

ECOL 4010/6010 Ecosystem Ecology
Spring Semester 2022
Course Syllabus

Course Description: This course provides students with an understanding of ecosystem structure and function with emphasis on energetic and biogeochemical processes in natural and managed ecosystems, from local to global scales.

Prerequisite: ECOL 3500-3500L (or ECOL 3505H-3505L) and MATH 2250

Learning Objectives:

This course fosters analytical thinking and promotes a synthetic understanding of ecology by engaging students to:

- a. understand the theory, concepts and principles of ecosystem ecology
- b. understand contemporary issues that challenge ecologists
- c. write an interdisciplinary research proposal that seeks to understand one contemporary issue by:
 - i. reading and interpreting primary literature
 - ii. posing a question and a testable hypothesis
 - iii. designing a study and anticipating results

Instructor:

Dr. Nina Wurzburger, Associate Professor, Odum School of Ecology

Email: ninawurz@uga.edu

Course time:

Tues/Thurs 2:20 – 3:35, Ecology Bldg. room 117

Office hours: email for appointment

Textbook and Readings:

The course text is Principles of Terrestrial Ecosystem Ecology, Second edition, by Chapin, Matson and Vitousek (posted on eLC). Other required readings will be posted on eLC.

Grading Policy:

Final grades are calculated from four exams, exercises (typically one per lecture) and the term project. See policy on absences below.

Exam 1	15%
Exam 2	15%
Exam 3	15%
Exam 4 (final)	15%
Exercises	20%
Term Project	20%

Grade Scale:

A	94-100%
A-	90-93%
B+	87-89%
B	84-86%
B-	80-83%
C+	77-79%
C	74-76%
C-	70-73%
D	60 - 69%
F	less than 60%

Absences:

Make up exams will only be allowed **under special circumstances** and by **prior arrangement** with the instructor. If you miss an exam due to the fact you are in isolation or quarantine, it must be reported in DawgCheck (see COVID policy below).

Academic honesty:

Students are expected to abide to the UGA Student Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at www.uga.edu/ovpi. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.

Special needs:

Students with disabilities or health related issues who may need class accommodation should consult with the instructor as soon as possible. Accommodations cannot be provided until a student has gone through The Disability Resource Center (DRC) and we have discussed appropriate accommodations for this course. All conversations will be strictly confidential.

Diversity Statement:

Diversity encompasses acceptance and respect. The term "diversity" encompasses differences of culture, background and experience among individuals and groups. Such differences include, but are not limited to, differences of race, ethnicity, national origin, color, gender, sexual orientation, gender identity, age, and abilities, as well as political and religious affiliation and socioeconomic status. The Odum School of Ecology embraces a commitment to diversity by modeling for the state and nation, a community of individuals and programs which seek to reduce prejudice, disparities, and discrimination and build a supportive environment for all.

Disclaimer:

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

CORONAVIRUS INFORMATION FOR STUDENTS

UGA adheres to guidance from the University System of Georgia and the recommendations from

Georgia Department of Public Health (DPH) related to quarantine and isolation. Since this may be updated periodically, we encourage you to review the latest guidance [here](#). The following information is based on guidance last updated on December 29, 2021.

Face coverings:

Following guidance from the University System of Georgia, face coverings are recommended for all individuals while inside campus facilities.

How can I obtain the COVID-19 vaccine?

University Health Center is scheduling appointments for students through the UHC Patient Portal (https://patientportal.uhs.uga.edu/login_dualauthentication.aspx). Learn more here – <https://www.uhs.uga.edu/healthtopics/covid-vaccine>.

What do I do if I have COVID-19 symptoms?

Students showing COVID-19 symptoms should self-isolate and get tested. You can schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see <https://www.uhs.uga.edu/info/emergencies>.

What do I do if I test positive for COVID-19? (Isolation guidance)

If you test positive for COVID-19 at any time, either through a PCR test, an Antigen test, or a home test kit, you are required to report it through the [DawgCheck Test Reporting Survey](#). Follow the instructions provided to you when you report your positive test result in DawgCheck.

As of December 29, 2021, when an individual receive a positive COVID-19 test: Everyone, **regardless of vaccination status**, should:

- Stay home for 5 days.
- If you have no symptoms or your symptoms are resolving after 5 days, you can leave your house and return to class.
- Continue to wear a mask around others for 5 additional days.

What do I do if I have been exposed to COVID-19? (Quarantine guidance)

If you have been exposed (within 6 feet for a cumulative total of 15 minutes or more over a 24-hour period – unmasked**) to someone with COVID-19 or to someone with a positive COVID-19 test and you are:

- Boosted, or have become fully vaccinated within the last 6 months (Moderna or Pfizer vaccine) or within the last 2 months (J&J vaccine)
 - You do not need to quarantine at home and may come to class.
 - You should wear a mask around others for 10 days.
 - If possible, get tested on day 5.
 - If you develop symptoms, get tested and isolate at home until test results are received, then proceed in accordance with the test results.
- Unvaccinated, or became fully vaccinated more than 6 months ago (Moderna or Pfizer vaccine) or more than 2 months ago (J&J vaccine) and have not received a booster:

- You must quarantine at home for 5 days. After that you may return to class but continue to wear a mask around others for 5 additional days.
- If possible, get tested on day 5.
- If you develop symptoms, get tested and isolate at home until test results are received, then proceed in accordance with the test results.

** “Masked-to-masked” encounters are not currently considered an exposure; this type of interaction would not warrant quarantine.

You should report the need to quarantine on [DawgCheck \(https://dawgcheck.uga.edu/\)](https://dawgcheck.uga.edu/), and communicate directly with your faculty to coordinate your coursework while in quarantine. If you need additional help, reach out to Student Care and Outreach (sco@uga.edu) for assistance.

Well-being, mental health, and student support

If you or someone you know needs assistance, you are encouraged to contact Student Care & Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu/>. They will help you navigate appropriate resources or services. UGA has several resources to support your well-being and mental health: <https://well-being.uga.edu/>

Counseling and Psychiatric Services (CAPS) is your go-to, on-campus resource for emotional, social and behavioral-health support: <https://caps.uga.edu/>, TAO Online Support (<https://caps.uga.edu/tao/>), 24/7 support at 706-542-2273. For crisis support: <https://healthcenter.uga.edu/emergencies/>.

The University Health Center offers FREE workshops, classes, mentoring and health coaching led by licensed clinicians or health educators: <https://healthcenter.uga.edu/bewelluga/>

Monitoring conditions:

Note that the guidance referenced in this syllabus is subject to change.

Course Schedule			READINGS	TERM PROJECT TIMELINE
Jan	11	Intro to course, Ecosystem concept	Ch. 1	
	13	Ecosystem concept	Bormann & Likens 1967	
	18	Emerging Issues	MEA p. 1-24 Lindenmayer et al. 2017	
	20	Global climate system	Ch. 2	
	25	Soils	Ch. 3	
	27	Water and Energy	Ch. 4	Due: Idea paragraph
Feb	1	Exam 1		
	3	The C Cycle: Plant C Budgets	Ch. 5	
	8	The C Cycle: C Inputs	Ch. 6	
	10	Working Groups		Teams assigned
	15	The C Cycle: Decomposition	Ch. 7 p. 183-208	
	17	The C Cycle: NEP	Ch. 7 p. 208-end	
	22	The Nitrogen Cycle	Ch. 9 p. 259-286	Due: Team Outline
	24	The Phosphorus Cycle	Ch. 9 p. 286-end	
Mar	1	Exam 2		
	3	Nutrient Limitation	Ch. 8	
	8	<i>Spring Break</i>		
	10	<i>Spring Break</i>		
	15	Trophic Dynamics	Ch. 10	
	17	Biodiversity – Ecosystem Function	Ch. 11	Due: Indiv. Outline Questions, hypoth, research approach
	22	Disease	Weathers Ch. 13	
	24	Ecosystem Dynamics	Ch. 13	
	29	Working Groups		Discuss guidelines and rubric for project
	31	Persistent Organic Pollutants		
Apr	5	Exam 3		
	7	Changes in the Earth System	Ch. 14	
	12	Managing and Sustaining Ecosystems I	Ch. 15	

	14	Managing and Sustaining Ecosystems II	Ch. 15	
	19	Student Presentations		Due: Term Projects
	21	Student Presentations		
	26	Student Presentations		
	28	Student Presentations		
May	3	Student Presentations/Course wrap up		
	10	Exam 4 3:30-6:30		