

**Biology 211/211D: BIODIVERSITY, ECOLOGY, AND CONSERVATION BIOLOGY**

**Sections 9 & 10 (4 credit hours), Fall 2020**

Lecture: TR 12:15-1:30

Discussions: Section 9, F 1-4pm, Section 10, R 1:45-4:45

**Instructor:** Amanda Kelley (she/her)

Email: kelleyad1@cofc.edu

Office hours: email me to schedule a Zoom meeting

**Course format:** This section is offered as **Synchronized Online Meetings**. Lectures will take place in two formats:

1. Voicethread, which can be viewed any time before the week's milestone quiz (asynchronous)
2. Zoom, which happen during our regularly scheduled Thursday blocks

The week's Voicethread lectures will be posted before the Tuesday lecture slot. You may watch them any time before the weekly milestone quiz on Thursdays. The milestone quizzes will be on OAKS, and open from 12-12:30 on Thursdays. After the quiz, the class will meet via Zoom (12:40-1:30) to give you a chance to ask questions and work through some activities with your peers.

**Recording of Classes (via Zoom):** Class sessions will be recorded via both voice and video recording. By attending and remaining in this class, the student consents to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in the class. All students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

**OAKS:** OAKS, including Gradebook, will be used for this course throughout the semester to provide the syllabus and class materials and grades for each assignment, which will be regularly posted.

**Online Expectations:** This course is going to be much different from the in-person classes you've taken. As such, it's essential that you and I know what we can expect of each other in this new format.

I expect you to:

- Check OAKS before each regularly scheduled class block. I highly recommend that you turn on email notifications in case there need to be last-minute changes.
- Watch weekly Voicethread lectures in a way that supports your learning
- Attend Zoom meetings and participate to the best of your ability. For team breakout sessions, this will mean turning on your video and audio.
- Communicate with me via your CofC email account if you need help

You can expect me to:

- Keep you informed of any necessary changes via OAKS announcements
- Post materials to OAKS with ample time for you to view them
- Check in on you if you begin to miss Zoom meetings or assignments
- Show you compassion and reasonable flexibility if circumstances change

**Getting help:** I encourage you to post general or content-related questions where your peers can benefit, such as in the OAKS discussion forum or on the relevant Voicethread. I also encourage you to ask questions during our Thursday Zoom meetings. However, I am also available to answer questions one-on-one via email and Zoom. When emailing, be sure to include your course in the subject line. You can expect a reply within 24hrs Monday through Friday, 8am-5pm. If you have a lot of in-depth questions, do schedule a Zoom meeting rather than writing a long email.

**Textbook (recommended):** Biological Science, 6th ed., S. Freeman et al.

**Prerequisites:** Biology 111, 112

**Course Description:** This course focuses on biology at the level of the whole organism and above, including how organisms interact with their environment, how organisms are related, and how human activity affects life on Earth. During the semester, you will be introduced to three areas of focus: (1) population biology, including population ecology and evolution; (2) interactions among organisms and their environments at the community, ecosystem, and biosphere levels, and (3) biodiversity and the study of how groups of organisms are related by common descent.

**Course Structure:** Doing biology requires understanding concepts and using practical skills to develop and test those concepts. To address both of these features, this course includes two essential components – lecture and discussion – which contribute to a single grade.

*Lecture* will introduce you to key concepts in ecology, biodiversity, and conservation biology.

*Discussion* will help you develop practical skills used in interpreting, conducting, and communicating science. You will gain experience examining primary scientific literature; organizing, visualizing, and analyzing data; identifying research questions and designing experiments; presenting science both orally and in writing.

**Student Learning Outcomes:** At the end of this course, students are expected to be able to:

- explain the forces that lead to evolutionary change within populations and diversification among species
- interpret the evolutionary relationships depicted in phylogenetic trees
- build a foundation of knowledge about life’s diversity and interrelatedness
- apply ecological and evolutionary principles to the conservation of biodiversity
- describe the processes by which populations of organisms change in size
- discuss how interactions with the physical environment and with other organisms influence populations and communities
- demonstrate the impact of human resource use on ecological systems
- synthesize knowledge from ecology with social and/or economic systems to address sustainability problems
- demonstrate the following professional skills: use primary literature, generate scientific questions and pose testable hypotheses, analyze data to evaluate hypotheses, use quantitative models to describe biological processes, and write for a scientific audience

**Assessment**

**LECTURE**

Milestone quizzes (10 * 2%)	20%
Midterm	15%
Final exam	15%
Lecture assignments (13 * ~1.15%)	15%

		B+	87-89 %	C+	77-79 %	D+	.67-69 %
A	> 92 %	B	83-86 %	C	73-76 %	D	63-66 %
A-	90-92 %	B-	80-82 %	C-	70-72 %	D-	60-62%
						F	< 60%

**DISCUSSION**

Discussion assignments	30%
Proposal	5%

**Milestone quizzes:** There will be 11 milestone quizzes throughout the semester to ensure that you are keeping pace with the material. The quizzes will be posted to OAKS (under Grades > Quizzes) and will be available between noon and 12:30 on Thursdays. Each quiz will consist of five multiple choice questions. The milestone quizzes are open notes/open book, but will be timed. Your lowest-scoring quiz OR first missed quiz will be dropped.

**Midterm and final exam:** The midterm and final exam will follow the same general format as the quizzes, and will cover material from both the lecture and select discussions. The final exam will be cumulative.

**Lecture assignments:** Thursday (12:40-1:30pm) will be our weekly opportunity for real-time discussion and questions via Zoom. Meetings will take one of two formats:

1. Some weeks, you will work with a group of 4-5 peers in a Zoom breakout room to discuss and answer a series of questions aimed to help reinforce concepts you've already encountered in the lectures. I will not grade the completed assignments, but your group must 1) meet with me over Zoom before you sign off for the day, and 2) submit your completed sheet on OAKS. You must attend the Zoom in order to receive marks for each in-class assignment.
2. Other weeks, the Voicethread lectures will be longer, so the Zoom meeting will be an optional open discussion/office hour. During these weeks, your lecture assignment will be to make an individual video response on Flipgrid.

**Discussion Format:** The discussion assignments grade (30%) is broken into smaller weekly assignments and activities, most of which are completed in groups during the discussion. Typically, the grades for discussion activities are based on completion and engagement. My goal here is to give you a space where you feel free to voice your ideas without being penalized. When practicing science, mistakes are both common and necessary! However, you can expect me to meet with your team to discuss your findings and make sure you're on the right track.

### *Conservation Project & Proposal*

You will work with a team on a multi-week research project. Your team will investigate an imperiled or invasive species, survey the literature, write an annotated bibliography, and identify existing gaps in the current research. After you decide on the highest priority topics, you'll divide them among team members. Each individual will then write their own research proposal, and teams will present on their species and proposed research. Details will be on OAKS.

**Late Policy:** Assignments submitted after the time due but on the same day will receive -10%. For each additional day late, up to 5 days, the submission will receive -10%. Any later submissions will not be accepted after they are 5 days late, and will receive a zero. If you submit an assignment late, you must email me to let me know.

**Absence policy:** Students are expected to attend all classes. Legitimate reasons to miss class include emergencies, illness, or other urgent compassionate reasons. Non-urgent/non-emergency situations (i.e. wedding, medical and/or counseling appointments, work schedule, etc.) are not valid reasons, and will not be granted accommodations.

This year, the College will not have an Absence Memo program. If you've missed class due to an emergency, illness, or other urgent compassionate reason, please contact me directly after you've missed class. I will not require you to give me an explanation for your absence. Instead, I will trust that you are being honest that the reason for your absence is legitimate.

ITEM	ACCOMMODATION POLICY FOR EXCUSED ABSENCE
Milestone quizzes (2% each)	Each student's first missed quiz will be automatically dropped.  For 2+ quizzes missed before the midterm, the weight of the quizzes can be added to the midterm.  For additional quizzes missed after the midterm, the weight of the quizzes can be added to the final exam.
Midterm (15%)	The weight can be shifted to final exam, making it worth 30% instead of 15%.
Final exam (15%)	You should miss the final exam under only the most extreme circumstances, since there is little time/opportunity for a make up. Options will depend on how much of the course has been missed.
Team assignments: Lecture (~5%)	Since team assignments are designed around discussion with peers, they cannot be submitted individually if you miss class. The weight of missed lecture team assignments can be added to the final exam.
Team assignments: Discussion (30%)	If you miss 1-2 discussions, you may complete the extra credit assignment (5%) to make up the grades.  If you miss more than 5% worth of discussion grades, you may complete an additional graded assignment as part of a team with others who have also missed >5%. Details will be given later in the semester if such an accommodation becomes necessary.

Transfers in weight will not carry through to the “final grade” calculation in the OAKS system, so I recommend that you keep track of your running grade in a personal excel sheet if you receive accommodations for excused absences. Due to security reasons, I cannot email you an updated grade. I will post corrected grade summaries before the withdrawal deadline, and before the final exam.

**Extra Credit:** For 5% extra credit, you may read and complete an assignment on *Spillover: animal infections and the next human pandemic* by David Quammen. Details will be provided on OAKS.

Also, if you complete all course assignments and quizzes, you will receive an extra 1% on your final grade.

**Re-grading:** Requests for regrading must be made within one week of the work being returned. Students must provide a written justification for the change of grade using the grading rubric/key. Requests to fix addition errors must also be made within a week of the grade posting.

**In Class (Zoom) Expectations:** Be respectful of the learning environment, and do not behave in a way that disrupts other members of the class. Silence your phone and refrain from using technology for non-course content. We may be discussing some potentially hot topics, so consider whether your comments will be hurtful before you voice them.

**Names and Pronouns:** I will gladly address you by the name and pronouns of your choice. I encourage you to add them to your Zoom profile. If your preferred name is different from what is on your CofC account, please let me know via your college-issued email account or during office hours.

**Honor Code and Academic Integrity:** Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to misunderstanding and confusion will be handled by the instructor. The instructor designs an intervention or assigns a grade reduction to help prevent the student from repeating the error. The response is recorded on a form and signed both by the instructor and the student. It is forwarded to the Office of the Dean of Students and placed in the student’s file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent.

Students can find the complete Honor Code and all related processes in the Student Handbook at:

<http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

**Accommodations for Disabilities:** The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed. For more information, see <http://disabilityservices.cofc.edu/>

**Center for Student Learning:** The Center for Student Learning’s (CSL) academic support services provide assistance in study strategies, speaking & writing skills, and course content. Services include tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843) 953-5635.

**Food Insecurity:** If you are facing challenges in securing food (such as not being able to afford groceries or get sufficient food to eat every day) or housing (such as lacking a safe and stable place to live), please contact the Dean of Students for support (<http://studentaffairs.cofc.edu/about/salt.php>). Also, you can go to <http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php> to learn about food and housing assistance that is available to you. There are several resources on and off campus to help, including the Cougar Pantry in the Stern Center (2nd floor), a student-run food pantry that provides dry-goods and hygiene products at no charge to any student in need.

**Physical & Mental Health Resources:** If you are struggling with illness, there are services on campus to help you. If you find yourself experiencing physical illnesses, please reach out to student health services (843.953.5520). And if you find yourself experiencing any mental health challenges (for example, anxiety, depression, stressful life events, sleep deprivation, and/or loneliness/homesickness) please consider contacting either the Counseling Center (professional counselors at <http://counseling.cofc.edu> or 843.953.5640 3<sup>rd</sup> Robert Scott Small Building) or the Students 4 Support (certified volunteers through texting "4support" to 839863, visit <http://counseling.cofc.edu/cct/index.php>, or meet with them in person 3<sup>rd</sup> Floor Stern Center). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

**Institutional Syllabus Statement Regarding the Fall 2020 Semester:** The College of Charleston is committed to promoting the health and safety of our campus community. To that end, all faculty and students must abide by public health guidelines that include practicing social distancing in the classroom and elsewhere on campus, following signage indicating the entrance, exit, and traffic flow in and around campus buildings, wearing a mask or cloth face covering while in the presence of others, washing or sanitizing hands frequently, sanitizing individual and shared learning and work spaces, and staying home when sick. These practices are mandatory. Students will not be allowed to attend class without an appropriate face covering or when showing symptoms of illness.

Due to social distancing requirements, the number of students allowed in the classroom at one time is significantly reduced. As a result, most in-person courses will include a variety of online and technology enhanced components to ensure continuity of learning for each student throughout the semester. These strategies will vary by course section and students are advised to read each syllabus carefully. Faculty have planned each course to enable all students, whether they are in the classroom or working remotely, to be fully engaged in the learning experience. Before the drop/add deadline, students should decide whether the course plan on the syllabus matches their own circumstance. All faculty will use OAKS to facilitate student access to the course syllabus, course materials, and the gradebook. The College of Charleston's standard grading system is in effect.

There is a possibility that the semester will be disrupted by weather or the pandemic. Every course syllabus will include a plan for a change in modality to ensure the continuity of learning in the event in-person classes must be suspended. Regardless of the method of instruction, all courses will move online for one week after Thanksgiving. Final exams will be administered online. Therefore, all students must have access to a computer equipped with a web camera, microphone, and Internet access. Resources are available to provide students with these essential tools.

The College anticipates that some members of the community will fall ill or test positive for the coronavirus, and then be required to quarantine thereby missing class, assignments, and assessments. Faculty are expected to provide reasonable accommodations as determined by the content, level, and expectations of their courses for students who become ill or indicate a need to isolate themselves. To the extent possible, arrangements will be made for students with COVID-19 related absences to continue in the class. Faculty are encouraged to make explicit in their syllabus what sorts of accommodations students can expect with respect to missed course meetings, assignments, and assessments. However, students should be aware that extended absences for any reason cannot be accommodated in every course. **Missed assignments and assessments may result in poor or failing grades. If a student is absent from class for an extended period, a withdrawal (W) before the deadline should be strongly considered.** In all cases, assigning course grades is the responsibility of the instructor consistent with the grading policy published on the syllabus.

## Schedule (subject to change, as needed)

NOTE: Readings and required video viewings are to be done as preparation for many classes. Readings and weekly in-class activities are not reflected on the schedule. They will be announced on OAKS at least one week prior to the due date.

VT = Voicethread lecture

WEEK	DATE	LECTURE ACTIVITIES	DISCUSSION
1	Aug 25	Zoom: Introduction to the course Activity: group questionnaire	No discussion
	Aug 27	VT: Evolution Flipgrid: Introductions	
2	Sept 1	VT: Natural Selection	Questions in species conservation (team worksheet, completion, 2%)
	Sept 3	<b>Quiz 1</b> Zoom: Team activity	
3	Sept 8	VT: Evolutionary processes, Speciation	Pokemon Taxonomy (team worksheet, completion, 2%)
	Sept 10	<b>Quiz 2</b> Zoom: Team activity	
4	Sept 15	VT: Sexual selection	The dawn of de-extinction (team worksheet, completion, 2%)
	Sept 17	<b>Quiz 3</b> Zoom: open discussion/office hour Flipgrid: Reflections on sexual selection	
5	Sept 22	VT: Geologic Time, Pathogens	Conservation project: introduction to project, finding & using sources (annotated bibliography, graded, 2%)
	Sept 24	<b>Quiz 4</b> Zoom: Team activity	
6	Sept 29	VT: Bacteria & Archaea, Early Eukaryotes	Conservation Project: Research Priorities (team worksheet, completion, 2%)
	Oct 1	<b>Quiz 5</b> Zoom: Team activity	
7	Oct 6	VT: Plants 1, Plants 2	Statistics and visualizing data (team worksheet, completion, 2%)
	Oct 8	<b>Quiz 6</b> Zoom: open discussion/office hour Flipgrid: Plant Show & Tell	
8	Oct 13	VT: Fungi, Early Animals	Experimental Design (team worksheet, completion, 2%)
	Oct 15	<b>Midterm</b>	
9	Oct 20	VT: Non-bilaterians & Lophotrochozoans, Ecdysozoans	Conservation project: peer review (3 peer reviews, graded, 3%)
	Oct 22	<b>Quiz 7</b> Zoom: open discussion/office hour Flipgrid: Learning & Conservation	
10	Oct 27	VT: Early Deuterostomes & Fish, Amphibians & Reptiles	Conservation project: time to work on symposium presentation (Voicethread, graded, 4%, due following discussion) <b>Proposal due Oct 28 (5%)</b>
	Oct 29	<b>Quiz 8</b> Zoom: open discussion/office hour Flipgrid: Transition to Land	
11	Nov 3	VT: Evolution of Mammals, Mammal Diversity	Conservation project: "symposium"  (Voicethread views & comments, completion, 2%)
	Nov 5	<b>Quiz 9</b> Zoom: open discussion/office hour Flipgrid: Mammal Evolution	
12	Nov 10	VT: Birds, Community Ecology	Time to complete biodiversity survey  <b>Extra credit due Nov 12</b>
	Nov 12	<b>Quiz 10</b> Flipgrid: Biodiversity Show & Tell	
13	Nov 17	VT: Climate Change, Topics in Conservation	Climate Action (team worksheet, completion, 2%)
	Nov 19	<b>Quiz 11</b> Zoom: Team activity	
14	Nov 24	VT: Behavioural Ecology <b>No classes Nov 25-27</b>	No discussion <b>Biodiversity Survey due Nov 24 (3%)</b>
15	Dec 1	Kahoot: Review	The Uniqueness of Humans (team worksheet, completion, 2%)
	Dec 3	Zoom meeting: Review Questions	