PCB 3044 – Principles of Ecology
2020 Summer Session A
3 credit hours
On-line M-TH 1430 – 1620 h

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UCF Course Description: PCB 3044 COS-BIOL 3(3,0)
Principles of Ecology: PR: CHM 2045C or CHM 2041, and a "C" (2.0) or better in both BSC 2010C and BSC 2011C, or C.I. Elements of ecosystems, biogeochemical cycling, environmental factor interactions, population dynamics, and community development. Fall.

Course Outline: This course is organized in three cohesive blocks that comprise the essential elements of modern ecology. Weeks 1 & 2 – systems ecology; Weeks 3 & 4 – population and community ecology; Week 5 – biogeography, conservation & landscape ecology. Class time will be used for formal lectures and active-learning exercises that reinforce key principles described in the textbook.

Course Objectives:

- To provide good working knowledge of the scientific method.
- To explore core ecological principles, which are the scientific underpinning of agriculture, natural resource management, conservation biology and restoration ecology, and epidemiology.
- To develop quantitative and synthetic reasoning skills.

Textbook: The recommended textbook is Ecology, 5th Edition by William D. Bowman and Sally D. Hacker (2020). Oxford University Press, 744 pages. ISBN: 9781605359212. Earlier editions are fine, as are virtually any 21st century ecology textbooks. Wikipedia also is a reliable source of information on most ecological topics.

Schedule

DATE	TOPIC & FORMAT	READING
11 MAY	Course structure (L = Live) & course survey	Syllabus
	Introduction to Ecology (LR = Live & Recorded)	Chapter 1
12 MAY	**Exam #1: Pre-test** (C = Complete during scheduled class time)	
13 MAY	Scientific Method Part 1: Asking ecological questions (C)	
14 MAY	Scientific Method Part 2: Interesting questions (LC)	
	The physical environment (R)	Chapters 2, 3 & 25
18 MAY	Scientific Method Part 3: Null & alternative hypotheses (LC)	
	Environmental variation (R)	Chapters 4 & 5
19 MAY	Scientific Method Part 4: Testing hypotheses (LC)	
	Ecosystems, Energy Flow & Food Webs (R)	Chapters 20 & 21
20 MAY	Scientific Method Part 5: Interpreting results (L)	
	Nutrient supply & cycling (R)	Chapter 22
21 MAY	**Exam #2** (C)	
25 MAY	Memorial Day – no class	
26 MAY	Evolutionary & behavioral ecology (R)	Chapters 6 & 8
27 MAY	Life history & life tables (L)	Chapters 7 & 10
28 MAY	Population distributions (L – split class to discuss paper. One session begins at 1430 h and the other at 1530 h)	Chapter 9 & assigned reading
01 JUN	Population dynamics (LR)	Chapter 11
02 JUN	Competition (LR)	Chapter 14
03 JUN	Predation, herbivory, parasitism & pathogens (LR)	Chapters 12 & 13
04 JUN	**Exam #3** (C)	
08 JUN	Mutualism & commensalism (LR)	Chapter 15
09 JUN	Ecological communities (LR)	Chapter 16
10 JUN	Succession (R)	Chapter 17
11 JUN	Biogeography (R)	Chapter 18
15 JUN	Species diversity (C)	Chapter 19
16 JUN	Conservation biology (LR)	Chapter 23
17 JUN	Landscape & restoration ecology (R)	Chapter 24
18 JUN	**Exam #4** (C)	

Syllabus: The schedule, topics, activities, means of delivery (i.e., live versus recorded lecture) and class rules are tentative and the professor reserves the right to alter them as needed. Students will be notified of changes via Web Courses.

Audio and video-recording are not allowed. Aside from materials provided on Web Courses, and notetaking and recording services offered by Student Accessibility Services, the creation of an audio or video recording of all or part of a class is not allowed.
Zoom classes will begin on time so be sure and log on promptly. At 1430 h, I will allow students enrolled in the class into the Zoom meeting. Initially, I will turn off everyone's video and microphone and disable the chat feature. I will turn some features back on when you are working in groups. If you log on late, I will let you into the course during a natural break in the material.

Please be respectful and kind to one another during remote learning, the same way you would during a face-to-face class. Help each other and be patient when technical difficulties arise. Ecologists are well known for being adaptable and helping each other. During field work, our lives often depend on one another – literally.

If you need help: Web Courses is the required means of communication – not e-mail! Your message must be submitted through Web Courses, be written in a professional manner and include your full name as it appears in the class roster. I will try to answer questions within three class days unless the answer is in the syllabus, already was posted on web courses, was answered during class, can be determined using readily-available resources or common sense, or is unrelated to the course.

If you need technical support, computer equipment, help with basic living necessities, etc., please contact the appropriate office. See https://www.ucf.edu/coronavirus/ for the current list of resources. Many UCF offices are still open; staff are just working remotely.

Virtual office hours: I will be available via Zoom during "home office" hours, which will be announced weekly. During the week of May 11th, "home office" hours will be 1000 – 1200 h on Wednesday, May 13th.

Lecture notes: Engage your brain - take notes! You are responsible for all material covered in class, and if you miss a class, you must obtain notes and other resources from your classmates. You will begin working in groups on May 13th, so you will meet other students via Zoom.

Exams: All exams are cumulative. Exams will be challenging and will require you to use the scientific method and apply ecological concepts to new situations. To encourage good study habits and discourage memorize/regurgitate/forget behavior, I will decline to answer questions one class day before each exam. Late submissions will not be accepted and will receive a score of zero.

Regrade requests: If you find an error in grading, please let me know through Web Courses so I can correct it for the entire class. Regrade requests are limited to substantive errors, not subjective assessments. Regrade requests also must be submitted via Web Courses within three class days of the exam or activity in question.

Make-up exams and activities: All exams are cumulative so if an acceptable absence forces you to miss an exam, its weight will be added to the final exam. Acceptable absences are major illness, serious family emergencies, special curricular or professional requirements (e.g., attending a scientific meeting), court-imposed legal obligations, military obligations, severe

weather conditions, religious holidays, and participation in official university-sponsored activities such as intercollegiate athletics. Acceptable absences must be documented in advance, if possible. If you miss an exam for other than an acceptable absence your score will be a zero. Likewise for scientific method activities – you must be present and contributing and submit written work on time to receive credit.

Grading: Your numerical grade will be determined by completing the course survey, your work on the scientific method assignments (in orange on the schedule) and your performance on the four exams, as follows:

Course survey	2.5%
Scientific method assignments	20% (all five components contribute equally)
Exam 1 – Pretest	5%
Exam 2	20%
Exam 3	22.5%
Exam #4 – Final exam	30%

You can access your scores using the Grades section of Webcourses@UCF. Please be patient as there may be a considerable delay in posting grades. Remember that you outnumber me 150 to 1 and that I have no assistants.

I use competency-based grading in all my courses: to earn an A, one must demonstrate the abilities expected of an excellent undergraduate ecologist. **If the entire class demonstrates such abilities, I will be absolutely delighted to give everyone an A! The easiest way for everyone to earn an A is to help each another - peer learning and altruism benefit everyone.**

At the end of the course, numerical grades will be converted into letter grades as shown below.

92.6 – 100.0	A		67.5 – 69.4	D+
89.5 – 92.5	A-		62.6 – 67.4	D
87.5 – 89.4	B+		59.5 – 62.5	D-
82.6 – 87.4	B		59.4 or less	F
79.5 – 82.5	B-			
77.5 – 79.4	C+			
72.6 – 77.4	C			
69.5 – 72.5	C-			

Ethics: As reflected in the UCF creed, integrity and scholarship are core values that should guide our conduct and decisions as members of the UCF community. Plagiarism and cheating contradict these values, and so are very serious academic offenses. Penalties can include a failing grade in an assignment or in the course, or suspension or expulsion from the university. Students are expected to familiarize themselves with and follow the University's Rules of Conduct (see http://goldenrule.sdes.ucf.edu/).

Withdrawal: The deadline for withdrawal without penalty is published by UCF. You will need to decide whether or not to remain in the course by that time. I do not give grades of Incomplete and the Biology Department does not permit NC (No Credit).

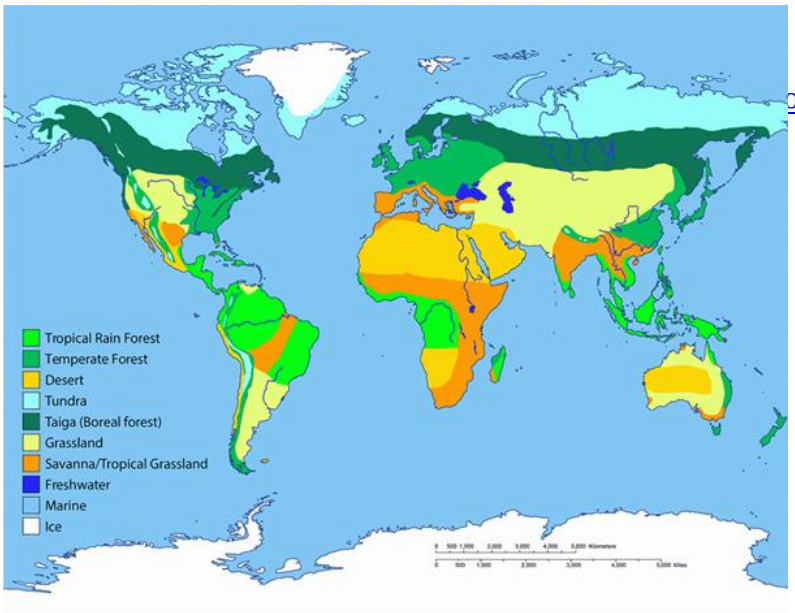
Disability statement: The University of Central Florida and Dr. Fauth are committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact Dr. Fauth as soon as possible. Students should also connect with Student Accessibility Services (SAS) http://sas.sdes.ucf.edu/ (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be 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.

Accommodations for active duty military students: UCF & Dr. Fauth are committed to providing accommodations for active duty military students. Students who need such accommodations must discuss them with Dr. Fauth at the beginning of the semester.

Emergency procedures and campus safety: The UCF campus is closed due to the global COVID-19 pandemic. Refer to https://www.ucf.edu/coronavirus/ for updates. During outdoor course activities, always follow the recommendations of the US Center for Disease Control and Prevention. Be sure to maintain physical distancing (≥ 2 m) from anyone who is not a member of your "quaranteam."

Three keys to success:

- Pay attention
- Work hard
- Plan ahead
- Have fun!



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