

Syllabus: Community Ecology, PCB 6447C (section 23BG)

Spring 2024

Instructors: Todd Palmer, 411 Carr Hall, 392-6357, tmp@ufl.edu

Robert D. Holt, 111 Bartram Hall, 392-6917, rdholt@ufl.edu

Lab manager: Mrs. Vitrell Sherif, vitrell@ufl.edu

Office Hours: By appointment

Class time and place: Tuesdays & Thursdays 12:50-2:45 (periods 6-7), Room 521 Carr Hall

Credit hours: 4 credits

Text: Community Ecology, Gary G. Mittelbach, 2012, ISBN: 978-0-87893-509-3 (paperbound). Also a helpful resource, but not required: A Primer of Ecology, 4th Ed., Nicholas J. Gotelli, 2008, ISBN: 978-0-87893-318-1. The Reitz Union bookstore has copies of the text. If they run out, more can be ordered. Also, one can order directly from the publisher, with a discounted price and free shipping (<http://www.sinauer.com/>). *Additional readings from the primary literature will be assigned, as the class proceeds.*

Prerequisites: Instructor's permission, intellectual curiosity, and enthusiasm. It is expected that you will have had instruction in ecology and related disciplines, such as evolution, statistics and biomathematics. This is a graduate course, and so we expect a high level of intellectual engagement with the material.

Course objectives: The overall goal is to help students achieve a rigorous understanding of contemporary community ecology, and how current understanding has arisen from key historical precedents. The basic objective of community ecology is to understand patterns in community assemblages, across time and space. These properties might include species diversity and composition, patterns of interspecific abundance, historical patterns of assembly – and disassembly – and the grounding of all these patterns in the dynamics of interactions among species and their evolutionary histories and ecosystem contexts. We will deal both with theoretical and empirical issues. We hope to make graduate students more literate in the basic concepts of theoretical ecology that are important in community ecology. Although this is not specifically a course on the mechanics of modeling, or computer simulation, or dynamical systems, we will necessarily deal with much abstract, mathematical and computational material.

The course will comprise: lectures; readings of a synthetic textbook and primary publications in the historical and contemporary literature; discussions; periodic written assignments, including a term paper. Details about these will be provided during the first weeks of the course.

Grades: Grades will be assigned per UF policy*. Your final grade will be determined on the basis of the following: a) Participation 20%, b) short written assignments 20%, c) literature presentation and discussion 30%, d) term paper 30%.

(*see <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html> for full details).

Class attendance and etiquette policy. You are expected to come to class and participate in each class period, and to have read and digested the assigned reading material. All absences require a valid reason, and without such a reason, points will be deducted from your class grade. You will be responsible for any material missed in class, and to make up for your absence, you will need to write

short essays demonstrating that you have covered the reading assignments so missed. Likewise, points will be deducted from your grade for turning in assignments late. Our policy is to deduct 10% from the grade, per late day, for late assignments.

We expect that in class you will be paying close attention and engage with lectures and discussions. This means that you should not be checking your email, surfing the web, or otherwise electronically (dis)engaged. Keep cellphones turned off, please.

Disabilities accommodation: Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation **by the second week of classes**. No accommodations are available to students who lack this documentation. It is the policy of the University of Florida that the student, not the instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

How the course is structured: We aim to foster interaction and engagement by students in the class. The course consists of a combination of traditional lectures, group discussions, and peer review of student writing. On each topic indicated in the schedule below as a "student-led discussion", there will be one to two hours focused on 2 to 4 papers from the primary literature. Pairs of students will present papers on those days, with each student in a pair taking primary responsibility for 1 to 2 of these. The quality of those presentations will be critical to the quality of the class. But each of you have to closely and carefully read, digest and think about the material, in order for a class discussion to work. To facilitate this, each pair will have a designated Discussion leader, who will give a 10-15 minute detailed overview of the paper at the start of the discussion, and a written summary of the basic concept and findings of the paper, along with questions to be brought up in the class discussion. This needs to be turned in to our lab manager, Mrs. Vitrell Sherif (vitrell@ufl.edu), to be distributed to the class, by the morning of the day preceding the day of the discussion. Additionally **each of you** will be required to write a one-paragraph summary of the main points of the papers, and 3 (or more) questions based on each week's readings, and bring this to the class discussion. You will be required to turn these summaries and questions in to the instructors **prior** to the start of discussion, so please keep a second copy for yourself so that you have the opportunity to raise these questions during the class.

Class Schedule

January

1	9 th , T	What is community ecology? (Preface, and <i>Chapter 1</i>) – Palmer
2	11 th , Th	Patterns of Biological Diversity (<i>Chapter 2</i>) – Palmer
3	16 th , T	Grounding community ecology in population dynamics (<i>Chapter 4</i>) – Holt

- 4 18th, Th Fundamentals of predator-prey interactions (*Chapter 5*) – Holt
- 5 23rd, T Patterns of Biological Diversity (student-led discussion) – Palmer
- 6 25th, Th Interspecific competition in nature (*Chapter 8*) – Palmer
- 7 30th, T Interspecific competition -- theory (*Chapter 7*) – Holt

February

- 8 1st, Th Behavioral ecology of predation (*Chapter 6*) – Holt
- 9 6th, T Infectious disease ecology (*Chapter 5, and extra readings*) – Holt
- 10 8th, Th Positive interactions in communities (*Chapter 9*) – Palmer
- 11 13th, T Mutualisms, from simple to complex (student-led discussion) – Palmer
- 12 15th, Th Species interactions in ecological networks I (*Chapter 10*) – Palmer
- 13 20th, T Species interactions in ecological networks II (student-led discussion) – Palmer
- 14 22nd, Th Biodiversity and ecosystem function, (*Chapter 3*) – Palmer
- 15 27th, T Food chains and food webs (*Chapter 11*) – Holt
- 16 29th, Th Biodiversity and ecosystem function (student-led discussion) – Palmer

March

- 17 5th, T Ecosystem engineering and zoogeochemistry – Amanda Subalusky, guest
- 18 7th, Th Species diversity metrics, patterns – Sam Scheiner, guest, student-led discussion

****Prospectus for Term Paper Due****

- 12th, T Spring break
- 14th, Th Spring break
- 19 19th, T Food chains and food webs II (student-led discussion) – Holt
- 20 21st, Th Community assembly, succession and transient dynamics (*Chapter 12*) - Holt
- 21 26th, T Community assembly, etc. (student-led discussion) – Holt
- 22 28th, Th Spatial community ecology (*Chapter 13*) – Holt

April

23	2nd, T	Spatial community ecology (student-led discussion) – Palmer
24	4 th , Th	Metacommunities and Neutral theory (<i>Chapter 14</i>) – Mathew Leibold
25	9 th , T	Species coexistence in variable environments (<i>Chapter 15</i>) – Dr. Nick Kortessis
26	11 th , Th	Species coexistence (student-led discussion) – Palmer
27	16 th , T	Evolutionary community ecology (<i>Chapter 16</i>) – Holt
28	18 th , Th	Jeremy Fox, guest lecture (topic TBA)
29	23 rd , T	Concluding thoughts (<i>Chapter 17</i>) – Palmer, Holt, virtual guest: Mark McPeck **Term Paper Due**

COVID-19 SAFETY

[*This section prepared and approved by UF administration*] In response to COVID-19, the following practices are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

1. If you are not vaccinated, get vaccinated. Vaccines are readily available at no cost and have been demonstrated to be safe and effective against the COVID-19 virus. Visit this link for details on where to get your shot, including options that do not require an appointment: <https://coronavirus.ufhealth.org/vaccinations/vaccine-availability/>. Students who receive the first dose of the vaccine somewhere off-campus and/or outside of Gainesville can still receive their second dose on campus.
2. You are expected to wear approved face coverings at all times during class and within buildings even if you are vaccinated. Please continue to follow healthy habits, including best practices like frequent hand washing. Following these practices is our responsibility as Gators.
3. Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
4. Hand sanitizing stations will be located in every classroom.
5. If you are sick, stay home and self-quarantine. Please visit the UF Health Screen, Test & Protect website about next steps, retake the questionnaire and schedule your test for no sooner than 24 hours after your symptoms began. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 (or email covid@shcc.ufl.edu) to be evaluated for testing and to receive further instructions about returning to campus. UF Health Screen, Test & Protect offers guidance when you are sick, have been exposed to someone who has tested positive or have tested positive yourself. Visit the UF Health Screen, Test & Protect website for more information.
6. If you are withheld from campus by the Department of Health through Screen, Test & Protect you are not permitted to use any on campus facilities. Students attempting to attend campus activities when withheld from campus will be referred to the Dean of Students Office. Course

materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

Continue to regularly visit www.coronavirus.UFHealth.org and www.coronavirus.ufl.edu for up-to-date information.

Academic Integrity

UF students are bound by **The Honor Pledge** which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392- 1575 so that a team member can reach out to the student.

Counseling and Wellness Center: <https://counseling.ufl.edu/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services: Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies). [http://www.police.ufl.edu/E-learning technical support](http://www.police.ufl.edu/E-learning-technical-support), 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>. Career Connections Center, Reitz Union, 392- 1601. Career assistance and counseling. <https://career.ufl.edu/>

Library Support: <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

<http://teachingcenter.ufl.edu/> Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

Basic Needs: Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Dean of Students for support –see <http://www.umatter.ufl.edu>. Please notify the professor if you are comfortable in doing so, and visit **The Field and Fork Pantry** <https://pantry.fieldandfork.ufl.edu> for additional resources. The **Molm Family Gator Career Closet** (link) alleviates the financial strain of purchasing professional clothing for career fairs, interviews, and the workplace. This service is available to all University of Florida students with a valid UF ID and UF alumni up to one year after graduation.

Recording lectures: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A

“class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session. Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.