Syllabus version: 12/22/2025 (details are subject to change)
Course number/name: BSC4364C, Field Ecology & Data Analysis
Credit hours: 4
Instructor: Jeremy Lichstein
Office hours: After classroom meetings or by appointment
Course Website: Canvas (https://elearning.ufl.edu/)
Canvas Mail is preferred for all course-related e-mails.

Course description
In this course, students gain experience collecting and analyzing ecological field data. The course is organized around three class projects at field sites in or near Gainesville: (1) forest structure and diversity – and how these have changed over time – at the Natural Area Teaching Laboratory (NATL) on the main UF campus; (2) bird-habitat relationships at Sweetwater Wetlands Park; and (3) effects of prescribed fire on longleaf pine seedling survivorship at UF's Ordway-Swisher Biological Station. Students are introduced to computer coding, data analysis, and data visualization using R software, the most widely used computational platform in ecology and many other fields of science.

This course includes elements of dendrology, local flora, plant ecology, wildlife ecology, statistics, and data visualization. However, this course does not cover these topics in depth or replace courses focused on them. Students who have not yet taken these specialized courses are encouraged to do so. Students who have already taken one or more of these specialized courses will benefit from the opportunity to put their experience into practice and share knowledge with their peers. The philosophy of the course is that both beginning and advanced students will benefit from participating in group research projects that illustrate examples of data collection and analysis methods.

Meeting times and locations:
We will meet all (or most) weekdays during Immersion Session 1 (Jan 12 – Feb 11, 2026). Most weeks, we will have two data analysis (classroom) meetings (Mon and Wed) and three field trips (Tues, Thurs, Fri). But the schedule is not fixed, and may change due to weather or scheduling issues. The schedule will be updated on the course Canvas website.

Classroom meetings: Mon and Wed, 9:35-12:35 in 521 Carr Hall.

Depending on the day (see course website), the meeting location for field trips will be one of these:
- UF Natural Area Teaching Laboratory (NATL). Students should provide their own transportation to NATL. We will meet at the Pavilion near the Academic Entrance on Natural Area Drive. Please refer to the map: https://natl.ifas.ufl.edu/visit-natl/. In Google Maps, the address is: "NATL Pavilion, Natural Area Drive, Gainesville, FL"
- The loading zone behind Bartram Hall, which can be accessed from the Bartram basement. We will use this meeting place to depart by van for off-campus field trips.

The meeting time will depend on the destination and will be posted on the course website.

Logistics, health, and safety
- If you feel ill or you think are likely to become ill due to an exposure, please stay at home. Do not come to class or attend field trips. You will not be penalized for missing class due to illness.
- Field attire: You must wear clothed-toe shoes (no flip-flops). Check the weather report and be prepared for cold/rain. We will work off-trail, sometimes in thick, thorny vegetation. Wear long pants that are comfortable and durable.
- Bring water and food. No meals are provided.

- Be prepared to take notes on all field trips. A notebook and pencil are recommended. "Rite in the Rain" notebooks are recommended (but not required), as they are much more durable than standard paper notebooks. They come in different sizes and different line patterns. The 4 5/8 by 7 inch size is a popular choice among field ecologists. You do not need a weatherproof pen. A normal pencil is fine (ball-point pens do not work well on "Rite in the Rain" paper).

Required Materials
- Laptop computer. Please bring your laptop to every classroom meeting.
- R Studio. Instructions to install this free software will be provided through the course website. You do not need to install the software until instructions are provided.
- Microsoft Office. Free to UF students. Make sure Word and Excel work. Contact the UF Computing Help Desk (https://helpdesk.ufl.edu/) if you have problems.

Recommended Materials
Field guides for identifying trees and birds of the eastern (or southeastern) USA are recommended. Field guides based on drawings (rather than photos) are recommended, because drawings more clearly show the key identification features. Books in the Peterson Field Guide series are relatively inexpensive and are a good size to carry in the field. You may be able to find used copies. Recommended guides:
- Peterson Field Guide to Eastern Trees (ISBN 0395904552). Peterson also make a "Trees and Shrubs" guide, but that guide is harder to use than the "Trees" guide.
- Peterson Field Guide to Eastern Birds (ISBN 039526619X).
The Sibley guides are excellent, but they are more expensive and bigger/heavier than the Peterson guides.

Time commitment
On average, you should expect to spend about 40 hours per week on course-related activities throughout this five-week Immersion Course. This includes classroom meetings, field trips, and time spent on homework and reviewing course materials. This 40 hour/week time budget is based on the following: For a standard (non-immersion) course (15 weeks), the UF assumes students will devote 3-4 hours per week per credit-hour, including in-class and out-of-class time. For a 4-credit course, this means 12-16 hours/week. For a 15-week course, this sums to 180-240 hours of effort. Distributing these 180-240 hours over 5 weeks equates to 36-48 hours/week.

Assignments (homework and in-class) and AI policies
Unless stated otherwise: (1) homework is due before class; and (2) you are encouraged to discuss and work with other students, but the work you turn in should be your own work and should reflect your own understanding of the material.
You are expected to submit all homework and in-class assignments. If you know ahead of time that you will not be able to submit a homework assignment on time, contact the instructor. Homework cannot be submitted late except under special circumstances, such as a documented illness or other circumstance for which the instructor grants an extension.

You are responsible for what you submit. Do not submit code or text unless you understand what it means. You are encouraged to use AI to help you learn to code, but do not ask AI to complete a coding assignment for you. You won't learn much, and you will struggle to complete later assignments if your use of AI in earlier assignments prevents you from learning and understanding how to code.

No direct quotes are permitted in this class. In science, it is generally acceptable to use direct quotes if it is done transparently and the source is acknowledged. However, such direct quotes are uncommon. The

vast majority of scientific papers include no direct quotes, and they are not permitted in this class. You will learn more by stating ideas in your own words. Quoting text from a website or any other source is not permitted in this class. You can submit AI-generated text, but only if you are the primary author; i.e., you generate the first draft, AI provides suggestions to improve the language, and then you check and edit the final draft.

Grade distribution
Your final semester percent grade will be the percentage of points earned out of the total possible. Points are distributed roughly as follows:
- **Class participation (~150 total points):** Full-day field trips are worth 10 participation points, and shorter meetings (e.g., 2-3 hour classroom meetings) are worth ~5 points depending on the length of the meeting. Points are deducted for being late, unprepared, lack of full participation, failure to keep track of data or enter data in a timely manner, etc. Unexcused absences earn 0 zero points. For excused absences, there will either be a makeup assignment or the grade will be dropped, depending on the circumstances.
- **Assignments (~150 total points):** The point value for each assignment will be stated in the instructions for that assignment. Assignments may include R data-analysis and visualization activities, reading assignments, and student presentations.

Grade scale
A ≥ 92.5%; A− ≥ 89.5%; B+ ≥ 86.5%; B ≥ 82.5%; B− ≥ 79.5%; C+ ≥ 76.5%; C ≥ 72.5%; C− ≥ 69.5%; D+ ≥ 66.5%; D ≥ 59.5%; D− ≥ 56.5%; E < 56.5%
Grades will not be rounded; e.g., 89.50 is an A−, and 89.49 is a B+.

Absences
Please notify the instructor ahead of time if you plan to miss class. Unexcused absences will result in a zero participation grade. Absences will be excused according to standard UF policies (illness, religious holidays, etc.) and for academic and career-related reasons (attending conferences, job interviews, etc.). If you like, you are welcome to schedule a meeting with the instructor to discuss absences. But you should ***always send a written explanation by e-mail to document an excused absence***.

UF policies and resources
This course complies with all UF academic policies. For information on those policies and for resources for students, please see https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/.