

**Biodiversity, Ecology and Conservation Biology**  
**BIOL 211 – Fall 2017**  
**Sections 05 & 07**

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**Instructor**

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**Meeting Time and Place**

**Lecture:** Monday, Wednesday and Friday 11:30 am – 12:20 pm, Harbor Walk West 305

**Discussion:**

211D-05: Monday 2:10 pm – 5:10 pm, Harbor Walk West 307  
211D-07: Friday 1:00 pm – 4:00 pm, Harbor Walk West 305

**Prerequisites**

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

**Co-requisite**

BIOL 211D

**Classroom Communications**

We will use OAKS for assignments, schedules, announcements, etc. PowerPoint lectures will be posted to the website after they are given.

**Courses Objectives and Learning Outcomes**

Students that have completed the course will be able to:

1. Develop a strong understanding of the fundamental principles of ecology and conservation biology, the interactions between organisms and their environment, and the processes driving populations, communities and ecosystems;
2. Discern primary threats to biodiversity;
3. Apply ecological principles to the conservation of biodiversity;
4. Distinguish the best approaches for conserving biological diversity;
5. Develop a clear notion of how society shapes conservation efforts, including the forces of economics, policy, ethics, and institutions;
6. Engage in critical thinking and discussion of primary scientific literature and reflect on their applications;
7. Learn to synthesize and work with biodiversity data;
8. 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 in various formats.

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**Course Details**

**Materials**

No textbook required. Required readings will be available as pdf files placed on the course website.

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 these applications that is required for the class, you should arrange an appointment with the instructor for tutoring.

In-class group projects may require the use of a laptop in class; if none of your group members has one, you should inform the instructor a week in advance.

### **Key dates**

Last day of drop/add Aug 28, to drop with Grade of “W” Oct 26.  
Synopsis of team project due Sep 18  
First draft of news blog due Sep 29  
Midterm Exam: Oct 9  
Final draft news blog: Oct 27  
Team project final product: Nov 17  
Team oral presentations: Nov 27-Dec 1  
Major Field Test: Dec 1 for section 7 and Dec 4 for section 5  
Final Exam: Dec 11

### **Grading**

Your grades will be based on the following scheme:

<b>Assessment</b>	<b>Possible points (%)</b>
Team project	120 (20%)
Team project oral presentation	40 (7%)
Writing Assignment	80 (13%)
Mid-term exam	120 (20%)
Final exam	120 (20%)
Assignments (in class or take home)	30 (5%)
Journal article discussion	Leading: 60 (10%) Active Participation: 30 (5%)
Total	600

Letter grade percentage points:

A: 93-100	B-: 80-82	D+: 67-69
A-: 90-92	C+: 77-79	D: 63-66
B+: 87-89	C: 73-76	D-: 60-62
B: 83-86	C-: 70-72	F: <59

### **Extra Credit**

Attend one of the seminars offered by the Department of Biology, and write a summary of less than 300 words after the seminar, submitted into OAKS Dropbox. You may get up to 5 points for each one (for up to 20 points). Your write-up should include:

- 1) A review of the talk: what were the big questions? Why are these questions important/interesting? How did the speaker try to answer these questions? What did the speaker find?
- 2) Your thoughts on the following:
  - a. Was it a good talk? Why or why not?
  - b. How does this apply to what we've learned in class?

Dates and times of the seminars will be announced in class.

### **Course Work Details**

#### ***Lecture Exams***

You will have a midterm and a non-cumulative final exam. Topics covered in the lecture period and in the assigned readings for discussion 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. Students will be allowed to submit questions for possible use on the exams.

#### ***Student team projects***

Students that hone teamwork skills will be more comfortable with that approach in their careers regardless of field. Each student will join a team of 4 students (of their choice) to complete a major course project. The project will consist of a final product and an oral presentation to the class describing it; a synopsis of the project will be due mid-Sept. The form of the final product can vary greatly within the realm of conservation biology. The only restriction is

that **it must be something that a practitioner of conservation biology would produce**. Some example projects (not exclusive) include educational resources, a hypothesis-driven research paper, a biodiversity survey, a training workshop or other ideas. Research projects could incorporate a small field experiment or field sampling project, a survey of public attitudes (either characterizing responses post hoc or doing planned comparisons among groups defined a priori), or testing hypotheses using the multitude of online databases available. Projects could also be an educational video or podcast for the public or special target groups, a training workshop aimed at the public or local k-12 students, or a whole host of other ideas generated by students. I want you to be creative and use the strengths of your team. Project grades will be based on the quality of the final product and an assessment by peers. Teams will also be graded on an oral presentation given at the end of the semester.

### ***Journal article discussions***

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. Students working in teams of 3-4 members will lead a class discussion of 2-3 scientific journal articles concerning some aspect of conservation biology. The whole class will be involved in the discussion of reading material. Discussion teams, schedule, instructions and suggestions will be found on additional documents provided on OAKS. When relevant, teams should focus on the scientific approach, major results, significance, and the overall strengths and weaknesses. Each week, those who do not lead discussion are required to contribute 3 comments or questions on the OAKS forum before midnight the night before. These will count towards your participation grade.

### ***News article blogs***

You will write an editorial style blog on a new research paper (Early View, or current issue) from the journals *Conservation Biology*, *Animal Conservation*, *Biological Conservation*, *Global Change Biology*, *Diversity and Distributions*, *Journal of Applied Ecology*, *Conservation Letters*, *Biodiversity and Conservation*, *Ecology*, or *Journal of Ecology*. Your final draft will be posted online on the class blog site to be viewable by everyone. Instructions will be given in lecture.

### ***Assignments***

Throughout the semester, students will have the opportunity to do hands-on practices with real data to apply what they have learned.

### **Tentative Course Outline**

This course will cover the following non-exhaustive topics:

- Biodiversity patterns and measures
- Species extinction and endangerment risk
- Habitat loss and fragmentation
- Invasive species
- Overexploitation, pollution and climate change
- Urbanization
- Science writing
- Population biology
- Community Ecology
- Species interactions: predation, parasitism, mutualism, trophic cascade
- Ecosystem
- Biogeography
- Phylogeny and its application in Ecology
- Conservation Science as a discipline
- Anthropocene
- Human-wildlife conflict
- Ecosystem services
- Conservation planning, priorities and strategies
- Conservation innovation and technology
- De-extinction
- Ecocide
- Assisted migration

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

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## **Course Policies**

### **Attendance**

We will adhere to the College of Charleston Absence Policy, as described in the student handbook. You are expected to attend all lectures. Attendance to discussion sections is also *required* and *mandatory* as your group members will be counting on your intellectual engagement. Participation on both independent and group aspects will count toward your grade. Although group projects and discussion-lead are assessed at the group level, unexcused absences or > 2 excused absences from the Discussion section 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. 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 me at least three 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, which covers such matters as plagiarism and giving or receiving aid on exams. While 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. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. 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>. If you have any doubt or questions about how to properly cite or paraphrase a document, it is your responsibility to consult the instructor.

### **Disability Accommodation**

This 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. 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 demonstrate respect for the course instructor and your peers, to be on time and present for each class session. Cell phones must be turned off prior to the beginning of class and stored away. You can use your laptop to take notes in class and do the in-class projects, but refrain from using social medias, watching videos or doing anything else that would distract you and your classmates from learning.

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