



College of Liberal Arts and Sciences

Department of Biology

**BSC2010 PHPB: *Genetics***

Fall 2021 – 3 credits

**INSTRUCTOR CONTACT INFORMATION:**

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**COURSE DESCRIPTION:** This course uses an online/face-to-face hybrid model, with some face-to-face lectures and some online/remote discussion activities; modality for each date is listed the course schedule included in this syllabus. In BSC2010, establish a coherent foundation of knowledge in biology and to prepare students for comprehension in advanced biology courses and science in general. Fundamental concepts discussed include the scientific methods by which we come to know things in science, the chemical composition and processes that make up all life, genetic processes and the means of inheritance of traits, the mechanisms and processes of natural selection, and adaptation and evolution of life on Earth. An additional course goal is to develop critical thinking skills for development of reasoned thought and for evaluation of life experiences.

**LECTURE HALL:** Turlington 2303 Meets Monday 4:05p – 4:55p and Wednesday 4:05 – 6:00p. Content lectures will be delivered in-person, and will not be offered online.

**ONLINE ACTIVITIES:** You will need a laptop for exams, which will be proctored using HonorLock, and for and online and remote group activities held using Zoom. The dates for remote learning are listed in the course schedule table below. You can access the Zoom links in canvas using the *Zoom Conferences* tab.

**OFFICE HOURS:**

- Office Hours: Mondays 12:50p – 1:50p in Carr Hall room 521.
- Office Hours by appointment: Wednesdays from 11:40a – 1:40p. Appointments are offer through Zoom on Wednesdays from 11:40a – 1:40p. Make your appt and access the meeting link through the *Canvas Calendar*.

**REQUIRED TEXTBOOKS AND WEBSITE:**

**A. Online Resources/Homework Launchpad** is an online assignments and tutorial system from the textbook publisher. It is required for this course and includes an e-book with purchase. Each new copy of *the Principles of Life* textbook comes automatically packaged with Launchpad. If you purchase a used textbook you will still need to purchase access to Launchpad. You are required to have access to Launchpad for the ENTIRE course. It is your responsibility to ensure that your access DOES NOT expire before the end of the semester. **Instructions on correctly registering for LaunchPad will be available on the Canvas course site once the semester has started. Please wait for these instructions before registering for LaunchPad; incorrect registration on LaunchPad may result in receiving zero points for all LaunchPad assignments.**

**B. Purchase of Textbook and LaunchPad Access**

Please note that this course participates in the UF All Access program. Students will have a few options to gain access to the textbook and LaunchPad for Principles of Life when classes begin:

**C. Course Website (Canvas)**

Class material including the syllabus, discussion readings, and problem sets, exam results, some lecture slides and other information related to the course will be posted on the course Canvas website (<http://lss.at.ufl.edu>). The course is found under “E-Learning in Canvas”. You are responsible for **all** announcements made in lecture and/or posted on the course website for this class.

For help with Canvas, call the UF Computing Help Desk at 352-392- 4357, or visit the Canvas support website: <https://lss.at.ufl.edu/help.shtml>.

**NOTE:** This syllabus is subject to change at the discretion of the instructor.

## COURSE SCHEDULE:

WEEK	MONDAY 4:05 – 4:55	WEDNESDAY 4:05 – 6:00
1: Aug. 23 & 25 Read: CH1, CH2	L1 Introduction	L2 Atoms and molecules
2: Aug. 30 & Sept. 1 Read: CH3	L3 Biomolecules	L4 Cell structure
3: Sept. 6 & 8 Read: CH4, CH6	<b>HOLIDAY</b>	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L5 Cell membranes and signaling Group Activity: Cell Signaling
4: Sept. 13 & 15 Read: CH5	L6 Metabolism I	L7 Metabolism II
5: Sept. 20 & 22	REVIEW for Exam 1 CH1 – CH6	<b>EXAM 1 (Honorlock)</b>
6: Sept. 27 & 29 Read: CH7, CH8.1	L8 Mitosis and Meiosis	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L9 Mendel Group Activity: Punnett squares
7: Oct. 4 & 6 Read CH8.2-8.3, CH9.1	L10 Mendel II	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L11 Gene Linkage Mapping and DNA Group Activity: Chromosome mapping
8: Oct. 11 & 13 Read CH9.2-9.3, CH10	L12 DNA Replication	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L13 Transcription and Translation Group Activity: Central dogma
9: Oct. 18 & 20 Read: CH11	L14 Gene Regulation I	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L15 Gene Regulation II Group Activity: The <i>lac</i> operon
10: Oct. 25 & 27	REVIEW for Exam 2 CH7 – CH11	<b>EXAM 2 (Honorlock)</b>
11: Nov. 1 & 3 Read: CH13	L16 Evolution	<i>ONLINE via Zoom. NO FACE-TO-FACE</i> L17 Types of Selection Group Activity: Hardy-Weinberg
12: Nov. 8 & 10 Read: CH14, CH15	L18 Phylogenetics	L19 Phylogenetics and Genome Evolution
13: Nov. 15 & 17 Read: Ch15, CH16	L20 Genome Evolution	L21 Speciation
14: Nov. 22 & 24	L22 Review	<b>HOLIDAY</b>
15: Nov. 29 & 31 Read: CH17	L23 History of Life	L24 The Fossil Record
16: Dec. 6 & 8	REVIEW for Exam 3 CH12 – CH17	<b>EXAM 3 (Honorlock)</b>
Finals	<b>All Make up Exams December 13: 3p-5p (Honorlock - Online)</b>	

### Course Grading Scale

93.00-100% (A)	83.00-86.99% (B)	73.00-76.99% (C)	63.00-66.99% (D)
90.00-92.99% (A-)	80.00-82.99% (B-)	70.00-72.99% (C-)	60.00-62.99% (D-)
87.00-89.99% (B+)	77.00-79.99% (C+)	67.00-69.99% (D+)	0-59.99% (E)

Exams will be 70 minutes, are not be cumulative, and will cover the lectures, readings, pre-lecture quizzes for a module.

<b>Exam Schedule:</b>	<b>Date</b>	<b>Time</b>
Exam 1, Module I	9/22/2021	4:05p-5:15p
Exam 2, Module II	10/27/2021	4:05p-5:15p
Exam 3, Module III	12/13/2021	3:00p-5:00p

**GRADE BREAK DOWN:**

LaunchPad Work	<b>30 %</b>
Exams (3 online via Honorlock)	<b>45 %</b>
Online Discussion Activities	<b>25 %</b>
<b>Total</b>	<b>100 %</b>

**COURSE OBJECTIVES** - By the end of this course, students will:

- Describe a scientific hypothesis and identify testable predictions that logically follow
- Compare and contrast the components of prokaryotic and eukaryotic cells and the molecular processes driving cellular structure and functions
- Outline the process and molecular components of key metabolic pathways
- Describe the relationship between genotype and phenotype
- Predict the RNA and protein sequences that will be transcribed and translated from a given gene
- Predict the immediate and long-term effects of specific gene mutations
- Discuss the evidence that all living things are descended from a common ancestor and have changed and diversified into species through time
- Describe the primary mechanisms of evolutionary change
- Identify sources of genetic variation in populations and explain how this can be shaped in the presence of natural selection and other evolutionary forces
- Interpret and evaluate phylogenetic trees and use them to distinguish evolutionary predictions
- Outline major fundamental events in the history of life on Earth, including changes to biogeochemical cycles connected with major evolutionary transitions

**COURSE AND UNIVERSITY POLICIES:**

**ATTENDANCE:** Attendance is required for all online discussion activities, which will be held on some Wednesdays online using Zoom, and there will be **no face-to-face meetings for these online small-group activities**. These dates are indicated on the course schedule in this syllabus. For all other meeting times, we will meet face-to-face on our lecture hall.

**ASSIGNMENTS:** Requirements for class attendance and make-up exams, assignments, and other work in this course is consistent with university policies. Your assignments should be professionally presented with well-organized ideas and materials. Please proofread your work. All assignments will be submitted through LaunchPad or canvas, depending on the assignment, and this will be indicated.

**EXAMS:** No make-up exams will be given without prior permission or documentation of illness. There are three exams; one for each module. An exam will cover lectures, reading, and pre-lecture quizzes for one module. Practice exams materials will be provided.

**Missed exams:**

*Unforeseeable and documented medical emergency:* If you miss an exam due to an unforeseeable medical emergency I will schedule you to take the exam after the exam date. You will need to work with the Dean of Student's Office (DSO) and request that they **send me your** letter on your behalf requesting a make up the exam. I will need to receive this DSO letter within 5 business days of the original exam date. **PLEASE DO NOT SEND ME YOUR DOCTORS NOTE** – to protect your privacy **DO NOT** send me a long email detailing your personal situation. Send all of that information to the Dean of Student's office, and they will verify your excuse, and send me a request letter. The DSO letter is *only* a request, I still make the final decision.

*Foreseeable and documented schedule conflicts:* Any change to your exam time must be scheduled two (2) weeks

before the exam date. If you have a foreseeable conflict with a scheduled exam time/date (due to a sporting event, another exam at the exact same time. we will **schedule for you to take the exam early** – *exams will not be taken late*. You will provide me with any verifiable documentation.

### **Accommodations for Students through the Disability Resource Center**

Students requesting accommodation for disabilities must first register with the [Disability Resource Center \(DRC\)](#) - The DRC will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodations. Students should contact the DRC and complete this process as early as possible in the term for which they are seeking accommodations.

### **UF Student Honor Code**

UF students are bound by the Honor Pledge which states, “We, the members of the UF 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 UF, 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](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

### **Online Course Evaluation Process**

Students will be using the course evaluation system called GatorEvals. Students can complete their evaluations through the email they receive from GatorEvals, in their Canvas course menu under [GatorEvals](#).

### **Student Assistance and Emergencies**

University support services are available to students who are experiencing significant distress and/or personal emergencies. As appropriate please contact:

- [Counseling and Wellness Center \(CWC\)](#): or (352) 392-1575
- University Police Department: (352) 392-1111 or 9-1-1 for emergencies.
- [U Matter, We Care](#): If you or a friend is in distress, or please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or (352) 392-1575 so that a team member can reach out to the student.
- Sexual Assault Recovery Services (SARS): Student Health Care Center, (352) 392-1161.

### **Academic Resources**

- [Library Support](#): For various ways to receive assistance with respect to using the libraries or finding resources.
  - LibGuides are websites to help you find information about a specific area of study or even a specific class.
- [Teaching Center: Broward Hall](#), call (352) 392-2010 or (352) 392-6420 for general study skills and tutoring.
- [Writing Studio](#): 302 Tigert Hall, call (352) 846-1138 for help with papers.
- [E-learning Technical Support](#): call (352) 392-4357 (select option 2), e-mail [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu),
- [Career Connections Center](#): Reitz Union, call (352) 392-1601 for career assistance and counseling.

### **Student Complaint Process**

The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

- Information for [residential courses](#)
- Information for [online courses](#)

## **COURSE EXPECTATIONS:**

### **Reading:**

Please complete reading assignments and reading quizzes designated in the syllabus or otherwise assigned by the instructor ***prior to the class meeting***. Your responsibility is to be prepared to engage in large and small-group discussions. You are encouraged to take notes and/or highlight text while reading to assist you in contributing to class discussions and assignments.

### **GatorLink E-mail:**

Students are required to have and use their GatorLink account (@ufl.edu) for all UF related e-mail functions. Official university communications are sent to students at this email address. You are responsible for staying informed and current with all correspondence sent to you over the listserv.

Instructor may take *up to 48 hours* (longer on weekends) to return your emails. So, if you are waiting until the last minute to complete your assignments it may not be possible for you to reach us in a timely manner for us to assist you. I will aim to reply to emails within 24 hours.

### **Canvas Website:**

Students are required to use the canvas website. Additional course readings, information about assignments, and course-related announcements will be posted on this website. Check Announcements for update and reminders. Use the Canvas Calendar Application to sign up for online office hours.

### **Special requests for individual students:**

I do not grant special requests, favors or privileges to individual students. I have a fair and generous set of policies to begin with that apply to ***all*** students. I do not offer extra credit for individual students. Before you make a special request, read the syllabus carefully, and figure out how your particular request would be applied to all of the students in the class.

### **Requesting letters of recommendation:**

I have had up to 1400 students in a semester, and as many as 2000 individual students in a year. I say “no” to many requests for letters of recommendation, so only the very top students that have shown leadership, class citizenry (helped out classmates, encouraged others to participate), and high-level content learning (top grades on assignments and exams) throughout the semester will be considered. If I agree to write a letter to support your application I will need: your transcript, your personal statement and a draft of the letter (you will write it as if you were me) including the information you would like me to address such as how long we have known each other, the class you were in, what grade you got in the class, and any distinguishing accomplishments that you achieved ***in my class***.

### **Disputes over assignment grades:**

It is important that you keep up with your grades, and check them over right away. If you believe your work has been graded incorrectly, you will need to *request a regrade from your instructor by email within 1 week of the time you receive the grade*. Be prepared to refer to textbook pages or lecture slides where your answer came from. Once 1 week has passed, your original grade will stand, even if a mistake *has* been made by the grader.

### **Rules of engagement and communication:**

Mature and respectful behavior is expected from all members of our class in all interactions with instructors, guest presenters, and other students. Side conversations, sleeping, and reading other course material (or *The Alligator*, etc.) are not appropriate and may negatively impact your learning.

To protect the First Amendment rights of students to speak in class and express their differing views, I ask that you limit your discourse during our class activities to respectful and welcoming tones, behaviors, language and actions – and whenever possible, use published scientific data to bolster your opinions. I also expect you to be open to opinions, ideas, and scientific data that differ from your own views and beliefs, understanding that all fact-based opinions are welcome in the class and that differing perspectives are valued.

Your email and face-to-face discourse with your instructor and classmates should be professional, polite and

respectful at all times. Make sure your requests of my time are requests, and not demands.

If anyone in our class is abusive or harassing toward you, please bring this to my attention, and we will address it with the Student Conduct & Conflict Resolution Office (SCCRO), or you can contact the SCCRO directly. The SCCRO is there to help us, and to protect *all students*, including students accused of abusive behavior. Working with the SCCRO does not mean a student is necessarily “in trouble.” It means that behaviors are disrupting student learning or content delivery, and are beyond my training, capability, or time and labor constraints to address.

**Technology:**

Technology may contribute to active learning, and may serve as a distraction. Use of computers/tablets should be limited to note-taking, assigned readings, and in-class exercises. Emailing, texting, and social media should be limited to before and after class and during breaks during in-class sessions. There are legitimate reasons to have a cell phone in the classroom (on call responsibilities, family emergencies, etc.), and they may also serve as a distraction. Please balance these needs appropriately. You will be asked to put away technology if you have been found to be a distraction.

**Covid Pandemic Precautions and Courtesies:**

Masks are optional at UF. However, masks are always acceptable for those who wish to wear them. The CDC recommends that those not fully vaccinated for COVID-19 continue to wear masks, particularly indoors; and even those who are fully vaccinated may choose to wear masks for a variety of reasons. Thank you for supporting your fellow Gators as they balance health, comfort, and other considerations in their decision to wear or not to wear a mask. For all students that visit my office hours in Carr Hall room 521, I prefer that we both wear a mask in my office. I will meet with one student at a time in my office.