpts from "The Condition of the Working-Class in England in 1844" (1 page)</u> <u>Frogs: The Thin Green Line (1 page)</u>
Week 15 Apr 20	Topic	Populations, Demands, and Resource Limitations Energy Junkies Tying it All Together
	Elective Online Readings	No Readings For This Week
Apr 27	Final	Test 2

III. Grading

3. Statement on Attendance and Participation

Attendance and Participation:

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/UGRD/academic-regulations/attendance-policies/>

Disability Accommodations are made as soon as possible upon receipt of an accommodation letter from the Disability Resource Center <https://disability.ufl.edu/students/get-started/>. If you are submitting a letter, it is your responsibility to communicate which specific accommodations you will need in order to fully participate in the course. We are more than happy to provide accommodations so that every student can get the most out of this course, but we rely on you to communicate your needs in a timely manner so that we may meet them fairly and appropriately. 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.

Academic Integrity standards will be upheld vigilantly at all times in this class. Upon registering at the University of Florida, you signed the following statement: "I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." 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." You will be expected to keep these commitments in every aspect of your participation in this class.

4. Grading Scale

For information on how UF assigns grade points, visit:

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Letter Grade	Percentage	Points
A	92-100	92-100
A-	90-91.99	90-91.99
B+	88-89.99	88-89.99
B	82-87.99	82-87.99
B-	80-81.99	80-81.99
C+	78-79.99	78-79.99
C	72-77.99	72-77.99
C-	70-71.99	70-71.99
D+	68-69.99	68-69.99

D	62-67.99	62-67.99
D-	60-61.99	60-61.99
E	0-57.99	0-57.99

IV. Learning Experiences

5. This Course's Student Learning Outcomes (SLOs)

By the end of this course, you should be able to:

- Explain how life appeared on the planet and what environmental conditions were necessary for its appearance;
- describe the progression of life forms on Earth and explain how environmental pressures affect populations of living organisms;
- explain the value of plants to human beings and describe the impacts that the development of agriculture and the use of fossil fuels have had on human populations and societies;
- discuss the effects of biological resource limitations on major historical events and cultural trends;
- distinguish between density-independent and crowd diseases, and describe how various diseases have affected humans and their civilizations;
- give examples of human activities that have led to increases in human, animal, and plant diseases.

V. Required Policies

6. Attendance Policy

This class is 100% in-person; therefore, students are expected to be physically present in the classroom. For most of the classes, we will have collaborative work and active learning, where students will be graded for participating in groups. For that reason, students are encouraged to only miss class if they have a justifiable reason (if they get sick, accident, etc).

7. 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/>.

8. 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.

9. Counseling and Wellness Center

UF Counseling Services provides resources on campus for students having difficulties which may interfere with their academic performance. Programs are available for general therapy, stress management, anger management, math confidence, career counseling, LGBTQ support, and many other specific needs. Resources available to you include:

- 1) **University Counseling Center**, 301 Peabody Hall, 392-1575
- 2) **Student Mental Health Center**, 392-1171
- 3) **Sexual Assault Recovery Services (SARS), Student Health Care Center**, 392-1161
- 4) **Career Resource Center**, Reitz Union, 392-1601

10. 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.

11. Software Use and Copyright

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

12. Covid related Policy

All students, TAs, and myself (instructor) are expected to wear masks. A few extra masks will be available in the classroom for those who forgot or lost them on the way to the class. If a student refuses to wear a mask, I will ask you to put one on. If they still refuse, I will have to ask the student to leave the class. Refusal to wear a mask will be reported to the Dean of Student's Office.

VI. Contacting the Instructor

13. Individual Questions, Problems, or Appointments

Please use the email function in Canvas to communicate with the instructor and TA during the semester, rather than regular university email, except in extreme emergencies. Email and phone messages delivered on weekdays (M-F) will generally receive a reply within two business days. Messages may not be checked between 5:00 pm Friday and 8:00 am Monday; messages received over the weekend will generally receive a response on Monday. If I plan to be out of the office or otherwise unavailable, I will post an announcement on Canvas.

14. Technical Support

If you experience difficulties with accessing components of the site, including the syllabus and grades, contact the UF help desk immediately. If they are not able to resolve your problem, contact the instructor with your help desk ticket number and a description of the problem and steps taken to resolve it. Extensions for due dates will be granted for documented technical problems, as needed.