BIOL 211-03
Biodiversity, Ecology, and Conservation Biology

Welcome!

BIOL 211 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, we will explore three areas of biology:
- population biology, including population ecology and evolution
- ecological interactions and systems at the community, ecosystem, and biosphere levels
- biodiversity and the study of how groups of organisms are related by common descent.

Sustainability will be an organizing theme throughout the course, as we seek to apply biological principles to understand and protect biodiversity and ecological integrity.

Student Learning Outcomes

At the end of this course, you will be able to:
- describe processes by which biological populations 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
- explain the forces that lead to evolutionary change within populations and diversification among species
- interpret evolutionary relationships shown in phylogenetic trees
- build a foundation of knowledge about life’s diversity and its interrelatedness
- apply ecological and evolutionary principles to the conservation of biodiversity
- synthesize knowledge from ecology with social and economic systems to address sustainability problems
- identify key ways to be more sustainable in your personal life
- 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 communicate for a scientific audience

Course structure

Face-to-face

We will meet in-person for lecture and discussion.

If necessitated by student or instructor illness or quarantine, some class meetings may need to be held online.

Lecture (BIOL 211)

Monday, Wednesday
2:30 - 3:45 p.m.
RITA 152

We will explore key concepts in conservation biology, ecology, biodiversity, and sustainability.

Discussion (BIOL 211D)

Monday
11:00 a.m. - 2:00 p.m.
RITA 273

We will develop practical skills for doing science:
- find and use primary scientific literature
- organize, visualize, and analyze data
- identify research questions and design experiments
- communicate scientific information orally, visually, and in writing

For many students, discussion is the most valuable part of the course!

Instructor

Dr. Allison Welch
welcha@cofc.edu

Office hours

Tuesday, Wednesday
1:15 - 2:15 p.m.
online (T) | RITA 235 (W)

Please drop in for office hours or email me to set up an appointment!
Communication

I will use email and OAKS announcements to communicate with you regularly; please set up OAKS notifications and check your cofc email account frequently. I will also make announcements at the beginning of class meetings.

Contacting me
For all other questions, please drop in for office hours or email me. I will respond to emails within one business day; I may not always be able to respond on weekends, but will respond as soon as I can and no later than the next business day.

Interacting with your peers
Your community of peers is a valuable part of this course. Reach out to each other to form study groups, get feedback on assignments, and make friends within your major! You may use the student discussion board on OAKS or the class list on OAKS to connect with your classmates, create study groups, etc.

Community standards
You can expect me to promote a welcoming learning environment for all students, and I expect you to do the same. In this class, we will interact in a way that values each member of our class community. This includes using nonjudgmental language, welcoming different perspectives, experiences, and identities, encouraging others to speak, giving our full attention to whomever has the floor, and responding to others with maturity and respect. We will also hold ourselves to high academic standards by staying on topic and by distinguishing between evidence and opinion.

Please respect each other and our learning environment by arriving on time, keeping all food and drink out of the classroom, keeping electronic devices stowed during class, and waiting to be dismissed at the end of class.

Please respect the health of our community by wearing a mask properly, maintaining social distancing as much as possible, sanitizing your space before and after class, and staying home when ill or when in quarantine or isolation.

Please be professional, positive, and polite in all communications and interactions that are part of this class. Be clear and concise, stay on topic, back up your points with evidence, and cite your sources. Do not assume that everyone shares your perspective. Encourage others to share their perspectives and ideas, be prepared to learn from each other, and respect others’ views even if they differ from your own.
Lecture schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Intro to Biodiversity and Conservation Biology</td>
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**Unit 1: Populations & Species**
- 2, 3 Population and Conservation Genetics
- 4, 5 Population Dynamics
- 5, 6 Ecological Sustainability

**Unit 2: Communities & Ecosystems**
- 7 Ecological Communities
- 8 Ecosystems
- 9, 10 Climate and the Biosphere

**Unit 3: Phylogenies & The Tree of Life**
- 11, 12 Phylogenies and Origins of Biodiversity
- 12, 13 The Three Domains
- 13, 14 Plants and Fungi
- 15, 16 Animals

Discussion schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2</td>
<td>Intro to Scientific Literature</td>
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**Project 1: Rapid Research Project**
- 3 Research Skills Review
- 4-6 Plan Research and Collect Data
- 7 Analyze Data and Construct Poster
- 8 Poster Session

**Project 2: Research Proposal**
- 10 Finding and Using Sources
- 11-12 Develop Research Plan and Draft Proposal
- 13 Peer Editing
- 14 Sustainability Panel
- 15 Proposal Presentations
- 16 Position Paper Discussion

Course activities and grading

**Attendance and participation**
You are expected to attend every class meeting in person unless you are ill or in quarantine or isolation. If you are sick, please stay home! Please let me know ASAP if you are unable to attend; you may be able to attend virtually or participate in another way, at the instructor’s discretion. If you are in quarantine or isolation, reasonable accommodation will be made to allow you to keep up on coursework. Habitual lack of engagement will make it difficult to succeed in the course and may result in a failing grade.

**Assignments**
If you cannot turn in an assignment on time, please contact me as soon as possible. Late assignments will lose 5% of the total possible points per day, until the assignment is graded and returned or discussed in class, at which time the grade will become a zero.

**Field trips**
Conditions permitting, we may take one or two field trips as part of discussion. In order to participate, students will be required to sign safety contracts and travel waivers.

**Exams**
Exams will assess your ability to apply and synthesize course material. Exams will be timed, online, open-note essay exams, and study guides will be provided. It will be difficult to succeed on exams if you do not keep up with the work in the class.

**Discussion projects**
You will conduct two multi-week projects this semester. Each project will be graded as a portfolio, including all work leading up to the final product. Some work will be completed in small groups, and part of your grade will be based on working effectively within your group. Nonetheless, you will complete most assignments individually, and most of your grade will be based on your own work, for which you alone are responsible. I strive to be as clear as possible about expectations for group vs. individual work, but if you have any uncertainty please ask for clarification.

**OAKS**
Course materials, announcements, and grades will be posted regularly via OAKS.

Important dates
- 9/29 (W) Lecture Exam 1
- 10/11 Poster Presentation
- 10/27 (W) Lecture Exam 2
- 11/15 Proposal Complete Draft
- 11/22 Proposal
- 11/29 Oral Presentation
- 12/1(W) Lecture Exam 3
- 12/6 Position Paper
- 12/8 (W) Revised Proposal
- 12/11 (Sa) Final Exam (3:30 - 5:30 pm)

All dates fall on Mondays, except where otherwise noted.

Course component % of grade
- Reading quizzes 10.0%
- Three midterm exams 30.0%
- Cumulative final exam 12.5%
- Discussion Project 1 15.0%
- Discussion Project 2 20.0%
- Other assignments and participation 12.5%

Grading scale
- C+ 77.0 - 79.9%
- C 73.0 - 76.9%
- C- 70.0 - 72.9%
- D+ 67.0 - 69.9%
- D 63.0 - 66.9%
- D- 60.0 - 62.9%
- F 0.0 - 59.9%
How to succeed in this course

Stay engaged
Although this semester may require more flexibility than in a more typical semester, the learning goals and the amount of time you will need to invest to meet these goals will be the same. Actively engage in the course to stay on top of the material. Take notes during class, review notes and lecture slides after class, keep up on assignments, and review your progress in the course frequently.

Manage your time
Complete all activities in a timely fashion, and turn in all work on time. Pace yourself to minimize stress and maximize success. Invest at least 16 hours/week working on this class.

Prepare and participate
Prepare for and participate in every class meeting, and thoughtfully engage in class activities. Participate in a way that respects others, reflects careful preparation and critical thinking, and makes a positive contribution to the class.

Work well with others
Collaboration and feedback are important parts of science and of this course. Be effective in group work by communicating clearly and discussing expectations (roles, responsibilities, deadlines, etc.). Welcome feedback from others, and offer constructive feedback to your peers by providing comments that are specific, useful, and supportive.

Communicate
Stay in touch with me and with each other. Ask for help when you need it, form study groups, and offer help to peers when you can. (Research shows that teaching a peer is a good way to master material!)

Extra credit
A limited number of extra credit assignments will be announced during the semester and will be made available to all students equally. If interested in extra credit, please take advantage of opportunities when they are presented.

Getting help
If you are having trouble with course content, I encourage you to schedule a meeting or drop in for office hours. I’m always willing to take time to help you better understand the course material. You are also encouraged to form study groups with peers!

The Center for Student Learning also offers a variety of helpful resources, including study strategies workshops and writing consults.

Technology
If you have trouble accessing course materials, email me.

For other technical problems, please contact the Student Computing Support Desk (843-953-8000; studentcomputingsupport@cofc.edu). Technology information and tutorials are also available at the Student IT Services blog, and additional resources may be found at the Online Learning @ CofC blog.

Academic integrity
Academic integrity is essential at the College of Charleston and to the practice of science. You will therefore be held to a high standard of integrity in this course. Plagiarism, lying, cheating, and attempted cheating are all violations of our Honor Code and will be handled as outlined in the Student Handbook. Please be absolutely sure that you understand what the Honor Code requires of you. If you have any questions or concerns about Honor Code expectations or about how to avoid violations, please consult with me before potentially committing a violation.

Plagiarism
Plagiarism is any use of words or ideas produced by another person without proper attribution, and includes failing to paraphrase adequately or to cite sources properly. Plagiarism, both intentional and unintentional, is forbidden by the Honor Code. Please consult with me if you have any questions or concerns about how to use and cite sources to avoid plagiarism.

Collaboration
Although your discussion projects will involve working with other students, the work you submit must be completed individually and must represent your own independent ideas and work, unless I specifically require a joint product. Please be sure you understand the distinction between collaborating and copying; ask me if you have any doubts. Unauthorized collaboration is a form of cheating and will be dealt with according to the Honor Code.

Re-using work
Using work that you or anyone else has done for this or any other class or project, either in whole or in part, is a violation of the Honor Code, even if the work is revised.
Policies

Potential temporary modification of instruction
If one or more students are absent for an extended period of time due to COVID-19 quarantine or isolation, or if the instructor is unable to attend in person due to quarantine, isolation, or other illness, mode of instruction may shift to online synchronous (i.e., zoom), at the instructor’s discretion. In such a case, students will be notified via email and OAKS with as much lead-time as possible. If one or more students is unable to attend class in person due to COVID-19 quarantine or isolation or other illness, the affected student may be allowed to attend virtually and/or the class session may be recorded, at the instructor’s discretion.

Potential interruption of instruction
If in-person classes are suspended for weather, public health, or other reasons, the course will continue in a synchronous online format unless otherwise announced.

Potential recording of classes
If necessary to accommodate modified instruction, class sessions may be recorded by the instructor. 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.

Disabilities accommodation
Any student eligible for and needing accommodations because of a disability is requested to speak with me during the first two weeks of class or as soon as you have been approved for services so that reasonable accommodations can be arranged. For help, please contact the Center for Disability Services/SNAP.

Inclusion
I will gladly address you by the name and gender pronouns of your choice. A gender-neutral restroom can be found on the first floor of RITA. For more resources, see the Gender and Sexuality Equity Center.

Religious accommodation
The College will make reasonable accommodation for religious observance in regard to class attendance and exam scheduling, unless the accommodation would create an undue hardship on the College. To request accommodation, please contact me at least one week in advance. Regardless of such accommodation, students are responsible for satisfying all course requirements.

Other support services
At times, students may experience other difficulties that can interfere with learning, such as physical and mental health challenges, assault or abuse, and food or housing insecurity. If you or someone you know is experiencing any of these difficulties, various resources on campus are available to help. The Office of the Dean of Students (843-953-5522) can direct you to resources and support. If you are comfortable reaching out to me, I may be able to help you identify available resources while remaining sensitive to your situation.

Mental and physical wellbeing
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 the Counseling Center (professional counselors; 843-953-5640) or Students 4 Support (certified volunteers via text at “4support” to 839863). These services are there for you to help you cope with difficulties you may be experiencing and to maintain optimal physical and mental health.

Food and housing resources
The College of Charleston offers assistance for students who have difficulty affording groceries or accessing sufficient food to eat every day, or who lack a safe and stable place to live. If food or housing troubles are affecting you, please contact the Dean of Students for support. You can visit 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. Learn more about resources for student food and housing insecurity, including meal swipes and temporary housing.

Other resources
- Always call 911 for emergencies!
- Emergency Resources
- Office of Victim Services
- Collegiate Recovery Program
- Center for Student Learning
- Students of Concern