

Instructors: Randall Boone, Senior Research Scientist and Professor, NREL and ESS
Natural and Environmental Sciences Building (NESB) – B 244
(970) 491-1806
www.randallboone.org
Randall.Boone@ColoState.edu
Office hours: MW 11:00 pm – 12:00 pm, or by appointment

Melody Zarria, Graduate Teaching and Research Assistant, NREL and GDPE
Natural and Environmental Sciences Building (NESB) – B 251
Melody.Zarria-Samanamud@ColoState.edu
Office hours: W 1:00 pm – 3:00 pm, or by appointment

Lecture: MW: 10:00 am – 10:50 am Molecular Radiological Biosciences 109
F: 10:00 am – 11:40 am Molecular Radiological Biosciences 109

Course Description: This course will provide a foundation in population and community ecology. Concepts such as energy flow, nutrient cycling, speciation, and community dynamics will be discussed. Concepts will be illustrated using qualitative, mathematical, and simulation approaches. Weekly exercises will reinforce and expand upon concepts.

Course Learning Objectives: After completing this course, a successful student will be able to:

- Describe key fundamentals of populations, communities, and ecosystem structure, function, and services.
- Cite the importance of ecological principles in conceptualizing sustainability.
- Exhibit the critical thinking skills for (1) reading, analyzing, and interpreting readings and (2) articulating and defending one's positions in writing, in-class discussions, and oral presentations.
- Participate in class discussions while respecting the views of others.

Course Website: Canvas

Readings: Our main resource will be:

Relyea, R. 2021. Ecology: the economy of nature. Macmillian Learning, New York, New York.

Readings will be individual chapters from that volume, read in an order different than the authors used. These readings will provide important background and context for the lecture material and the examples that we use. Additional readings may be assigned and provided as PDFs on Canvas. We may discuss items in the readings that are confusing or on which we want to elaborate. Students should consider three ways in which a paper related to a topic of interest and three things that were confusing. *Student readiness will be reflected in the participation portion of the course grading.*

Laboratory Exercises and Reports: Students will prepare a double-spaced three- to four-page report for each laboratory exercise. Reports will respond to queries within the exercises, describe underlying ecological processes addressed in each exercise, and describe experiments or simulations of their design. The laboratory reports will be uploaded to Canvas by the due date of the assignment.

Oral Presentation: Students give an extemporaneous informative speech 8-10 minutes in length. The purpose of the speech is to inform, not persuade. Speeches must flow logically and be data-driven. Each student is evaluated by the instructor. In addition, peer evaluation will be used, where each student is evaluated by three other students. Canvas will randomly assign students to evaluate. You are to complete the grading rubric provided by the due date. The scores from the peer reviews will be included in the oral presentation grade.

Discussion Assignments: Students will participate in discussion groups by Canvas. Each student submits a post on the Discussion board based on the prompt and responds to a posting from one other student in the discussion group.

Attendance Policy and Participation: Students are encouraged to attend lectures regularly. Discussions and demonstrations in lectures will be critical for you to develop a deeper understanding of ecosystem science. Attendance will affect participation scores. If you are forced to miss a lecture, the visuals used will be posted informing you of what you have missed. However, those visuals will not include all the material presented or the discussions that were had during lecture. Students who miss a lecture are strongly encouraged to speak with me, our teaching assistant, or classmates to see what may have been missed.

Honors courses are intended to assist student competencies in critical thinking; creativity and problem solving; interdisciplinary learning integrated with global and cultural viewpoints and professionalism, interpersonal skills, and emotional intelligence. Students will conduct a competencies self-assessment as part of participation. The assignment is due at the end of Week 4. Students must include comments for all four categories for full credit.

Course Policies: Late material may be submitted, but points assigned may be severely reduced. Inform the teaching assistant of any university-recognized reasons for late submission of work. Exams will not be offered early. Make-up exams may be offered in rare cases for recognized reasons.

Special Needs: Any student who needs special accommodations or has special needs is encouraged to speak with us about those needs as soon as possible.

Academic Responsibility: All work in this course must be completed in accordance with the CSU academic honesty policy (<http://catalog.colostate.edu/general-catalog/policies/students-responsibilities/>). Plagiarism or failing to meet the academic honesty policy in other ways will be reported and may result in loss of credit on assignments or dismissal from class and must be reported to CSU authorities. By participating in this course, you agree to abide by the following honor pledge, "I will not give, receive, or use any unauthorized assistance in this course."

We will treat ChatGPT and other such Artificial Intelligence (AI) tools as new resources available for improving work. Copying any text without attribution is plagiarism, including from AI, and so must be avoided. Material from AI is from other sources (although they can “hallucinate” and invent incorrect results); if you feel compelled to quote the material, don’t. Instead, find the original source. A helpful use would be for you to write an essay considering the interactions we have discussed and your own brainstorming, and then pose the question to AI to see if its response includes aspects you have not considered. If so, then those new aspects may be further researched and discussed. You should assume the AI response is wrong until your own research indicates otherwise.

Expectations of Us: We bring enthusiasm and experience in ecology and ecosystem science to our meetings and strive to create an atmosphere of collaborative learning. We will have up-to-date lecture materials and will use engaging examples in our class. Students have their own experiences and background. We will build off those, encouraging and appreciating an interdisciplinary approach to our work. We will strive to keep all students up-to-date on their class standing. We will be readily available to students, with Dr. Boone’s office door commonly open, and both of us available by appointment if helpful.

Expectations from You: Promptness, participation, attention to CSU student expectations, etc. are expected. People of different backgrounds and experiences learn from this course. Above all, if you have any difficulties in the class, *speak with us* or find some other way to let us know, otherwise your difficulties may go unrecognized.

Important information for students on COVID-19: All students are directed to report any COVID-19 symptoms to the university immediately, as well as exposures or positive test results from a medical provider or home test.

- If you suspect you have symptoms, or if you know you have been exposed to a positive person or have tested positive for COVID (even with a home test), you are directed to fill out the [COVID Reporter](#).
- If you know or believe you have been exposed, including living with someone known to be COVID positive, or are symptomatic, it is important for the health of yourself and others that you complete the online [COVID Reporter](#). Do not ask your instructor to report for you.
- If you do not have internet access to fill out the online [COVID-19 Reporter](#), please call (970) 491-4600.
- You may also report concerns in your academic or living spaces regarding COVID exposures through the [COVID Reporter](#). You will not be penalized in any way for reporting.
- When you complete the [COVID Reporter](#) for any reason, the CSU Public Health Office is notified. Students who report symptoms or a positive antigen test through the COVID Reporter may be directed to get a PCR test through the CSU Health Network’s medical services for students.

For the latest information about the University’s COVID resources and information, please visit the [CSU COVID-19 site](#).

Diversity and Inclusion: The [Office of Inclusive Excellence web site](#) includes a comprehensive statement of CSU's commitment to diversity and inclusion, which is reflected in this course.

Need Other Help?

CSU is a community that cares for you. Counseling Services has trained professionals who can help. Contact 970-491-6053 or go to <http://health.colostate.edu>. "Tell Someone" by calling 970-491-1350 to discreetly discuss your concerns (<http://safety.colostate.edu/tell-someone.aspx>).

Methods of evaluation:

Class participation and exercises: 15%

Students are expected to raise questions and join in discussions in class and laboratories.

Class assignments and laboratory reports: 40%

Weekly laboratory exercises will be a primary activity in the course.

Occasional class exercises will be used to explore issues and reinforce ideas.

Oral presentation on core concepts: 10%

In the last weeks of class, students will present information to the class about a core ecological concept of their choosing.

Midterm exams: 10% each, of 2

Exams will address topics discussed in each course section.

Final exam: 15%

The exam will address topics throughout the course, with emphasis on the final third.

Final grades will be assigned using the CSU grading scheme that follows. Score ranges may be adjusted down (i.e., improving the average grade) if necessary, but the range will not be adjusted upward.

Grade	Score	Course Credit
A	93-100	4.0
A-	90-92	3.7
B+	87-89	3.3
B	83-86	3.0
B-	80-82	2.7
C+	77-79	2.3
C	70-76	2.0
D	60-69	1.3
F	0-59	0