

PCB 3044-0002: Principles of Ecology

Department of Biology, College of Sciences

3 credit hours

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Instructor Information

- Instructor: Dr. Lisa Chambers
- Office Location: Biological Sciences Bldg. (BIO) Room 420
- Office Hours: In Person/Virtual: Wednesdays 11:30am-12:30pm; Virtual Only Thursdays 2:00-3:00; and by appointment
- Office Phone: (407) 823-2922
- Email: lisa.chambers@ucf.edu* (*Please see email policy- *all questions regarding the class should be sent to EcoTA@ucf.edu*).
- *Email Policy:
 - ALL questions regarding the class should be sent to the TA at EcoTA@ucf.edu.
 - If the TA cannot answer the question, it will be *forwarded by the TA* to the instructor.
 - Include in your email subject: course title (i.e., Ecology) and section instructor (Chambers)
 - Include your full name in your email
 - The TA will try to respond within 48 hours, but some response times may be longer. Please plan accordingly by not waiting to the last minute to contact us with questions or concerns.
 - Due to confidentiality, grades must be discussed through virtual meetings or over the phone.
 - We will only be able to send e-mail communications to your Knight's E-mail addresses.

Teaching Assistant

- UTA: Victoria Molina
- Email: EcoTA@ucf.edu
- Office hours (In-person, location TBD): Tuesdays 9:00am-10:00am
- Weekly Review Sessions (Virtual): Fridays 9:00am-10:00am

Course Information

- Term: Fall 2021
- Course Number & Section: PCB 3044-0001
- Course Name: Principles of Ecology
- Credit Hours: 3
- Class Meeting Days: Monday and Wednesday
- Class Meeting Time: 10:00am - 11:20am
- Class Location: HEC 125
- Course Modality: Face to Face

Enrollment Requirements

Course Prerequisite: CHM 2045 (Chemistry Fundamentals I) or CHM 2041 (Chemistry Fundamentals IB), or Co-requisite CHM 2041 (Chemistry Fundamentals IB). A "C" (2.0) or better in both BSC 2010C (Biology I) and BSC 2011C (Biology II).

Course Description

Elements of ecosystems, biogeochemical cycling, environmental factor interactions, population dynamics, and community development.

This 3 credit hour course will examine the structure and function of ecological systems, including populations, communities, and ecosystems. Students are expected: to master major concepts and basic terminology of ecology, understand how evolution and ecology complement each other, and understand approaches of ecological study, including theory, observations, and experiments. This course is designed for an audience of Biological Science majors & minors, Environmental Science majors, Science Education majors and Pre-professional students.

Course Materials and Resources

REQUIRED:

- **Textbook:** Bowman and Hacker. 2020. Ecology, **5th ed.** Oxford University Press. ISBN: 9781605359212. Available at book store and various ebook options on-line. Please be aware some textbook rental outlets (e.g., Redshelf) do not provide access codes with the rental. Be sure to check with the vendor first before renting. On-line study tools

available with textbook purchase: <https://oup-arc.com/access/bowman5e>. ***To access many of the course videos, content, and study tools, you must purchase/rent a book that provides an access code.***

- Older editions of the textbook (esp. the 4th edition) are ~90% similar in content, but do not include access to case study videos or many of the student study resources.

RECOMMENDED:

- **i-clicker remote or i-clicker student app subscription.** Every lecture will contain approximately 1-4 multiple choice questions about the material just covered. I ask that students respond to these questions using either an i-clicker remote (which can be purchased from the UCF bookstore) or download and subscribe to i-clicker student on the cloud. Both options work equally well and your choice may depend on cost and which approach allows for the most overlap with other course needs.
 - To purchase the remote, visit the UCF bookstore (approx. \$39-\$57)
 - To use the app on your phone, visit <https://app.reef-education.com> (or download the iClicker student app from the Apple or Google app stores). Click Sign Up or Create an Account to create an iClicker student account. If you have not already created an account you will receive a 14-day free trial. After the trial expires you will be prompted to purchase a full iClicker student app subscription (approx. subscription cost \$16 for 6 months)

Student Learning Outcomes

1. Understand the basic principles of ecology as a cornerstone of a broad background in biology.
2. Remember basic ecological terminology.
3. Apply the theoretical concepts of ecology and the experimental evidence supporting them.
4. Interpret the scientific method as applied to ecological studies.
5. Understand the role of ecology in understanding the man-nature interaction.

Course Activities

Readings: You will be responsible for both lecture material and assigned readings in the text. This class will closely follow the required text, but **some required material will be presented in lecture, but not in the assigned reading (you are strongly encouraged to attend class)**. To succeed, students must read and understand materials presented in the textbook and lecture. Relevant chapters are included on the class schedule and it is recommended that readings be to complete **prior to attending the associated lecture**.

Lecture: Lectures will be in-person only. Exceptions may occur if 1) UCF policies change in response to the COVID-19 pandemic, or 2) Dr. Chambers is unable to attend in-person due to

travel, illness, or necessary quarantine. If this happens, lectures will be provided by pre-recorded video through the class Webcourses page.

Class attendance is strongly encouraged, but is not part of your final grade. This means no excuses are needed to explain an absence from lecture. Documented excuses will still be accepted for missing exams or multiple quizzes or practice assignments.

You are expected to wear a mask when attending lecture or in-person office hours, regardless of vaccination status. You are also strongly encouraged to get vaccinated for your health and safety and that of your fellow students.

I-clickers: Every lecture will include approx. 1-4 multiple choice questions to be answered by i-clicker remote or with the i-clicker student app on your phone. **Your participation in these in-class i-clicker activities is not required, but encouraged.** Attempts and correct answers will not be recorded and will not affect your grade. However, they will still be presented with lecture to increase engagement and provide real-time feedback to the instructor. I-clicker responses help me ensure you are properly grasping the information and provide me opportunities to remedy any learning gaps. I encourage you to take the i-clicker questions seriously and do your best so you also can understand where your knowledge gaps exist to help guide your studying.

Graded Course Activities

Practice Assignments (8% of grade): In-lieu of using in-class i-clicker responses for class participation points, this semester on-line practice assignments will be given to accompany each of the 21 book chapters covered in lecture. These assignments are intended to be "low-stakes" assessments, meaning I am mainly interested in you completing them for practice and improving your knowledge, rather than formally testing your understanding. As such, **they are graded only for completion, not correctness.** Assignments will be accessible through Webcourses and will vary in structure from matching games, to discussion prompts, to comments on reading assignments. **All practice assignments are open book and open note.** They must be completed one time for full credit, but can be done several times for review, if you desire. Practice assignments for each Module are due by **11:59 pm the night before an exam.** There will be 21 practice assignments (for 21 book chapters covered). I will grade your top 19 assignments (meaning you can miss 2 practice assignments without it negatively impacting your grade). Please do not seek an excused absence for these assignments unless you miss more than 2.

Exams (80% of grade): There will be four exams (20% each). The final exam (exam 4) is NOT comprehensive and will cover the material since the previous exam. However, the course materials builds upon itself, so you will need to retain basic concepts throughout the course to answer some exam questions. The schedule for exams is listed in the class schedule. The questions will be predominately multiple choice, but may also include matching, fill-in, and true/false. All questions will pertain to concepts and material covered in lectures and/or textbook readings. **All exams will be administered on-line at the scheduled class time through Webcourses using Lock-Down Browser.** The use of your textbook and notes is permissible, but you may not seek help from other or access the internet during the exam. Exams are timed (80 minutes, as long as you begin on-time), you can only see one questions at a time, and you may

not return to a previous question after it has been answered. In other words, study and be prepared because there will not be time to look-up answers each question and most are critical thinking questions!

Exam Policies:

1. **All exams must be taken during the designated class period on the day indicate on the class schedule.**
2. **All exam grades count towards your semester grade. No exam grades will be dropped.**
3. All exams will be based on both lecture material and text reading assignments from the indicated module.
4. No exams are comprehensive.
5. You must complete exams during the designated time window. If you start late, I will not extend your exam time.
6. No calculators are required for exams.
7. **Books and notes are acceptable during exams, but phones must be stowed away, computer browsers must be closed, and you must work independently.**
8. You may not engage in chat rooms, such as GroupMeet or other applications, while taking exams.
9. **Questions must be answered one at a time; you may not return to a previous question.**
10. **Questions are drawn randomly, so no two exams are alike.**
11. Cell phones must be turned OFF and stowed during the exam period.
12. Grades will be posted on Webcourses as soon as possible; you will receive message when they are available.
13. **REVIEW OF EXAMS** – Students can view their exams in private consultation with the instructor or TA during office hours, or by appointment (email EcoTA@ucf.edu for an appointment). Each exam must be reviewed prior to the next exam date (i.e., if you would like to review exam 1 this must be done before exam 2 is given).

Quizzes (12% of grade): There will be 11 multiple choice quizzes to be accessed and completed **on Webcourses**. Quizzes will be available on Webcourses by noon the Thursday before they are due. All quizzes are due by **11:59 pm Sunday** every week except exam weeks (see class schedule). You will have 30 minutes to complete each quiz. **Quizzes are open book and open note**, but require prior preparation to successfully complete the quiz in the time allotted. If you are not satisfied with your grade on a quiz it may be taken a second time prior to the due date and the best score of the two will count. Questions are drawn randomly, so no two quizzes are alike. The lowest quiz grade will be dropped, and your quiz average will be determined using your 10 best quiz scores. **There are no make-up quizzes and no deadline extensions**, you are responsible for remembering to complete the on-line quizzes on time. The first quiz will occur at the end of week 1.

Two common problems with quiz submission you should note are:

1. Questions must be **answered in order** and you may not return to previous questions;

2. Final submission of the quiz must occur prior to the **30 minute** deadline or the computer will not accept it.

Extra credit: The only extra credit available will be bonus questions on the exams. There are no additional opportunities for extra credit.

Activity Submissions

All course activities (practice assignments, quizzes, and exams) will be administered and submitted through Webcourses.

The best way to keep track of course activities and assignments is through the Modules tab on Webcourses, where you can then navigate each Chapter in that Module and access all the relevant files and assignments through the provided links.

Alternatively,

- Practice assignments can be found under the "**Assignments**" page on Webcourses. They must be completed at least once prior to the due date (i.e., the night before each exam)
- Quizzes can be found under the "**Quizzes**" page on Webcourses. Your highest grade out of two possible attempts will be recorded in Gradebook. Quizzes can be completed any time between noon Thursday and mid-night Sunday each week a quiz is due. Your lowest 2 quiz grades will be dropped prior to calculating your score.
- Exams will be administered through the "**Assignments**" page on Webcourses. **Exams must be completed during the designated class period indicated on the class schedule.**

Attendance

In-person attendance to lectures is not required, but strongly encouraged.

When attending lectures or in-person office hours, students are expected to wear a mask, regardless of vaccination status.

Virtual attendance during the designated class period is required for Exams (see class schedule for dates).

Failure to complete exams, more than 1 quiz, or more than 2 practice assignments will result in a grade of zero for that assignment, unless the student contacts the instructor in a timely manner to request an excused absence. Reasons for excused absences may include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligations, severe weather conditions, and religious holidays. All requests for an excused absence will be evaluated by the instructor on a case-by-case basis. The appropriate action (e.g., extension, point redistribution, etc.) will also be determined by the instructor on a case-by-case basis.

Key considerations when evaluating and granting excused absences will be:

- How early the student contacted the instructor regarding the absence and request for an excuse (the earlier the better)
- The ability of the student to provide formal documentation of the reason for the excused absence request in a timely manner.

Excused Absences, Make-up Exams, Quizzes, and Assignments

All missed exams must be excused in order to be eligible for a make-up exam.

Excused absences for quizzes and practice assignments will not be pursued unless you are missing more than 1 quiz, or more than 2 practice assignments (the allowable number of dropped assignments for each).

All requests for an excused absence or make-up assignment should be made through EcoTA@ucf.edu and will require the student to provide official documentation. The appropriate form of documentation can be determined through a discussion with the instructor.

Valid reasons for excused absences include:

Official university business and religious holidays: Make-up exams for exams 1, 2, and 3 or extended time to complete practice assignments or quizzes will be provided for students who must miss the assignment due to official University business at which your presence was required (e.g. a university-sponsored team event) or absences related to a recognized religious holiday. The student is expected to inform the instructor of the scheduling conflict at the beginning of the semester, and absolutely no later than **1 week prior** to the scheduled exam. Additionally, documentation must be provided **by 5:00pm the Friday before the scheduled exam** from the appropriate university body for the student to be eligible for a make-up exam.

Emergencies and major illnesses: Make-up exams for exams 1, 2, and 3 or extended time to complete practice assignments or quizzes will be provided for students who must miss the assignment as a result of a valid emergency, as defined by UCF and/or the professor (may include, but are not limited to: major illness, serious family emergency, positive COVID test, mandatory quarantine, etc.). The student are ask to contact the professor promptly (**within 24 hours or less, to the extent possible**) after missing the scheduled exam or assignment and provide documentation (e.g., a signed document from a doctor, police officer, judge, etc.) **within one week** of the scheduled exam for the student to be eligible for a make-up exam.

COVID-19 Policies for Fall 2021

I recognize and understand the difficult times we are all in. The COVID-19 pandemic impacts us all in many ways, including physically, mentally, emotionally, financially, academically, and

professionally. I will work with you on challenges you may be encountering and to provide support to help you succeed. However, please keep in mind that I will hold you accountable for completing all course activities.

UCF expects that all members of our campus community who are able to do so get vaccinated, and we expect all members of our campus community to wear masks indoors, [in line with the latest CDC guidelines](#). Masks are required in approved clinical or health care settings.

Notifications in Case of Changes to Course Modality

If the instructor falls ill during the semester, there may be temporary changes to this course, including having a backup instructor take over the course or going remote for a short time. Please look for announcements or mail in Webcourses@UCF or Knights email for any temporary alterations to this course.

COVID-19 and Illness Notification

Students who believe they may have been exposed to COVID-19 or who test positive must contact UCF Student Health Services (407-823-2509) so proper contact tracing procedures can take place.

Students should not come to campus if they are ill, are experiencing any symptoms of COVID-19, or have tested positive for COVID-19. Class attendance is not required for class this semester. If a prolonged excused absence is necessary, please contact the instructor (via EcoTA@ucf.edu) to discuss the possibility of gaining access to previously recorded course lectures.

Students should contact their instructor(s) as soon as possible if they miss class for any illness to discuss reasonable adjustments that might need to be made. When possible, students should contact their instructor(s) before missing class.

Accommodations may need to be added or adjusted should this course shift from an on-campus to a remote format. Students with disabilities should speak with their instructor and should contact sas@ucf.edu to discuss specific accommodations for this or other courses.

Non-official absences with prior knowledge: Make-up exams for exams 1, 2, and 3 *may* be provided to students who must miss an exam due to a prior planned event that conflicts with an exam (including but not limited to: trips required for work, presenting at a conference, etc.). These cases will be evaluated on a case-by-case basis and it will be up to the discretion of the instructor to determine if a student is eligible for a make-up exam. The student is expected to inform the instructor of the scheduling conflict at the beginning of the semester, and absolutely no later than **1 week prior** to the scheduled exam. Additionally, documentation must be provided **by 5:00pm the Friday before the scheduled exam** for the student to be eligible for a make-up exam. Acceptable forms of documentation can be determined through a discussion with the instructor.

1. All unexcused absence from an exam or failure to comply with the deadlines outlined above will result in a zero for the missed exam.
2. **All make-up exams for excused absences will be essay format** and be administered on-line at a time agreed upon between the student and instructor.
3. All students are required to take the final exam and there will be **no make-up exams for the Final Exam.**

Deployed Active Duty Military Students

Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

Make-Up Assignments for Authorized University Events or Co-curricular Activities

Students who represent the university in an authorized event or activity (for example, student-athletes) and who are unable to meet a course deadline due to a conflict with that event must provide the instructor with documentation in advance to arrange a make-up. No penalty will be applied. For more information, see the [UCF policy](#).

Religious Observances

Students must notify their instructor in advance if they intend to miss class for a religious observance. For more information, see the [UCF policy](#).

Assessment and Grading Procedures

Students will be graded and evaluated based on exam scores, quizzes (average of the 10 best), and practice assignments (average of the best 19). You can access your scores at any time using the **Gradebook function of Webcourses**. The overall semester grade will be rounded to the nearest whole number (e.g., a 79.49999 and below will round down, while a 79.5000 and above will round up). There will be no exceptions to this policy and no adjustments will be made to final grades.

Performance Evaluation:

Exams (4 total, 20% each, none dropped)	80%
Chapter quizzes (avg. of best, drop 1)	12%
Practice Assignments (avg. of best, drop 2)	8%
	Total = 100%

Grading Scale:

Letter Grade	Points
A	90 – 100 points
B+	87 – 89 points
B	80 – 86 points
C+	77 – 79 points
C	70 – 76 points
D+	67 – 69 points
D	60 – 66 points
F	59 and below

Consult the latest Undergraduate or Graduate [catalog](#) for regulations and procedures regarding grading such as Incomplete grades, grade changes, and grade forgiveness.

Course Schedule

[Course Schedule](#)

Week	Mod	Dates	Topic	Chap.	Practice Assignments (due by 11:59pm)	Quizzes (due by 11:59pm)
1	1	Aug 23 & 25	The web of life, The physical environment	1, 2		Aug 29
2	1	Aug 30 & Sept 1	The physical environment; The biosphere	2		Sept 5
3	1	Sept 6 & 8	<i>NO CLASS 9/6 (Labor Day)</i> ; Coping with env. variation (temperature, water)	3, 4		Sept 12
4	1	Sept 13 & 15	Coping with env. variation (energy); Module 1 Exam (Wed. 9/15; Ch. 1-5);	5	Sept 14 (#1-#5)	No quiz
5	2	Sept 20 & 22	Evolution and ecology	6		Sept 26
6	2	Sept 27 & 29	Life history; Behavioral ecology	7, 8		Oct 3
7	2	Oct 4 & 6	Population distribution and abundance; Population Dynamics	9, 10		Oct 10
8	2/3	Oct 11 & 13	Module 2 Exam (Mon. 10/11; Ch. 6-10); Predation	12	Oct 10 (#6-#10)	No quiz
9	3	Oct 18 & 20	Parasitism; Competition	13, 14		Oct 24

10	3	Oct 25 & 27	Mutualism and commensalism; Nature of communities;	15, 16		Oct 31
11	3	Nov 1 & 3	Change in communities; Module 3 Exam (Wed. 11/4; Ch. 12-17)	17	Nov 3 (#11-#16)	No quiz
12	4	Nov 8 & 10	<i>(Dr. Chambers out of town)</i> Biogeography; Production	18, 20		Nov 14
13	4	Nov 15 & 17	Nutrient supply and cycling	22		Nov 21
14	4	Nov 22 & 24	<i>NO CLASS 11/24 (Thanksgiving)</i> Conservation biology	23		No quiz
15	4	Nov 29 & Dec 1	Global ecology	25		Dec 5
Final	4	Dec 6	Module 4 Exam (Mon. 12/6; (Ch. 18, 20, 22, 23, 25)		Dec 5 (#17-#21)	

University Services and Resources

Academic Services and Resources

A list of available academic support and learning services is available at [UCF Student Services](#). Click on "Academic Support and Learning Services" on the right-hand side to filter.

Non-Academic Services and Resources

A list of non-academic support and services is also available at [UCF Student Services](#). Click on "Support" on the right-hand side to filter.

If you are a UCF Online student, please consult the [UCF Online Student Guidelines](#) for more information about your access to non-academic services.

Policy Statements

Academic Integrity

Students should familiarize themselves with [UCF's Rules of Conduct](#). According to Section 1, "Academic Misconduct," students are prohibited from engaging in

1. Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
2. Communication to another through written, visual, electronic, or oral means: The presentation of material which has not been studied or learned, but rather was obtained

through someone else's efforts and used as part of an examination, course assignment, or project.

3. Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
4. Falsifying or misrepresenting the student's own academic work.
5. Plagiarism: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
6. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
7. Helping another violate academic behavior standards.
8. Soliciting assistance with academic coursework and/or degree requirements.

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, [*The Golden Rule*](#). UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and respond to academic misconduct when necessary. Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an "F" letter grade in the course. In addition, an Academic Misconduct report could be filed with the Office of Student Conduct, which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a "Z" designation on one's transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Let's avoid all of this by demonstrating values of honesty, trust, and integrity. No grade is worth compromising your integrity and moving your moral compass. Stay true to doing the right thing: take the zero, not a shortcut.

Course Accessibility Statement

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need access to course content due to course design limitations should contact the professor as soon as possible. Students should also connect with [Student Accessibility Services \(SAS\)](#) (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). For students connected with SAS, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential course access and accommodations that might be necessary and reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and

course barriers experienced by the student. Further conversation with SAS, faculty and the student may be warranted to ensure an accessible course experience.

Campus Safety Statement

Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and [review the online version](#).
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). Learn where those [are located](#).
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <<https://my.ucf.edu>> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing [this video](#).