

**Version:** 9/1/2020 (details are subject to change)

**Instructor:** Jeremy Lichstein

**Office hours:** Group office hours after every class. Individual meetings by appointment.

**Course Website:** Canvas (<https://elearning.ufl.edu/>)

**Please use Canvas Mail for all course-related e-mails.**

**Class will meet online, synchronously via Zoom at the following times:**

Wednesday periods 4-5 (10:40-12:35)

Friday period 4 (10:40-11:30)

**Credit hours:** 3, graded

### Course Description

We will learn about the basic principles that govern the structure and function of ecosystems, with an emphasis on carbon and nutrient cycling in the context of climate change and other global change drivers (e.g., nitrogen deposition, land use change, and altered disturbance regimes). Examples of the questions we will address include: How is ecosystem carbon storage responding to climate change? How do ecosystem-atmosphere feedbacks affect climate? How does biodiversity affect ecosystem function? We will cover both fundamental principles and recent, cutting-edge research. We will cover terrestrial, freshwater, and marine systems to gain a holistic and global perspective on ecosystem ecology.

### Format

- This is a synchronous online class. Attendance is required. ***Please ask questions and participate in discussions.***
- Roughly 1/3 of class time will be lecture, and 2/3 will be discussions of journal articles or other readings. These discussions will include small-group interactions (breakout rooms) and whole-class discussions.
- We will typically read/discuss the equivalent of two full-length (e.g., 10 page) papers per week.
- Each student will lead one discussion during the semester.
- For most readings, there will also be a written homework assignment due before class.
- There will be three take-home exams.

### Textbook

The textbook, in pdf format, is available for free through UF. Please follow the link below, and download *Principles of Terrestrial Ecosystem Ecology, Second Edition* by Chapin et al. You probably need to be on the UF network (either on campus, or via VPN) to access the book:

<https://link.springer.com/book/10.1007%2F978-1-4419-9504-9>

### Reading assignments

Please come to class prepared to discuss each assignment. Most assignments will require at least one hour of careful reading and thinking. Often, you will need to spend several hours to get a good grasp of a reading assignment, including time spent looking up unfamiliar terms or concepts. You are not expected to understand every detail of every assigned reading, but you should aim to understand the context and main points. You do not need to read supplementary sections of papers (Appendices, Supplementary Material, etc.) unless these are specifically assigned.

### Homework

Homework assignments are due before class unless stated otherwise. Most readings are paired with a homework assignment. These assignments are intended to help you learn more from the reading and to prepare you to participate in class discussions. You are encouraged to discuss readings with other students outside of class, but homework should be written in your own words and should reflect your own understanding of the material. **Homework should always be written in your own words. Please do not include direct quotes.** Homework will often include a 25-word summary according to the instructions and rubric explained here: <http://peterdoolittle.org/strategies/25-Word-Summary.pdf>.

### Leading a discussion

Each student will lead one discussion during the semester, either alone or in collaboration with another student. Typically, about 45 minutes will be allocated for these discussions. Each discussion will target one full-length paper or two shorter papers. Detailed instructions will be posted on the course website prior to the discussion sign-up period.

### Exams

There will be three take-home exams that cover lectures and readings. Exams are cumulative but will emphasize material since the previous exam. We will adopt a two-stage test strategy, which has been shown to improve student learning outcomes.

- **Stage 1:** Each student will complete the take-home exam on their own. During this stage, you cannot work with other students, but you can consult any other resources (your own notes, articles, websites, etc.).
- **Stage 2:** This stage is collaborative and will apply to select exam questions (roughly half of the questions, which will be indicated on the initial take-home exam). For these designated questions, Stage 2 includes: (i) reading answers submitted by your peers (identities will be anonymous); (ii) in-class group discussion of the questions/answers; and (iii) the option to submit revised answers following the in-class discussion. Your final grade for revised answers will be the average of the two grades (initial and revised).

**For both stages, your answers must be written in your own words. Please do not include direct quotes from any sources.** To learn more about two-stage collaborative assessments, check out this podcast: <https://podcasts.apple.com/us/podcast/two-stage-collaborative-assessment/id1275179298?i=1000418589527>

### Grade distribution

Your final semester percent grade will be the percent of points earned out of the total possible. Points are distributed as follows:

- **Homework:** Typically 10-20 points per assignment (roughly 300 total points)
- **Leading a discussion:** 50 points
- **Exam 1:** 50 points
- **Exam 2:** 50 points
- **Exam 3:** 50 points

### Grade scale

A ≥ 92.5%; A- ≥ 89.5%; B+ ≥ 86.5%; B ≥ 82.5%; B- ≥ 79.5%; C+ ≥ 76.5%; C ≥ 72.5%; C- ≥ 69.5%; D+ ≥ 66.5%; D ≥ 59.5%; D- ≥ 56.5%; E < 56.5%

Grades will not be rounded; e.g., 89.50 is an A-, and 89.49 is a B+.

**Absences**

Please notify the instructor ahead of time if you plan to miss class. Unexcused absences will result in a 50% penalty for any homework submitted on that date. Absences will be excused according to standard UF policies (illness, religious holidays, etc.) and for academic and career-related reasons (attending conferences, job interviews, etc.). You are welcome to schedule a meeting with the instructor (by zoom, phone, etc.) to discuss excused absences if you would like. But you should ***always send a written explanation by e-mail to document an excused absence.***

**Missed assignments and deadlines**

- **Homework:** You are expected to submit all homework assignments. If you know ahead of time that you will miss class, please plan to submit your homework before the missed class. If this is not possible, or if you miss class due to an expected reason, please contact the instructor. Homework cannot be submitted late except under special circumstances (e.g., documented illness).
- **Exams:** Exams are take-home. If you know ahead of time that you will not be able to turn in your exam on the specified due date, contact the instructor in advance. If you miss the submission deadline for an unexpected reason, contact the instructor as soon as you can. Without a documented and acceptable excuse, late exams are subject to a 10% grade penalty per day (up to a maximum of 7 days). If you do not submit your exam on time, you may forfeit your opportunity to participate in the collaborative exam stage.

**Course policies and resources**

In addition to the policies described in this syllabus, please familiarize yourself with the additional information described on the ***Course Policies and Resources*** and ***Technical Resources*** pages linked to the Canvas homepage. These pages include lots of relevant information, including resources related to student wellness.