Animal Behavior Lab (BIOL 343L)  
Thursday 2:10-5:09  
HWEA 302

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Office Hours: by appointment (I’m usually in my office or lab; feel free to stop by.)

About the course: Science is an inherently creative process. Too often, however, undergraduate science labs focus on tools and technology – methods necessary to answer scientific questions – without any attention to or training in how to pose interesting questions in the first place. In this lab, then, we will focus on the process of generating interesting questions, posing hypotheses to address these questions, and designing experiments to test our hypotheses. Animal behavior is an ideal field for such training: first, our species has been posing questions about the behavior of other species for as long as we’ve been human, so our task here is simply to refine that instinct in a scientific context; second, while the study of animal behavior often does involve fancy tools and technology, it is also possible to answer significant scientific questions with little more than pencil and paper. We do not, therefore, need to waste lab time learning how to run machines, and can focus on the creative processes of science.

Course goals (learning objectives):

- Learn how to:
  - generate novel and significant scientific questions;
  - generate hypotheses;
  - design experiments;
  - collect and interpret behavioral data;
  - construct scientific arguments;
- Improve:
  - ability to read and interpret primary scientific literature;
  - oral and written communication skills.

Texts: Measuring Behaviour, by Paul Martin & Patrick Bateson, 3rd ed. Additional readings will be assigned, mostly from the primary literature.

Grading:

Lab work & participation  
Includes on-line reading quizzes  
that are not part of other assignments  
10%

Data analysis assignment  
10%

Shark Week (data collection)  
10%

Group Project (reading quiz, data collection)  
30%

Individual Project  
Prospectus (5%)  
Data collection (if relevant) &  
written assignment (including draft & final) (30%)  
Oral Presentation (5%)  
40%
About Laboratory and Participation: None of the laboratory work in this class is ‘cook-book’ – my goal is for your lab to mimic the professional study of animal behavior as much as possible. You will (with guidance, of course) generate your own questions and experimental protocols. So the full participation of everyone is crucial – you will need to be awake and feeling creative! To jump-start our discussions (and maximize the usefulness of the time you spend in lab), there will be short quizzes. Attendance is mandatory, but not sufficient.

We use live animals in Animal Behavior laboratories. You are expected (by me as well as be extensive Federal legislation) to handle these animals with utmost care. Careless or injurious treatment of animals will not be tolerated. Please do not hesitate to ask questions if you are unsure how to handle an animal in this lab, and please do always report accidents promptly.

The College of Charleston School of Sciences and Mathematics Safety Policy and Procedures is attached. Although we do not use chemical or biological hazards in this lab, it is important to be familiar with safety procedures in the event that unplanned exposure occurs (for example, due to use by another lab scheduled in the same room). Please review the policy; if you have any questions, we will discuss them on the first day of lab.

About data collection and honesty: We’re scientists; we do the work we do because we want to know the answers to questions. And as scientists, we’re often very critical of each other’s work, because we want to get the right answers, and so if we think that someone is going about the work in the wrong way – and getting the wrong answers – we speak up.

But at the same time, we operate in a culture of trust: much though I might disagree with the science of some of my colleagues (and even friends!), I absolutely trust that they are being honest in their reporting of their methods and data. It should be obvious, then, that making up data is completely unacceptable! It violates our trust as fellow scientists, and it is completely antithetical to why we are engaged in this work in the first place (you don’t figure out how the world works by making up data).

For a scientist, there is no more egregious form of academic dishonesty than making up data. In this class, such behavior will result in a failing grade for the class, and a report to the Honor Board.

About Attendance: Given the collaborative nature of the laboratory sections, your absence impacts not only your education but also that of your peers. For that reason, each unexcused absence from laboratory will result in a letter-grade (10%) decrease in your final grade. Because lab activities often build from week-to-week, there is limited opportunity to ‘make-up’ missed labs.
Grade Scale:
93.5 – 100%  A  73.5 – 78.49%  C
90.0 – 93.49%  A-
88.5 – 89.9%  B+
83.5 – 88.49%  B
80.0 – 83.49%  B-
78.5 – 79.9%  C+
6.5 – 69.9%  D+
63.5 – 68.49%  D
60.0 – 63.49%  D-
<60.0  F

Please note: This class is fairly writing intensive, and requires use of multiple professional sources.

You should be aware that taking someone else’s words and changing a couple of them is NOT “your own writing”; it is stealing, just as stealing someone’s car and changing a few things (painting it pink, for example) does not make it your car.

If I can tell what sentence you are attempting to “paraphrase”, you are probably plagiarizing. Please do not do this. If you are not familiar with the College of Charleston Honor Code, you can find it in the student handbook:
http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php
**Lab schedule:**

8/27 Orientation, Introduction to behavioral observation
9/3 Introduction to data collection and experimental design (readings: Chap 3, 5)
9/10 Your experiment!
9/17 Aquarium introduction & orientation; Shark Shallows experimental design
   (readings: pg 80-85, Chap 8 excluding section on development)
9/24 [Shark Week – data collection]
   **data due on-line before 6am, 10/1**
10/1 Shark Shallows data analysis & interpretation
10/8 Introduction to Group and Individual Projects
10/15 GP paper discussion & experimental design (journal article TBA)
   **data analysis assignment due on-line 10/20**
10/22 Discussion of data analysis assignments
10/29 [Individual meetings for IPs]
   **IP prospectus due at meeting**
11/5 [GP & IP data collection]
11/12 [GP & IP data collection]
   **GP data due on-line by 11/13**
11/19 GP summary & discussion
   **IP drafts due on-line**
12/3 IP presentations
   **powerpoint (or alternative) file due on-line 12/2**

**12/7 (last day of classes) final IP due on-line**

( ) = readings, in Martin & Bateson unless otherwise stated
[ ] = weeks when the lab will not meet during the regularly schedule time; you are
   responsible for data collection and/or setting up individual meetings during these weeks
SAFETY POLICY AND PROCEDURES

The School of Sciences and Mathematics of the College of Charleston understands that the safety of our students, staff and faculty is of paramount importance. Engendering a safety culture is an important part of our mission in teaching and doing science. Each department, course of instruction, or research lab may require higher standards or procedures. The policies and procedures set forth below are understood to be minimum requirements across our departments.

In this document, the term "laboratory" is meant for a work space/facility where chemicals, biological agents, or equipment is used for research and/or instruction.

No one (student, staff, faculty, or visitor) will be allowed in a laboratory (teaching or research) to perform experiments or where experiments may be in progress unless these regulations are followed.

Students dismissed from a teaching lab due to violations of the safety procedures will not be allowed to re-enter the laboratory until authorized to do so by their supervisor (instructor) and, in the case of research laboratories, by the department chair or designee. Any course work missed because of a violation of these guidelines cannot be made up at another time (or by an extension of the lab period) and will be treated as an unexcused absence.

1. You are responsible for knowing the biological, chemical, electrical, ergonomic, mechanical, and physical hazards associated with the equipment and materials that are being utilized in the laboratory. Listen to all instructions and ask questions about that which you do not understand.

2. Know the location of safety equipment: telephones, emergency shower, eyewash, fire extinguisher, fire alarm pull.

3. Know the appropriate emergency response procedures. If there is an injury or emergency, call 953-5611.

4. Do not work alone in the laboratory if you are working with hazardous materials or equipment.

5. Use hazardous chemicals, equipment, and biological agents only as directed and for their intended purpose.

6. Do not engage in horseplay, pranks or other acts of mischief while in lab.

7. Drinking, eating, and application of cosmetics is forbidden in laboratories where chemicals or biohazards are present. Smoking is forbidden in all College buildings.

8. Appropriate personal protective equipment shall be worn. The dress code for laboratory work when using chemicals, biological or physical hazards, or when instructed to do so by the laboratory supervisor is as follows:
   a) Wear safety glasses or goggles at all times.
   b) No exposed skin on arms, legs or torso.
   c) Wear lab coats or other approved protective garments.
   d) Wear gloves or other personal protective equipment (PPE) as directed by the instructor or mandated by prudent practices based on the chemicals being handled. If in doubt, wear appropriate gloves. Latex is not permitted. Avoid cross-contamination.
   e) Remove PPE (gloves and lab coat) when exiting the laboratory.
   f) Wash your hands, even if gloves were used, before leaving a lab where you did any lab work.
g) Closed toe shoes are required. The heel and top of foot must be covered. High heeled shoes, sandals, and perforated shoes are not permitted.

h) Confine long hair and loose clothing.

9. Inspect equipment or apparatus for damage before adding chemical reagents or biological samples or energizing electrical equipment. Do not use damaged equipment.

10. Never remove chemicals, biological samples, or laboratory equipment from a lab without proper authorization.

11. Presume that all chemicals and biological samples used in the laboratory are hazardous for you and the environment, unless instructed otherwise.

12. Never leave an experiment unattended unless proper safety precautions are in place.

13. Read all labels on chemicals twice before using them in the lab. Read all instructions twice for the operation of any equipment or machinery.

14. Properly and safely dispose of all waste materials.

15. Treat sharps and broken glassware containers carefully.
   a) Broken glass should be disposed of in properly marked safety containers. All sharps (needles, razor blades, etc.) used for any purpose must be disposed of in specially labeled SHARPS containers.
   b) Do not place contaminated glass in the broken glassware container. Consult your supervisor.
   c) Waste chemicals and contaminated PPE should be discarded as directed.

16. When using a reagent, replace the lid immediately. Never return unused reagents to stock bottles. Take only the amount needed for your experiment.

17. All chemicals and biological samples/media are to be disposed of in appropriately labeled containers. Specific instructions for each material will be provided. Pay attention to waste container labels before adding the material to be discarded.

18. Use good personal hygiene. Keep your hands and face clean. Wash hands thoroughly with soap and water after handling any chemical or biological agent.

19. Keep the work area clean and uncluttered with chemicals and equipment. Clean up the work area on completion of an operation or an experiment. Before leaving the laboratory, you are responsible for making sure your lab area is clean and organized.

20. Never store a chemical or biological specimen in an unlabeled container.

20. Always have your College of Charleston identification and insurance information with you when working in a laboratory. MedicAlert identification must be worn if you have any potential life-threatening chemical sensitivities or medical conditions.

21. Report any accident or injury, however minor, to your teaching assistant, instructor, or lab supervisor immediately. An accident report form must be completed and forwarded to the department chair, dean, and to the Director of Environmental Health and Safety.

If you have questions/concerns about safety in the lab please first consult your instructor. If these are not answered, please see the department chair. Finally, you may consult the director of Environmental Health and Safety, Randy Beaver at 3-6802 or beaverr@cofc.edu

Adopted: March 7, 2012
CougarAlert

The College of Charleston has an agreement with the Blackboard Connect Inc. (formerly The NTI Group, Inc. (NTI)) to use its Connect-ED communication software to provide an emergency notification system that is capable of reaching students, faculty, staff and parents within minutes of a campus crisis. This system is called CougarAlert.

Information for Students
The CougarAlert emergency notification system will contact up to six phone numbers for the student. Students may include family member numbers in their address and phone number information.

All students should log onto MyCharleston to review their address and telephone information and update as needed. To access the address and telephone information, follow these steps:
1. Log on to MyCharleston
2. Click on the Academic Services tab
3. Click on the Banner Self-Service link in the third column
4. Click on the Personal Information link
5. Click on the Update Address and Phones and Cougar Alert link

The CougarAlert system will pull the phone number in the following order – cell phone with text messaging option, cell phone without text messaging option, residence hall room phone number, mailing phone number, home phone number, parent phone number and parent 2 phone number. If you do not have one of these numbers in your student record, the system will select the next number on the list. To avoid issues related to timely communication of emergency messages to the proper places, every student must update his or her contact information in MyCharleston with current accurate information.

CougarAlert Display Information

When you receive an emergency message from the College of Charleston’s CougarAlert System, the return e-mail address will be displayed as cougaralert@cofc.edu, and Caller ID will be displayed as 843.725.7246 (this is the College’s Emergency Information Hotline).

Testing and Implementation
Testing will be conducted each semester to verify all systems are operating properly. The campus community will be notified via e-mail and webpage postings when testing of the system will be conducted.

Blackboard Connect Software
Blackboard Connect is an emergency communication software that sends notification before, during and after an emergency. With this new system, the College will be able to communicate in many modes, including voice messages to home, work and cell phones; text messages to cell phones; PDAs and other devices; written messages to e-mail accounts; and messages to teletypewriters and telecommunication devices (TTY/TTY). In combination with our existing communications methods and emergency response plans, this new notification system will significantly enhance the College of Charleston’s ability to maintain a learning environment in which students are safe, secure and comfortable.

In an emergency, communications to the campus will be issued in the following priority order:
1. Message to the Blackboard Connect Emergency Notification System (phone and e-mail).
2. Recorded message to the College’s Emergency Information Hotline, 843.725.7246.
3. Update to the Website.
4. Printed update sheets to be distributed and posted on campus (if necessary).

The CougarAlert system will only be used to notify you in the event of a campus crisis or emergency.