

FIELD METHODS IN ANIMAL BEHAVIOR -- Biology 3630 SYLLABUS

Note that this draft is only meant to convey what the course will be like. The final syllabus will be posted on the course website, closer to the start of the course.

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The purpose of this course is to give you first-hand experience in studying animal behavior in the field, so that by the end of the course you should be able to carry out field studies of your own. In a series of exercises, we will walk you through focusing questions, describing behavior, choosing sampling regimes, and designing experiments. You'll then apply these skills on a topic of your own choosing, which will be the main assignment of the course. You're not expected to produce a perfect study with a wonderful large data set, but you are supposed to show that you can apply the topics we've covered to your own work, in a systematic way.

The scheduling of the course activities (including tests, presentations, etc.) will have to be very flexible pending weather. The SEASIDE website has a good list of what to bring each day: http://seaside.science.dal.ca/What_to_Bring.php

BOOKS, REQUIRED READING

No required text, and no required reading. If you haven't taken a behavior course in a while, flip through a textbook (Alcock or Krebs and Davies are good and in the library) to refresh your memory, although you won't be responsible for any of that material.

I have various books on hand that students might find helpful (but usually don't!), so if you're keen to read up on something, let me know and I'll see what I can scrounge up. Some examples include:

Barnard, C.J., F. Gilbert, and P.K. McGregor. 2007. Asking questions in biology: design, analysis, and presentation in practical work. Pearson Education Ltd., Harlow, U.K.

Lehner, P.N. 1996. Handbook of ethological methods, 2nd edn. Cambridge University Press.

Martin, and Bateson. 2007. Measuring behaviour, 3rd edn. Cambridge University Press.

Various field guides, guides to behavior of common animals, etc.

ASSIGNMENTS AND ASSESSMENT

Exam (25%)

A multiple-choice or short answer exam held halfway through the course will quiz you on the core material, for example:

- sampling methods -- ad lib, focal, scan, behavior
- recording methods -- all-occurrences, instantaneous, one/zero
- measures -- defining, choosing, testing interobserver reliability
- forming hypotheses -- exploratory observations & data analysis
- testing hypotheses -- predictions, stats, experimental design

Lab reports: (25%)

Each of the exercises in the first half of the course (the number will depend on the weather!) will require a short, simple write-up, to be graded as follows:

- 1 handed in
- 2 handed in but incomplete
- 3 complete, but off track in places
- 4 on right track throughout, numerically correct or minor errors
- 5 perfect in every way

Field book: (5%)

All of you will be using some form of data sheets to formally collect data for the exercises and your own project. But you should also keep a field book, i.e. a pocket-size notebook for preliminary data, casual observations, tentative hypotheses, and other field notes that don't quite fit in to your data collection scheme. The field book is also our little way of checking that you're in the field, wondering about animal behaviour every day throughout the course. Marking scheme (out of 5%):

- 1 minimal entries
- 2 sloppy and sparse, but kept up
- 3 well used, though organization vague (poor labelling /layout)
- 4 well used, organized, substantive slips/vagueness in some entries
- 5 many perceptive entries throughout course, organized and intelligible

Individual project: (45%; written proposal = 10%, written report = 35%)

You will have as much guidance as you need in choosing and executing your project, and the field exercises will also help. The project will consist of a proposal and a write-up of the results in scientific format. We'll give you a detailed outline of what's to be included, which you get to practice a bit when you give an (unmarked) oral proposal for the project. You can choose your own topic, or we can give you one, and you're encouraged to work in small groups if you like (though you still have to write separate proposals and reports).

The grade scale we will use when assigning a final letter grade will likely be the default scale set out by the Faculty of Science.

TENTATIVE SCHEDULE

Note that the schedule will have to be very flexible pending weather; be alert for sudden changes of plans. We'll finish by 5PM each day - often before that, but don't plan on it. The schedule on Dal Online shows a break at noon for lunch, but in fact the time for lunch will vary.

Sat 4/27 0830 LSC 4009 and elsewhere within walking distance
Field notes, ethograms, and measures of behavior

Sun 4/28 No class meeting; independent mini-project on material from 1st day

Mon 4/29 0830 meet in LSC parking lot for trip to Shubie Wildlife Park
Recording methods and interobserver reliability

Tue 4/30 0830 meet at bandstand in Hfx. Public Gardens
Sampling methods

Wed 5/1 0830 meet in LSC parking lot for trip to E Passage
Analysis of variance

Thu 5/2 0830 meet at lwr. parking lot (Black Rock Beach) Pt. Pleasant Park
Experimental design, part 1

Fri 5/3 0830 meet behind the Maritime Museum for boat to McNabs I.
Finding and asking questions

Sat 5/4 AM: Pilot work on independent projects
PM: Informal workshop on projects

Sun 5/5 Day off.

Mon 5/6 Time TBA, LSC 4009
Exam and oral proposals for projects, then release to work on projects

Tue 5/7 Work on independent projects; written proposals due

Wed 5/8 - Thu 5/9 Continued work on independent projects

Fri 5/10 0905 LSC 4009 Oral presentations in AM, written project due in PM

SAFETY TIPS

If you have a cell phone, please bring it and have it turned on.

Please work in pairs or groups when in less heavily traveled areas (even isolated bits of Point Pleasant Park, for example).

Please bring enough liquids and snacks/food to keep you going throughout the day. Likewise any meds you might need to take - not only prescription meds but also such things as tylenol if you're prone to headaches, benadryl if you're prone to allergies, etc.

Please bring clothes appropriate for changes in the weather (around here, the warmest sunny day can suddenly turn very cold, wet, and windy).

Any injuries, minor or not (e.g., stings, twisting your foot or knee, mysterious rashes), please let Andy or Sarah know right away.