

[ORIGINAL SYLLABUS]

EBIO 4410/5410 Fall 2023
Biological Statistics Lab

Meeting Time: Monday and Wednesday 12:20pm – 2:10pm, Ramaley N183

Office Hours: Friday 11:00am – 12:00pm or by appointment, Ramaley N197

TA: Henry Li

Email: Henry.Li-1@colorado.edu

Office: Ramaley N221

Course Schedule:

Week	Date	Lab Topics	Assignment	Points
1	8/28, 8/30	R tutorial, pre-assessment	Lab 1: Introduction to R	5
2	9/6	Sampling distribution, descriptive statistics	Lab 2: State of the Union	10
3	9/11, 9/13	Proportions, hypothesis testing, p-values	Lab 3: Guppies	10
4	9/18, 9/20	Data collection, generating hypotheses	Lab 4: Chi-squareds	10
5	9/25, 9/27	Simulations, normal distribution	Lab 5: Normal	10
6	10/2, 10/4	Data transformation, non-parametric tests, aggregation	Lab 6: Pigeons	10
7	10/9, 10/11	Introduction to Independent Project		
8	10/16, 10/18	Plotting, ANOVAs	Lab 7: Cuckoos	10
9	10/23, 10/25	Data collection, correlation and regression	Lab 8: Think Fast	10
10	10/30, 11/1	Multiple regression	Lab 9: Plant Abundance	10
11	11/6, 11/8	Mixed model visualization and interpretation	Lab 10: No Sleep	10
12	11/13, 11/15	R tips and tricks, visualization	Lab 11: Helpful R	10
13	Fall Break			
14	11/27, 11/29	Data collection	Lab 12: Malarial Birds	10
15	12/4, 12/6	Peer review, advanced plotting	Lab 13: Statistical Storytelling	5
16	12/11, 12/13	FCQs		

Grading: Your lab grade is worth 30% of your final grade for the course. Lab assignments are worth 5-10 points each (80% of lab grade), and participation/attendance is worth 2 points per week (20% of lab grade). There are 150 possible total points. Lab assignments are due to Canvas on Sundays at 11:59PM, unless stated otherwise. *Late work will not be accepted.* Exceptions for late submissions may be granted for extenuating circumstances.

Attendance: Attendance is highly recommended and makes up 20% of your lab grade. Each student has one excused absence that will not be counted against your participation/attendance grade. Exceptions for additional absences may be granted for extenuating circumstances.

Group Work: Collaboration is expected and encouraged. If you have questions about lab assignments or other course material, always feel free to use me (and your classmates) as a learning resource. *However, submitted assignments must be your own work.* Code and written answers submitted in lab assignments must be your own (i.e., do not copy and paste answers from your collaborators). *All identical submissions will receive no credit.*

Course Policies: Please refer to the course syllabus for additional information on course policies.

[REVISED SYLLABUS]

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Purpose of Lab Section: The Biostatistics lab section is designed to expose you to real-world applications of the methods and content taught in the Biostatistics lecture section. This is achieved through the use of multiple empirical datasets in the lab assignments and by the emphasis on data analysis conducted in R. Because each week's content will build on the previous week's material, it is critical that you regularly attend lab section and complete each week's assignment to the best of your ability. Lab section will typically begin with announcements and a brief review of the previous week's material. The TA will then provide an overview of the current week's lab assignment and the relevant methods used. Students are then free to work collaboratively on the current week's lab assignment, with support from the TA. Students are generally able to complete the lab assignment before the end of section, so please consider our meeting time as an opportunity to complete your weekly assignments in a collaborative and supported environment. Lastly, please review the *Collective Guidelines for Dialogue* below. During our first lab section, we will collectively iterate on this document to reach consensus on the ground rules of interaction for the remainder of the semester.

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I look forward to getting to know you throughout the upcoming semester. As your TA, I am here to support your learning through multiple ways. I hold regular office hours as opportunities for you to drop in and ask me questions or chat about a variety of topics: the current week's lab assignment, previous content covered in lecture and lab, upcoming exams, academic and professional development in general, and anything else related to your life as a student here. I can be most reliably reached through email, and I aim to respond to student emails within 24 hours. Assignment and attendance policies are strict by default, but I am happy to discuss accommodations on an individual basis. I encourage you to reach out in-person or through email to discuss any extenuating circumstances that arise in your life, so that we can figure out together how to best reach your academic goals.

Collective Guidelines for Dialogue

1. Remember you are a sovereign human being. You decide how you want to participate, but remember conflict is a given in our lives. If no one disclosed anything that has a charge/discomfort to it, there would be even less understanding of difference than there is now. Allow others to learn what you already know and take care of yourself.
2. Expect and accept the messiness, nuance, and lack of a clear ending. This is ongoing work that will not always feel complete or mastered.
3. What's learned here, leaves here. What's said here, stays here.
4. Speak only from your own experiences. Speak as if you are right; listen as if you are wrong. Your experience is true for you, but it may not be true for other people. If you share someone else's story, make sure you have permission first to share it with others. Avoid making generalizations of groups and asking others to make generalizations of groups.
 - a. Say: "Speaking for myself as a white female, this feels..."
 - b. Say: "I asked my partner, who is trans, if I could share this..."
5. Practice positive body language and non-verbal communication. Truly listen to the speaker and nod along with points you agree or identify with. Don't turn your body away and close yourself from the speaker and the rest of the group. Seek eye contact with the speaker and the rest of the group. Give your full attention to the group and the discussion; remove any distractions from your body and your environment.
 - a. Say: "Thank you for sharing and trusting me with your stories."
 - b. Say: "I'm not sure what to say right now, but I'm here to listen."
6. Ask questions if you would like to clarify a point. If you aren't sure that you understood what the speaker was saying, try paraphrasing what you heard, and ask if that is what they said or meant. Don't interrupt or speak over others – raise your hand and wait to be acknowledged before asking your question or making your comment.
 - a. Say: "I heard you say...is that what you meant?"
 - b. Say: "I feel confused, could you please explain again?"
7. Hold yourself and each other accountable for what is said. We will not tolerate racist and prejudiced remarks or jokes, and sometimes people aren't self-aware based on lived experiences. What matters is that we are all open to learning from each other and growing from feedback.
 - a. Say: "Hey, can I pause our discussion for a moment? I'd like to unpack that idea you just mentioned and make sense of it together."
8. When harm is caused, knowingly or unknowingly, focus on resetting and repairing. Remember people are dynamic and changing all the time – don't freeze people in time. If someone has said something that caused harm, feel out the vibe. Should you name it in the group, or have a private conversation with the person to reset and repair?
 - a. Say: "That didn't sit right with me and here's why..."
 - b. Say: "I'm sorry I hurt you with my comments. What can I do to repair it? Would you like me to follow up with you individually at a later time?"
9. Express disagreement with others in a way that acknowledges and respects the person and the point of view that person has articulated. Criticize the idea, not the individual.
 - a. Say, "I think I hear you saying...I see the issue differently, and here's why..."

10. Embrace silence as time to reflect on what others have said and to notice your own feelings. Don't use the time while others are speaking to think of what you are going to say in response.
11. Please suggest any other guidelines that I may have missed!