

PCB 6046 Advanced Ecology, Fall 2020

Where & When: Tues & Thur 10:30 – 11:50

Instructor: Dave Jenkins email: david.jenkins@ucf.edu

Text: Real LA & JH Brown (eds). 1991. Foundations of Ecology: Classic papers with commentaries. U. Chicago Press
ISBN 978-0-226-70594-1 In the UCF bookstore and at allbookstores.com

Course Description: Advanced Ecology extends your earlier coursework to dive deeper into major ecological ideas. We will read and discuss classic papers that were important to starting or growing the ideas, and we will follow up with recent papers on the same or derived themes. Goal = a strong, broad basis for your ecological research.

COVID-19 Considerations:

- This course, will be held on *Zoom during the scheduled class times* (link and schedule above), with the goal that it feels like it would in a classroom (to the extent possible). The course tries to retain a sit-around-the-table-and discuss feeling. That means it will greatly help if you keep video on while “in class” (so I can see your puzzled looks or raised hands). I understand if bandwidth is a problem – but please know that a teacher depends on seeing their students to see if it is working.
- I expect that you will “*come prepared to class*” by reading in advance. Nuff said.
- Email me if you need help outside class hours – we can meet on Zoom, etc.

Performance Evaluation

Midterm & Final Exams*	33.0 % each
Discussion Leadership & Participation	34.0

Grade scale: A = 90-100, B = 80-89.9, C – 70-79.9, D = 60-69.9, F ≤ 59.9

Midterms and Final Exam: Your grade is based on your participation in class and two take-home (open-book) essay exams (see schedule below). Exam questions will require you to think, analyze information, apply what you have learned from the readings & discussions, and write as a cogent scientist (see recent readings for cogent scientific writing and citation style [he types optimistically]). *Allow time to edit your writing before submitting!*

Discussion Leadership & Participation: We will shift during the semester from me leading discussions to you leading discussions on recent papers (i.e., 1 of 2 days per week). We will schedule that in advance, and I will help as needed. Being organized, and thinking up provocative questions to share in advance will help you lead. Participation in a class like this is obviously essential.

Suggestions:

- Budget your time to read sometimes dense papers – these are not light reading and styles are now more concise than once upon a time. Prepare to immerse in different styles.
- Take notes while reading. Ask questions while reading and write them down.
- Question authority.
- Expect me to try to get you talking and thinking.
- ***Please come out of that shell: talk, ask questions, answer questions.*** That helps you form ideas, helps others form new ideas, and see where confusion reigns.

Other Business:

1. Attendance is important for your learning, but is not counted in your grade. Participation is.
2. You are expected to abide by the UCF rules for student conduct
<https://scai.sdes.ucf.edu/student-rules-of-conduct/>
3. Plagiarism = a grade of zero for the course. It is easy avoid this penalty – just write your own words, and where needed add a placeholder (I use XXX) to flag a needed citation. Then re-read or find works to ensure that what you wrote is legit, and cite them. If you cannot back it up, re-write. Note that this takes more lead-time before a deadline (see 1st suggestion above).
4. All UCF syllabus statements as may apply to this course are invoked and available at <https://fctl.ucf.edu/teaching-resources/course-design/syllabus-statements/>.
5. All reasonable accommodations will be made for disabilities documented through the Office of Student Disability Services (SRC 132; 407-823-2371). Please talk to Dr. Jenkins.
6. The instructor reserves the option to adjust the rules, schedule, and grading system as outlined in this syllabus as needed to maintain the best possible educational integrity of the course. Any such changes will be announced and revised syllabi will be distributed.

COURSE SCHEDULE (SUBJECT TO CHANGES)

Class Dates	Theme	Readings to Discuss <i>(italics are in Real & Brown; others are pdfs on web page)</i>
Aug 25, 27	Intro	Tuesday: Syllabus Thursday: Brief History of Ecology
Sep 1, 3	Organisms & environment	Tuesday: <i>Porter & Gates (1969)</i> , Grime (1977) Thursday: Beale et al. (2008), Díaz et al. (2016)
Sep 8, 10	Populations 1	Tuesday: <i>Volterra (1926)</i> , <i>Birch (1948)</i> , <i>Cole (1954)</i> Thursday: Savage et al. (2004), Barreto et al. (2019)
Sep 14, 16	Populations 2	Tuesday: <i>Skellam (1951)</i> , <i>Huffaker (1958)</i> Thursday: Saccheri et al. (1998), Nathan (2006)
Sep 21, 23	Niche	Tuesday: <i>Grinnell (1917)</i> , <i>Davidson & Andrewartha (1948)</i> , <i>Hutchinson (1957)</i> Thursday: Beale et al. (2008), Boucher-Lalonde et al. (2012)
Sep 28, 30	Competition	Tuesday: <i>Park (1948)</i> , <i>MacArthur (1958)</i> , <i>Connell (1961)</i> Thursday: Mayfield & Levine (2010), Korb & Foster (2010)
Oct 6, 8	Predation	Tuesday: <i>Holling (1959)</i> , <i>Brooks & Dodson (1965)</i> , <i>Schoener (1971)</i> Thursday: <i>Paine (1966)</i> , Pierce & Ollason (1987), Harley (2011)
Oct 13, 15 M TO YOU	Evolutionary Ecology	Tuesday: <i>Kettlewell (1955)</i> , <i>Hutchinson (1959)</i> , <i>Ehrlich & Raven (1964)</i> Thursday: <i>Harper (1967)</i> , Cavender-Bares et al. (2009), Schoener (2011)
Oct 20 , 22 M DUE	Diversity	Tuesday: Huston (1979), Shmida & Wilson (1985), Jost (2007) Thursday: Carmona et al. (2016), Tucker et al. (2017)
Oct 27, 29	Communities	Tuesday: <i>Hairston et al. (1960)</i> , Ricklefs (1987), Lawton (1999) Thursday: Leibold et al. (2004), Lawson et al. (2019)
Nov 3, 5	Ecosystems	Tuesday: <i>Forbes (1887)</i> , <i>Lindeman (1942)</i> , <i>Teal (1962)</i> Thursday: <i>Odum (1969)</i> , <i>Likens et al. (1970)</i> , <i>Goumand et al. (2017)</i>
Nov 10, 12	Scale	Tuesday: Levin (1992), Ricklefs (2008), Soininen et al. (2007) Thursday: Chave (2013), Chase et al. (2018), He et al. (2020)
Nov 17, 19	Chaos & Thresholds	Tuesday: <i>May (1974)</i> , Noy-Meir (1975), Beisner et al. (2003), Thursday: Barnosky et al. (2012), Mathias et al. (2020)
Nov 24	Climate & change	Tuesday: <i>Davis (1969)</i> , Hobbs et al. (2009), Loarie et al. (2009) Thursday: No Class
Dec 1, 3 F TO YOU	Integrative directions	Tuesday: Ricklefs & Jenkins (2011), Johnson et al. (2015) Thursday: Picasso (2018), Bettencourt & Kaur (2011)

Dec 8, 10

FINALS WEEK – FINAL DUE DEC 10