

Biodiversity, Ecology and Conservation Biology
BIOL 211 – Fall 2018
Sections 08, 09 and 12

Instructor

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Meeting Time and Place

Lecture: MWF 09:00 - 09:50 am, RITA 154

Discussion:

- Section 08: M 1:30 - 4:30 pm, RITA 271
- Section 09: W 1:30 - 4:30 pm, RITA 271
- Section 12: F 1:30 - 4:30 pm, RITA 281

(any change in meeting place will be announced in class and/or emailed)

Classroom Communications

We will use OAKS for assignments, schedules, announcements, etc. Pdf copies of lectures will be posted after they are given. Students are expected to frequently check the course OAKS site. All assignments must be submitted on OAKS' Dropbox, and should not be emailed to the instructor, unless otherwise stated.

Note: This syllabus is subject to change. Please check OAKS for the most recent version.

Course Details

Course Description

This course will be organized under the main theme of Conservation Biology, a field that strives to describe, understand and forecast biodiversity dynamics by applying ecological and evolutionary concepts. During the semester, students will be introduced to three main areas of focus: (1) biodiversity and the study of how groups of organisms are related by common descent, (2) population ecology, (3) interactions among organisms and with their environment at the community, ecosystem and biosphere levels. Students will also explore the motivations for preserving biodiversity, prioritizing choices in conservation and decision-making under conflicting interests, within a human dimension framework. There will be a strong emphasis on understanding the process of science through reading and critical evaluation of the primary scientific literature as well as conducting a research project. Students will be tested on their understanding of the meaning and applications of different concepts through quizzes and exams.

Prerequisites

BIOL 111, BIOL 111L, BIOL 112, BIOL 112L

Co-requisite

BIOL 211D

Learning Objectives

Students will be able to:

1. Develop a strong knowledge about the diversity and relatedness of living organisms, and an understanding of the fundamental concepts in ecology and conservation biology;
2. Discern primary threats to biodiversity and the best approach to tackle a given conservation issue;
3. Apply ecological principles to the conservation of biodiversity;
4. Develop a clear notion of how society shapes conservation efforts, including the forces of economics, policy, ethics, and institutions;
5. Engage in critical thinking and discussion of primary scientific literature and reflect on their applications;
6. Learn to synthesize and work with biodiversity data;
7. Demonstrate skills frequently used by professional biologists: use primary literature, develop scientific questions and hypotheses, use quantitative analyses to evaluate hypotheses, make graphs and communicate science in various formats.

Course structure

The course involves two critical components:

Lecture will introduce students to key concepts in biodiversity, ecology and conservation biology as well as examples of the research involved in developing and testing these concepts.

Discussion will help students develop several practical skills used in science and will introduce the applications of the concepts learnt in lecture.

Materials

Required textbooks: Biological Science 6th edition by Freeman et al.; we will mostly focus on Chapter 24-32, 49-54. The BioSkill sections 1-5 and 13 are also useful in this class. Other required readings will also be available as pdf files placed on OAKS.

All assignments will be required to be completed on a word processor or other necessary software (e.g. Excel, PowerPoint, statistical software). All the software needed for this class can be accessed in the College of Charleston computer labs throughout campus. If you do not know how to use any of the applications that is required for the class, you should arrange an appointment with the instructor for tutoring.

Key dates

Last day of drop/add: Aug 27, to drop with Grade of “W”: Oct 29.

Mid-term exams: Sep 26, Oct 22 and Nov 19

Final Exam: Friday Dec 7, 8:00 - 11:00 am

Grading

Your grades will be based on the following scheme:

Assessment	Possible points
Lecture:	
- Three mid-term Exams	240
- Cumulative final exam	150
- Attendance, participation and various assignments	40
Discussion:	
- Research project (with various components)	320
- Article discussions and various assignments	65
Total	815

Letter grade
percentage points:

A: 93-100%
A-: 90-92.9%
B+: 87-89.9%
B: 83-86.9%
B-: 80-82.9%
C+: 77-79.9%
C: 73-76.9%
C-: 70-72.9%
D+: 67-69.9%
D: 63-66.9%
D-: 60-62.9%
F: <60

Course Work Details

Lecture Exams

We will have three mid-term exams and a final cumulative exam. Topics covered in the lecture period and in the assigned readings will be fair game for exams. Format will be mixed and may include: matching, fill-in, multiple choice, short answer and essay. Be prepared to synthesize ideas, rather than just regurgitate information. Exams will focus on reasoning, problem solving, interpreting graphs and understanding concepts.

Exam review. Prior to each exam, the entire class will be responsible for creating an exam review sheet with the teaching assistant. Students will also submit questions for possible use on the exams. I will check over the review sheet to make sure it covers the major topics and provide feedback on the level of detail. This review sheet will be posted on OAKS.

Quizzes (optional). Quizzes will help you stay on top of the lecture and reading and will be in the same format as some of the exam questions. These will be administered on OAKS.

Research Project

This is your opportunity to do research. You will collect and use real data to conduct different aspects of scientific research. This activity involves three main components: (1) identify and generate questions and hypotheses, (2) analyze and interpret data, (3) present scientific information in the form of a scientific manuscript and an oral presentation. Each student (or teams of 2-3 students) will use real data to complete a major research project. More details will be provided later. Different activities pertaining to this will be done in class during Discussion time. These activities will be graded and be part of your final grade.

Article Discussion

The purpose of the journal article discussions is to get students reading primary scientific literature, to let students hone their reading, presentation and critical evaluation skills, and to expose students to a breadth of subjects. Over the course of the semester, students will read several articles, both for lecture and discussion session. Grades for these discussions will be based on attendance, active participation and completion of discussion assignments submitted at the beginning of class, unless otherwise noted.

Assignments

Throughout the semester, students will do several assignments to apply what they have learned (either as in-class group exercises or individual assignment).

Participation

Both lecture and discussion sessions are often interactive; and your participation is expected. Participation (or lack of) will contribute to your grade.

Extra credit

Students can earn up to 25 points total in extra credit, either by doing the optional quizzes or by presenting the results of a recent research related to biodiversity, ecology and conservation biology, featured in recent news (in a popular science news article). Details will be posted later.

Course Policies

Attendance

Attendance and participation will contribute to your grade. You are expected to attend every lecture; you will learn more by attending and participating in lectures. Attendance to discussion sections is *required* and *mandatory*. Participation on both independent and group aspects will count toward your grade. Although group activities are assessed at the group level, non-participation will influence the student's individual grade. If extreme circumstances necessitate an absence, you will be responsible to obtaining the materials and information covered and referred in class during your absences. *Online lecture notes are a supplement, not a substitute for attending lectures*. If you know you will be missing a class, it is your responsibility to inform and make arrangements with the instructor in advance. Make-up or early exams will only be given if you speak with the instructor at least 2 weeks prior to the exam with a valid reason.

Honor Code and Academic Honesty

All students are expected to follow the College of Charleston's Honor Code and Academic Honesty. Lying, cheating, attempted cheating, and plagiarism are in violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved. While peer-collaboration and exchange of ideas is highly encouraged in this course, all written projects and assignments submitted for a grade must be strictly individual and your own, unless they are part of a collaborative project with multiple authors. Students should be aware that unauthorized collaboration – working together without permission – is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others' exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class, even if the work is revised. 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>.

Disability Accommodation

The College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act that stipulates no student shall be denied access to an education “solely by reason of a handicap.” Disabilities covered by law include, but are not limited to, learning

disabilities and hearing, sight or mobility impairments. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services, Lightsey Center suite 104, 843.953.1431 and the instructor so that such accommodation can be arranged. If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, please set up an appointment to discuss accommodations with the instructor.

Late Work

All assigned work must be turned in by the assigned due time on the respective due date. Work submitted past this time (even on the due date) will have 5% of the total available points deducted for that day and for each subsequent calendar day, including weekend and holiday days, except in extremely unusual circumstances (advance arrangement required). Zero points will be allocated for an assignment if it is not turned in before the assignment is passed back, discussed in class or key posted.

Classroom Code of Conduct

You are expected to be engaged with the class, demonstrate respect for the course instructor and your peers, to be on time and present for the entire duration of each class session. You can use electronic devices to take notes in class (although, taking by hand is highly recommended) and do the in-class projects, but you should refrain from texting, using social medias, watching videos or doing anything else that would distract you and your classmates from learning.

Email communications

I will respond to legitimate email inquiries from students within 24hours during business hours. Make sure you consult the course syllabus and any information on OAKS for answers BEFORE submitting inquiries by email. Email should NOT be seen as an alternative to meeting with the instructor (or the TA) during office hours. Each email message must include in the Subject line the course identifier and a concise and clear statement of purpose [e.g., BIOL 211: I have a conflict with next test].

Getting help outside of class

Students are encouraged to meet with the instructor and/or the TA to ask questions. I am always willing to take time to help you better understand the materials. In addition, the Center for Student Learning (<http://csl.cofc.edu/>) offers a variety of helpful resources, including study strategies, workshops and tutoring.

Helpful advice to do well in this course:

- Attend class! Stay awake, be attentive and participate
- Ask questions (to both the instructor and your peers), in class and/or outside of class
- Take notes, listen, learn and engage during class time. The posted lecture notes are *supplements* to lectures, much of the important content is discussed verbally.
- Read through your notes regularly, don't get behind.
- Don't procrastinate: Do the readings ahead of time; Do the assignments/ projects ahead of time
- Study with a partner or group, and explain concepts to each other

- Study to understand, not to memorize. Find examples around you, not just from the lecture.
 - Do the optional quizzes!
 - Think in a logical way: you will frequently be asked to reason out an answer
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