

**Principles of Ecology Laboratory
PCB 3044L
Lab Manual**

PCB 3044 L SYLLABUS – FALL, 2014

Labs Meet: Room 305 in Biology or lot E4 (near Softball Stadium) – see schedule on pp. 2 & 3
Instructors: **Madison Hall** BIO 421, madison.hall@knights.ucf.edu
Office Hours: Tues: 11:30 – 1 pm, Wed: 11:30 – 1
Ian Kutch BIO 412, kutch.bio@knights.ucf.edu
Office Hours: Wed: 9-10:30 AM & Fri: 9-10:30 PM

Text: The Lab Manual is **FREE** and can be accessed through WebCourses. Alternatively, you can access the course by logging into the myUCF portal (<https://my.ucf.edu>) and clicking on the "Online Course Tools" tab.

Intended Audience: Biological Science majors, Science Education majors, Pre-professional students, and selected graduate students.

Course Description: This course is intended to provide hands-on experience in conducting research in ecology. You will gain ample field experience and participate in a field experiment focused on the effects of prescribed fire on pine flatwoods habitat in the UCF Arboretum. You will then write critical components of an individual lab report based on this experiment in order to improve your science writing skills and to better understand the process that scientists go through before attempting to publish their work in a scientific journal.

Course Prerequisites: At a minimum: BSC 2010C & BSC 2011C. Taking PCB 3044 (Principles of Ecology) prior or simultaneously is also encouraged.

Performance Evaluation:

Research Report*	30%
Summary papers (2 @ 10% each)**	20%
Other assignments (5 @ 5% each)***	25%
Plant I.D. quiz	10%
Participation	<u>15%</u>
Total =	100%
Possible Bonus pts.****	10

Grade scale: A+ = 100-96.6, A = 96.5-93.3, A- = 93.2-90, B+ = 89.9-86.7, B = 86.6-83.4, B- = 83.3-80, C+ = 79.9-76.7, C = 76.6-73.4, C- = 73.3-70, D+ = 69.9-66.7, D = 66.6-63.4, D- = 63.3-60, F < 59.9

*The Research Report grade is actually broken into 6 components, all of which are worth 5% each - a ROUGH and FINAL version of most of the integral parts of a scientific paper (written in this order): 1) Materials and Methods/Hypotheses, 2) Introduction, and 3) Results/Discussion – these will all be assigned at different points in the semester and graded according to corresponding rubrics.

**1 will be chosen for you and discussed in class, but, for the 2nd, you will be able to choose from 3 choices.

***All due in class – **NO** make-ups allowed!

****Given out and added to grades at the discretion of your instructor.

Principles of Ecology Laboratory

PCB 3044L

Lab Manual

Participation: You are expected to be a fully-cooperating member of lab teams. You will work together to collect data that you will share with the class for everyone to use in their Lab Report components. As such, the grades of other students depend on you, too. Additionally, class attendance and punctuality, your cooperation with group members to complete in-class assignments, and the lab instructor's independent observations of your participation will factor into this portion of your grade. Play nice, do your part, and you'll do just fine!

Attendance: Attendance is **mandatory**. Almost every lab is conducted with one or more group members, so if you miss the lab, it not only affects you, but your group members as well. Everyone is allowed one excused absence with an official note. This also the **ONLY** way that in-class assignments can be made up, but they must be completed by the class after the note is given to the instructor. One absence beyond that will result in a 5% reduction of your final grade, a second absence will result in a 10% reduction in your final grade, and so on, which will heavily impact your grade.

We begin lab at the time that it is listed on myUCF/Webcourses. If you are more than 10 minutes late, you will be allowed to come into lab and receive participation points for the day, **BUT** you will receive an absence for that day. **DON'T BE LATE!**

Late Policy: On its due date, all assignments are due on WebCourses prior to the start of lab. If you do not upload your assignment on time, at least 10% will be deducted from your assignment grade for each day that it's late. If you are absent on a day that an assignment is due and you provide documentation, then there won't be a late penalty, but you must turn in your assignment **ASAP**. Summary Paper 1 will not be accepted late at all.

Your Responsibilities:

- *Read the lab manual **BEFORE** you come to class:* We will not waste time in lab lecturing about what you should have read in advance.
- Assignments are to be submitted on WebCourses before the start of class on the day the assignment is due.
- Print instructions and data sheets for each week as needed.
- Don't be late: all instructions are often given within the first 10 minutes of class.
- PLEASE ASK QUESTIONS – in class, via email, in office hours, by appointment, on the WebCourses Discussion Board, and utilizing your fellow classmates – there is **NO** excuse for not finding an answer to something!
- THINK! Ecology forces us to go beyond memorizing, especially when doing research. This class is intended to teach you how to be independent and solve problems on your own before asking your TA.
- Cooperate with your team and others – many hands make less work, and 15% of your grade depends on your cooperative behavior.
- Dress for the job. **Wearing closed-toe shoes is MANDATORY on field days.** Be prepared to get sweaty and dirty while doing field work. We also highly recommend long pants, a long-sleeved shirt, a hat, insect spray, and sunblock. In addition to the usual biting/stinging insects, ticks are also known to be encountered, and there has been at least one recent sighting of a young rattlesnake, so stay alert and alert your instructor to any issues.
- Read and understand the UCF Rules for Student Conduct (<http://www.goldenrule.sdes.ucf.edu>) and UCF Academic Regulations and Procedures (<http://catalog.ucf.edu/policies/academic->

**Principles of Ecology Laboratory
PCB 3044L
Lab Manual**

[regulations](#)). These rules apply to you and will be followed in the course.

Student Disabilities:

All reasonable accommodations will be made for disabilities documented through the Office of Student Disability Services (SRC 132; 407-823-2371).

Planned Lab Schedule (subject to change)
Emphasized dates in bold are field days - bring water and dress appropriately!

Meet at:	Week of:	Lab Topics	Lab Manual Chapter	Due
305	Aug 18/19	-Introduction to Lab -Goals and safety -Overview of WebCourses & Lab Manual -Hypothesis writing <u>Power Point (1)</u>	1.0 2.0 3.1, 3.2	
305	Aug 25/26	-Library tutorial -Overview of field experiment <u>Power Point (2)</u> -Introduction and Methods section <u>Power Point (3)</u> -Assignment 1: fire ecology literature review	3.3 3.3.1 6.0, 6.1, 6.2	Assignment 1 (due in class)
	<i>Sept 1/2</i>	<i>No classes – Labor Day on 9/1</i>	5.0 5.1, 5.2, 5.3 5.6	Draft of Methods/Hypotheses for Lab Report (1)
E4	Sept 8/9	<u>Field Trip (1)</u> -Begin Assignment 2: field notes	5.4, 5.5, 5.9, 5.10 6.2.1	DRAFT Introduction to Lab Report (2)
305	Sept 15/16	-Scientific paper overview – how to read, what to focus on - <u>Arboretum</u> plants review: field note and <u>Power Point (4)</u> -Basic Statistics <u>Power Point (5)</u> -Assignment 3: Excel/statistics exercise	4.0 4.1, 4.2, 4.3 4.4, 4.5	Assignment 3 (due in class)
E4	Sept 22/23	<u>Field Trip (2)</u> -Paper summary 1 discussion -Continue Assignment 2	5.8	Paper summary 1

**Principles of Ecology Laboratory
PCB 3044L
Lab Manual**

E4	Sept 29/30	<u>Field Trip (3)</u> -Wrap up Assignment 2 -Pre-Plant I.D. Quiz (5 bonus points)		-Assignment 2 (due in class – will be given back immediately), -FINAL Introduction to Lab Report (3)
E4	Oct 6/7	<u>Field Trip (4) & Field Work (1)</u> -Plant I.D. Quiz -Choose/Assign Groups x6 -Lab Report data collection begins	6.2.2 6.2.3	
E4	Oct 13/14	<u>Field Work (2)</u> -Lab Report data collection		Paper summary 2
E4	Oct 20/21	<u>Field Work (3)</u> -Finish Lab Report data collection		
305	Oct 27/28	-Results/Discussion <u>Power Point (6)</u> , -Begin Lab Report calculations	5.7, 5.8	
305	Nov 3/4	-Assignment 4: complete Lab Report calculations, -Begin Fire Lab Graphs	6.2.4	-Assignment 4 (due in class) -FINAL Methods/Hypotheses for Lab Report (4)
	<i>Nov 10/11</i>	<i>No classes – Veteran’s Day on 10/11</i>	3.4 6.3	DRAFT Results/Discussion for Lab Report (5)
305	Nov 17/18	-Assignment 5: complete Fire Lab Graphs -Discuss interpretations of data		-Assignment 5 (due in class)
E4	Nov 24/25	<u>Field Trip (5)</u> -Learn about more of Florida’s interesting ecosystems with a professional ecologist		
	<i>Dec 1/2</i>	<i>No classes – 12/1 is UCF Study Day Good luck with finals!!!</i>		FINAL Results/Discussion for Lab Report (6)