Ecology Laboratory

Where?  SEL 3101

When?  Monday, Tuesday, Thursday and Friday 9AM-12noon

Who?  Dr. Joel S. Brown (squirrel@uic.edu) SES 3352
       Ms. Crystal Guzman (cguzma8@uic.edu) SES 3458
       Mr. Frank Anderson (fander6@uic.edu) SES 3342

What?  The course will combine lectures, discussions, hands-on activities, and field trips. The goal is to learn and apply important concepts from ecology and evolution, and to experience nature first-hand. Course performance will be based upon 1) Field trips and associated field trip reports, 2) Field experiment paper, 3) quizzes, 4) assignments, and 5) participation.

Field Trips: There will be three all-day field trips (2 on Wednesday, 1 on Saturday) to various natural areas. We encourage you to attend all three. You must attend at least two of these field trips. On days with field trips we will board buses at the loading dock of SES at 7:45AM and return by 4PM. You are responsible for bringing along a lunch and snacks, and pens, pencils and notebook for taking field notes. Failure to attend two trips means that you will be unable to complete one of the lab reports. In the event that you attend just two trips you will have an additional field assignment to be completed on your own.

For two of the field trips you will be responsible for writing a laboratory report. You must write your own report and the presence of plagiarized or identical prose among lab reports will be grounds for a score of 0. You may choose which field trips to write up, but you must have attended the field trip to write a report on that trip.

Wednesday, 18 May  Warren Woods (Forest Community Ecology)
Wednesday, 25 May  Indiana Dunes (Succession)
Saturday,  28 May   Hickory Creek (Stream Ecology)

Field Experiment: During the four weeks you will conduct an experiment on the feeding ecology of cottontail rabbits at the UIC Greenhouse. The results from these projects will be written up as a paper.

Quizzes: Each laboratory period will begin with a lecture and discussion on a general topic in ecology. These lectures will provide general concepts and provide a foundation for the material of the lab and field trips. There will be five quizzes spread throughout the four weeks that will cover the material of these lectures. You may miss one quiz or drop your lowest score of the five quizzes.
Assignments: There will be four homework assignments. One of these will require you to present a 10-12 minute presentation in lab.

Participation: You are expected to come to all labs and participate in activities and discussion. Expect to be in lab for the entire allotted time. On field trips we expect students to participate fully in the nature activities, hypothesis formulations and data collection. Failure to participate will result in the loss of points.

Grading:

- 2 field trip reports \( \times \) 100 = 200
- 1 foraging experiment paper = 50
- 4 quizzes \( \times \) 25 = 100
- 4 Assignments \( \times \) 25 = 100
- Participation = 50
- Total = 500

\[ \geq 450 = A; \ 400-449 = B; \ 350-399 = C; \ 300-349 = D \]

Syllabus

May 16: Ecology: Interaction of organisms with their environment
Discussion of urban ecology
Cottontails, house sparrows and wildlife on campus

May 17: Species interactions – Competition
Preview – Warren Woods (Forest Community Ecology)
How to write a lab report
Assignment #1 on Wildlife Literature

May 18: Field Trip to Warren Woods

May 19: Complex life histories/Life history tradeoffs
Lab work and analyses from Warren Woods trip

May 20: Foraging
QUIZ #1
Cottontail rabbit foraging experiment

May 23: Population Dynamics
Assignment #2: Using Excel for population dynamics

May 24: Succession
QUIZ #2
Preview – Indiana Dunes

May 25: Field Trip to Indiana Dunes
May 26: Biogeochemical Cycles
Lab work and analyses from Indiana Dunes

May 27:
Foodwebs – direct and indirect effects
Preview – Hickory Creek
Data analysis on cottontail experiments

May 28: Field Trip to Hickory Creek

May 30 NO CLASS, Memorial Day

May 31: Global climate change
QUIZ #3
Lab work and analyses from Hickory Creek

June 2: Squirrels in Oak Park

June 3: Models of Competition and Predation
Assignment #3: Using Excel for species interactions

June 6: Biodiversity – Conservation Biology
QUIZ #4
Assignment #4: Presentations

June 7: Evolutionary Ecology
Assignment #4: Presentations

June 9: Human Evolutionary Ecology
QUIZ #5
Discussion of Human Evol. Ecology
Assignment #4: Presentations

June 10: Assignment #4: Presentations