

**Instructors:** Randall Boone, Research Scientist and Professor, NREL and ESS  
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Office hours: Monday and Wednesday, 9-10 am, or by appointment

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Office hours: Monday and Wednesday, 11 am-12 pm, or by appointment

**Lecture:** MWF 8:00 – 8:50 pm  
Yates 104

**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. Discussion and practice of core concepts will support student learning.

**Course Objectives:**

- To understand key fundamentals of population, community, and ecosystem structure, function, and services.
- To examine the importance of ecological principles on conceptualizing sustainability.

**Course Website:** Canvas

**Readings:** Our main resource will be:

Ricklefs, R. 2021. Ecology: the economy of nature. W.H. Freeman and Company, Gordonsville, VA.

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.*

**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 us or classmates to see what may have been missed.

**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/front/policies.aspx>). 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 will bring enthusiasm and experience in 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 our office doors commonly open, and by appointment if helpful.

**Expectations from You:** In addition to promptness, participation, attention to CSU student expectations, etc., we expect students to embrace the interdisciplinary nature of the course. 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.

**COVID Response and Reporting**

All students are expected and required to report any COVID-19 symptoms to the university immediately, as well as exposures or positive tests (even home tests).

- 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 required 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:* 10%

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

*Class assignments and exercises:* 20%

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

*Quizzes:* 10%

*Midterm exams:* 15% and 20%

Exams will address topics discussed in each course section.

*Final exam:* 25%

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

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