

PCB 6466 Methods in Experimental Ecology I (3 cr.)

Where & When: BIO 305, Wed & Fri 2:00 – 3:20 pm

Who: Dave Jenkins, BIO 111B, david.jenkins@ucf.edu [email to schedule a meeting]

Federico Borghesi, BIO 111, flopezborghesi@knights.ucf.edu [email to schedule a meeting]

Resources:

- <http://sciences.ucf.edu/biology/d4lab/methods-1>
- YouTube lectures: youtube.com/channel/UCExBFDFe1XbNbto0yYXaxPg/videos
- Hector, A (2015) The new statistics with R – an introduction for biologists. Oxford. ISBN 978-0-19-872906-8 <http://www.allbookstores.com/book/compare/9780198729068>.
Also available thru UCF library: <https://login.ezproxy.library.ucf.edu/login?url=http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780198729051.001.0001/acprof-9780198729051>

Course description: Learn how to design, analyze and interpret experiments and quantitative observations. Introduction to modern statistical software and basic statistical methods needed to collect, organize and interpret data critically. For beginning graduate and senior undergraduate researchers, this course bridges between undergraduate stats and Methods II.

Main Goals for Students:

- Design efficient and effective sampling programs and experiments
- Avoid design mistakes that are potentially “fatal” to your work
- Correctly select and conduct essential statistical analyses in R
- Understand limits of basic analyses relative to advanced methods
- Develop skills in this introductory course that enable later, advanced analyses

Weekly Process:

1. Watch YouTube lectures ***BEFORE*** class
2. Read related chapter and other materials ***BEFORE*** class
3. Come to class to ***learn by doing***, with our help. Save *annotated* code !
4. Do homework, on your own, and submit on time (see course web page for details)

Student Responsibilities:

- Students are expected to be masked. Zoom Meeting ID: 956 2694 2539 Passcode: stats
- Do all 4 steps of the weekly process, every week.
- Complete all assigned work on time, and participate fully
- Follow the University standards for personal and academic conduct:
<http://goldenrule.sdes.ucf.edu/docs/goldenrule.pdf#page=38>.

Student Performance Evaluation:

- 12 homework assignments. 10 points each = 120 points
- Cumulative Final 30 points
- Total = 150 points
- Grade scale: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F= below 60%

Schedule: see <http://sciences.ucf.edu/biology/d4lab/methods-1/> for the most current schedule.

Homework is due BEFORE class on dates listed.