

Principles of Ecology - Spring 2020

PCB 3044 - Section 0001 (3 Credits)

Instructor: Dr. Geoffrey Cook

Office: Room 401F, Biological Sciences

E-mail: geoffrey.cook@ucf.edu (***NOTE* BEFORE emailing, read the email policies below**).

Phone: The best way to contact Dr. Cook is via email or in person

Office Hours: Tuesdays and Thursdays 10:30am-11:30am or by appointment.

Class Meeting Times and Location: Tuesdays and Thursdays, 9:00 am - 10:20 am, Harris Corporation Engineering Center (HEC), Room 125

Undergraduate Teaching Assistant: Justin Meyer

Office: BIO Room 201, Biological Sciences

e-mail: EcoTA2@ucf.edu

Office Hours: 1:30pm – 2:30pm Tuesdays and Thursdays, or by appointment.

Weekly Review Sessions: Mondays from 1:00pm-2:00pm in BIO 104. NOTE: If no students arrive at weekly review sessions within 15 minutes of the designated start time, the remainder of the review session will be cancelled.

Email Policies:

- * **ALL questions regarding the class should be sent to the TA at EcoTA2@ucf.edu.**
- * If the TA cannot answer the question, it will be forwarded by the TA to the instructor.
- * Please include your (1) full name, (2) course title (i.e. Ecology) and (3) section number (0001 - Cook)
- * The TA will try to respond within 48 hours however, response time may be greater. Please plan accordingly by not waiting to the last minute to contact us with questions or concerns.
- * Due to confidentiality, grades must be discussed in person with the instructor and not via email.
- * Knight's E-Mail - We will only be able to send e-mail communications to Knight's E-mail addresses.

Intended Audience: This course is designed for Biological Science majors & minors, Environmental Science majors, Science Education majors and Pre-professional students

Course Description: This 3 credit hour course will examine the structure and function of ecological systems, including populations, communities, and ecosystems. Students are expected: (a) to master major concepts and basic terminology of ecology, (b) understand how evolution and ecology complement each other, and (c) understand approaches of ecological study, including theory, observations, and experiments.

Course Goals for Students:

1. Understand the basic principles of ecology as a cornerstone of a broad background in biology.
2. Learn some of the basic ecological terminology.
3. Appreciate and apply the theoretical concepts of ecology and the experimental evidence supporting them.
4. Become familiar with the scientific method as applied to ecological studies.
5. Gain an appreciation of ecology as a science and its role in understanding the man-nature interaction.

Course Prerequisites: C or better in Biology II (BSC 2011C) and Chemistry Fundamentals 1 (CHM 2045C).

Required Text and Resources:

Textbook: Bowman, Hacker, and Cain. 2017. Ecology, **4th ed.** Sinauer Associates, Sunderland, MA. Available at Book Store. If you prefer, a digital version is available at <http://ebooks.sinauer.com>.

i>Clicker2: Available at book store. You must use version 2.

Webcourses - Ecology is a web-enhanced class. Announcements, lecture notes, quizzes, grades,

study tips, and relevant web links will be made available at this site. Use your NID and myUCF password to log in. Before emailing us, please check this site for frequently asked questions!

Performance Evaluation:

Exams (4 x 22.5%)	90.0%
Web Quizzes	5.0%
Clicker participation	<u>5.0%</u>
	100%

Grading Scale

A	90 - 100%	B+	87 - 89%	C+	77 - 79%	D+	67 - 69%	F	0 - 59%
		B	80 - 86%	C	70 - 76%	D	60 - 66		

Grading and Evaluation:

Students will be graded and evaluated based on exam scores, web quizzes (average of 10 best), and clicker participation. The overall semester grade will be rounded to the nearest whole number. For example, a 79.49999 and below will round down to 79, while a 79.5000 and above will round up to 80). No matter where we set the limit, there will ALWAYS be someone who is close to the next grade. As there are many students in this class we strive for consistency and fairness. For this reason, there will be no exceptions to this policy and no other adjustments will be made to final grades.

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.** To succeed, students must read and understand materials presented in the textbook and lecture. Relevant chapters are included on the class schedule and readings need to complete **prior to class.**

Lectures:

Students should show proper classroom etiquette. *Please do not be late or leave early, this disrupts the class.* All cell phones should be turned OFF when entering the classroom. Students who arrive late or need to leave the lecture room early should sit towards the rear to avoid disrupting the class. Students should not disrupt other students (or the instructor) in class by talking, texting, or using your computer for purposes unrelated to the lecture. People not adhering to these common courtesies will be asked to leave the class. Recording of lectures is permitted.

Exams:

There will be four exams. The final exam (exam 4) is NOT comprehensive and will cover the material since the previous exam. The schedule for exams is listed in the class schedule below. The questions will be primarily multiple choice but may also include matching, fill-in, true/false, and/or short answer. All questions will pertain to concepts and material covered in lectures and textbook readings.

Exam Policies:

1. **All exam grades count towards your semester grade. No exam grades will be dropped.**
2. All exams will be based on both lecture material and text reading assignments.
3. You must bring:
 - a) a pencil
 - b) your UCF ID – **note:** failure to show your ID may result in a score of zero for the exam.
 - c) IF a calculator is needed it must be a nongraphing, nonprogrammable type of calculator capable of performing the type of calculations discussed in the text and lecture (e.g. Texas Instruments TI-30 or Casio fx-300MS). You may not use a cell phone.
4. Scantrons will be supplied. You do not need to bring your own.
5. Exams 1-3 will begin promptly at the beginning of class and will require the full 50 minutes to complete. The final exam will occur at the scheduled time during finals week (see class schedule).
6. The final exam is not comprehensive and will only include the material covered since the previous exam.
7. **You must attend the exam for your correct section.** This includes in-class exams and the final exam. There will be no exceptions to this policy.

8. **Do not arrive late.** A late student will be allowed access to the exam only at the discretion of the instructor/proctors. Under no circumstances will extra time be allowed.
9. Prior to the exam, all books, notes and bags must be stowed under your seat, all sunglasses removed, and all hat removed or turned backward.
10. Cell phones must be turned OFF and stowed during the exam period.
11. You will NOT be allowed to leave the exam. Make sure you have everything you need (pencil, ID, tissues, etc.) and use the restroom before the exam starts.
12. You must print your **PID number** on the scantron and question sheet. Be sure you know it!
13. Grades will be posted on WebCourses as soon as possible; we will inform the class when they are posted.
14. **REVIEW OF EXAMS** - Scantrons will not be returned to students. Instead, you may review your exam during the TA office hours or by appointment ([email EcoTA2@ucf.edu](mailto:EcoTA2@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).

Missed Exam Policy:

1. Official university business and religious holidays: Make-up exams for exams 1, 2, and 3 will be provided for students who must miss the exam 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.
2. Emergencies: Make-up exams for exams 1, 2, and 3 will be provided for students who must miss the exam as a result of a valid emergency, as defined by UCF and/or the professor (including but not limited to: major illness, serious family emergency, jury duty, military obligation, etc.). The student must contact the professor promptly (**within 24 hours or less**) after missing the scheduled exam and provide hard-copy documentation (e.g., a signed document from a doctor, police officer, judge, etc. – not by email) **within one week** of the scheduled exam for the student to be eligible for a make-up exam.
3. 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.
4. All unexcused absence from an exam or failure to comply with the deadlines outlined above will result in a zero for the missed exam.
5. **All make-up exams will be essay format.**
6. All make-up exams will be **completed at the Biology Testing Center (BIO Room 104)** during their designated hours within 1 week of the scheduled exam, unless other arrangements are approved by the instructor. Biology Testing Center hours for Spring 2020 are: **Mondays from 9:00-11:00 AM** and **Thursdays from 8:00-10:00 AM** in BIO 104.
7. All students are required to take the final exam and there will be **no make-up exams for the Final Exam**.

Quizzes:

There will be 11 multiple choice online quizzes to be accessed and completed **on WebCourses**. Quizzes will be available on Webcourses by 12:00pm the Thursday before they are due. All quizzes are due by **11:30 pm Friday** every week except exam weeks (see class schedule below). You will have 30 minutes to complete each quiz. Quizzes are open book 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. As questions are drawn randomly, the two quizzes will not consist of the same set of questions. 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 reading the text and 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.

Clickers:



You will need to bring your iClicker2 to lecture each day. Clickers will be used for in-class quizzes, opinion polls, on-the-fly knowledge assessments, and of course attendance. You must use the iClicker 2 (with the LCD screen). You may **not** use the iClicker1 or iClicker Reef on your phone, laptop, or tablet. You can purchase or rent this from the UCF bookstore.

The required use of clickers will begin on Thursday 1/16. You must have registered your i>Clicker2 by this day or you will not receive credit. It is however advisable that you register it immediately so you can try it out in class before it counts. That way you can learn how to use it and fix any problems prior to it affecting your grade.

iclicker2 registration:

The only valid way to register your i>Clicker2 for this class is through Webcourses. Even if you registered your i>Clicker2 in a previous semester you must reregister it this semester. Upon logging in to the class web page, you will find a tab on the left-hand side menu named "i>clicker". Click on that tab and then click on the "i>clicker Registration" link. Follow the instructions provided.

iClicker2 setup: Prior to using your iClicker2 you must set the frequency so it is the same as the one used for this class. To do so you must (1) push and hold the power button until the letters on the screen start blinking; (2) Press the A button 2 times. You should now see the letters AA on your screen. Each time you turn on your iClicker you should confirm that it is set to AA. It should not change but be sure to check just in case it does. If you are using it for another class you may need to change the frequency for each class.

How to use your iClicker: Power on your iClicker by pushing the power button. In class you will see the word "Ecology" appear on your screen if your frequency is properly set to frequency AA (see above). When an iClicker question is asked simply press your desired answer (A-E). If you change your mind, simply press your new answer prior to the instructor ending the polling. It is not necessary to push the "send" button. After pressing your answer you will receive a check mark on the screen indicating that your answer has been received by the instructor. Rest assured that if you see a check mark your answer has been received. If you do not see a check mark then your frequency may be incorrectly set or your iClicker may have malfunctioned and a new one should be obtained.

How the iClicker will be used in class: Most days in class, the instructor will ask one or more questions for you to answer using your iClicker2. Answering these questions is necessary to receive: (A) Participation credit; (B) Extra credit.

(A) Clicker Participation:

Clickers will be used to assess your overall attendance and participation. Your final participation grade is worth 5% of your overall grade. The responses do not need to be correct for you to receive credit for participation but ALL questions asked that day must be answered. So, if you arrive late or leave early and a quiz question is asked to which you were unable to respond due to your absence, then you will not receive participation credit for that day even if you answered a question in the middle of class.

*****NOTE*** You may miss class two times and still receive full participation.** So if your batteries run low (bring extras just in case), you forget your clicker, you overslept, your car did not start, etc., *there is no need to contact the instructor.* More than two missed participation days will however

result in a grade reduction unless these absences are for authorized exceptional reasons including illness, court, military duty, or official university business. Written documentation from a competent authority (physician, coach, counselor, etc.) for such absences should be presented to the professor following the same guidelines outlined above for missing an exam.

Your final participation grade will be calculated as follows:

$(\# \text{ of days you participated}) / (\text{total } \# \text{ of days clickers were used} - 2)$. So, if there were 35 clicking days then with the two allowed absences we would count it as 33 clicking days. If you participated in 25 days then your participation grade will be $25/(35-2) = 0.758$ (75.8%).

(B) Clicker Extra Credit:

It is not necessary to respond correctly to clicker questions to receive participation credit for a particular day, but correct responses will benefit your grade via extra credit added to your overall exam average. The maximum possible extra credit is 2%. Extra credit points missed for any reason cannot be made up under any circumstance.

Calculating your extra credit grade: There are 4 exams, each worth 100 pts, for a maximum of 400 points possible without extra credit. Two percent of 400 points is 8 points, for a maximum possible exam score of 408/400 with extra credit. To calculate your extra credit points, first divide the total number of clicker questions you got correct by the total number of clicker questions asked. Then to calculate your extra credit points, multiply this number by 8. For example, if you correctly answered 60 of 75 clicker questions during the semester, you answered $(60/75 = 0.8)$ 80% of the clicker questions correctly. Therefore you will receive $0.80 \times 8 = 6.4$ extra credit points added to your overall exam point total.

- *****NOTE*** Clicker responses will only count when done within your assigned section. You will not receive any points for participation or extra credit if you attend a course section in which you are not enrolled.**
- **Clicker responses must be done on your own, unless otherwise indicated by the instructor. Discussing answers with a neighbor prior to clicking is considered cheating and could result in a zero for your final participation grade** (see Academic Conduct section below).
- **Bringing a fellow student's clicker to class is cheating and could result in a zero for both your final participation grade, and the final participation grade for the student whose clicker you are using.**

Extra Credit: There is only one way to earn extra credit in this course and that is by correct i>Clicker2 responses. This results in a maximum possible of 2% added to your overall exam average (see “Clickers” section for details). No other forms of extra credit will be accepted under any circumstance.

Final Grade Rounding Policy:

To re-iterate, students will be graded and evaluated based on exam scores, web quizzes (average of 10 best), and clicker participation. The overall semester grade will be rounded to the nearest whole number. For example, a 79.49999 will round down to 79, while a 79.5000 will round up to 80. As there are many students in this class we strive for consistency and fairness. For this reason, there will be no exceptions to this policy and no other adjustments will be made to final grades.

Study suggestions:

This is a fast paced class covering ~25 chapters in the semester. To succeed it is essential that you stay caught up by reading, attending lectures, and studying the material. Students who prepare for the exams by simply attending lectures and reading their notes several times are unlikely to succeed on the exams. To succeed it is best to make your learning more active and focused. Active learning involves practicing the same skills you must perform on exams. In other words, quick recall of the appropriate information and applying it. To do this you should:

- A) Treat studying like it's a job. Set a schedule, show up for work, pay attention (i.e. no multitasking) while on the job. A general rule of thumb is 2-3 hours for every hour spent in class.
- B) Practice by Self-Testing. Make your own study questions: If you are like most people, you do not remember what you read/hear in sufficient detail to then be tested. However, it may be unclear which details you remember/understand and which you do not. The point in study questions is to figure out

prior to an exam what you don't understand or have trouble remembering and work on that material. You do not want to realize during an exam that you don't understand something as well as you thought you did as it is now too late! For methods on how to most effectively write questions and use these questions, be sure to consult the study tips section on Webcourses.

Ethics and Academic Conduct:

Students are expected to follow UCF's standards for personal and academic conduct as defined and outlined in the Golden Rule (see: <http://goldenrule.sdes.ucf.edu>). Academic dishonesty in any form will not be tolerated. If you are uncertain as to what constitutes academic dishonesty, please consult The Golden Rule, the University of Central Florida's Student Handbook (<http://www.goldenrule.sdes.ucf.edu/>) for further details. As in all University courses, The Golden Rule Rules of Conduct will be applied. Violations of these rules will result in a record of the infraction being placed in your file and receiving a zero on the work in question AT A MINIMUM. At the instructor's discretion, you may also receive a failing grade for the course. Confirmation of such incidents can also result in expulsion from the University.

Plagiarism and cheating - presenting another's ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on tests - contradict the educational value of these exercises. Students who attempt to obtain unearned academic credentials that do not reflect their skills and knowledge can also undermine the value of the UCF degrees earned by their more honest peers.

UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a Z-designation, failing grade in an assignment or in the course, or suspension or expulsion from the university. See <http://www.osc.sdes.ucf.edu/> for more information about UCF's Rules of Conduct.

ZDesignation: UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. If you are guilty of committing academic dishonesty, and it is determined that a "Z designation" will be applied, you will be assigned a zero for the assignment, and your final grade will be preceded by the letter Z on your permanent UCF transcript. For more information about the Z Designation, see <http://z.ucf.edu/>.

The current UCF policy concerning **incomplete grades** will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

As of Fall 2014, all faculty members are required to document students' academic activity at the beginning of each course. In order to document that you began this course, we will document attendance during at least the first couple weeks of class. Failure to attend class will result in a delay in the disbursement of your financial aid and incur the wrath of the administrative bean counters.

Disability Access:

The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Disability Services, Ferrell Commons Room 185, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Lecture, Reading and Exam Schedule (Subject to change):

Week	Date	Lecture Topic ¹	Chapter	Quiz due (11:30 pm) ²
1	January 07, 09	Intro, The Web of Life	1	(1) 1/10 (Ch 1 & syllabus)
2	January 14, 16	The Physical Environment The Biosphere	2, 3	(2) 1/17 (Chs 2 & 3)
3	January 21, 23	Coping with Environmental Variation (temperature, water) Coping with Environmental Variation (energy)	4, 5	(3) 1/24 (Chs 4, 5)
4	January 28, January 30	Tuesday Jan 28 = EXAM 1 (Chs 1, 2, 3, 4, 5) Evolution and Ecology	6	none
5	February 04, February 06	Life History Behavioral Ecology	7, 8	(4) 2/7 (Chs 6 & 7)
6	February 11, 13	Population Distribution and Abundance -No PCB 3044 on February 13th	9	(5) 2/14 (Ch 8 & 9)
7	February 18, 20	Population Growth and Regulation Population Dynamics	10, 11	(6) 2/21 (Chs 10 & 11)
8	February 25, 27	Tuesday Feb 25 = EXAM 2 (Chs 6, 7, 8, 9, 10, 11) Competition	12	none
9	March 03, 05	Predation and Herbivory, Parasitism	13, 14	(7) 3/6 (Chs 13 & 14)
Break	March 09-13	Spring Break - No Classes	-	-
10	March 17, 19	Mutualism and Commensalism, The Nature of Communities	15, 16	(8) 3/20 (Chs 15, 16)
11	March 24, 26	Change in Communities, Thursday March 26 = EXAM 3 (Chs 12, 13, 14, 15, 16, 17)	17	none
12	March 31, April 02	Biogeography Species Diversity in Communities	18, 19	(9) 4/3 (Chs 18, 19)
13	April 07, 09	Production, Energy Flow and Food Webs	20, 21	(10) 4/10 (Chs 20, 21)
14	April 14, 16	Conservation Biology, Landscape Ecology and Ecosystem Management	23, 24	(11) 4/17 (Chs 23, 24)
Finals	April 23	Thursday, April 23, 2020 7:00 am - 9:50 am = Exam 4 (Chs 18, 19, 20, 21, 23, 24)		

¹The dates of these topics serve as a guideline and are subject to change.

²All quizzes are due by 11:30 pm on the due date. See "Quizzes" section for more details.

*****NOTE*** The final exam occurs earlier than the normal lecture. Don't be late!**