Animal Behavior Laboratory (revised)
BIOL 370L - Spring 2018

Time/Location:

Monday or Wednesday from 12:00 pm – 1:50 pm, Loyola Science Center 260

Instructor:

Dr. Robert Smith
Professor of Biology
Loyola Science Center 252
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Office Hours:

Monday and Wednesday 4:00 pm – 5:00 pm, Tuesday 11:00 am – 12:00 pm. Additional appointment times are available upon request.

Course Description:

Researchers use the scientific method to study animal behavior in an effort to better understand both the proximate and ultimate reasons animals behave the way they do. The study of animal behavior encompasses all animals, ranging from single-celled organisms to complex animals such as mammals, in an effort to better understand how they interact with both the biotic and abiotic components of their environment. This course combines the study of animal behavior in the laboratory and field to teach students how to sample, analyze, interpret and report results of behavioral studies.

Student Learning Outcomes:

Upon completion of this course, students will/will be able to:

1. Utilize proper protocols to sample animal behavior.
2. Collect and analyze data describing animal behavior using assorted techniques and instrumentation.
3. Be familiar with software used to record and analyze data as well as to present results of statistical analyses.
4. Have developed and executed their own experimental study of behavior, including hypothesis generation, study design, data collection, analysis, interpretation and presentation of results.
5. Present and discuss results in the form of a scientific paper formatted for submission to a technical journal.

Required Materials:

Pechenik, J.A. 2016. A Short Guide to Writing About Biology, 9th Edition. Pearson Longman, ISBN 0321984250. A previous edition of this work is sufficient.

Attendance:

Many of the labs are time consuming, so it is important that you arrive on time and are prepared for the day's activities. While I do not take attendance for most labs (except on the field trip) I do notice students where are absent from class. Excessive absences may reflect negatively on your final class grade.

Attendance on the field trip will count toward part of your final grade. Be prepared to go into the field on the day of the scheduled field trip. To minimize exposure to poison ivy, biting insects, and the sun, your field gear should consist of shoes and pants that completely cover the feet and legs, a long-sleeved shirt, and a hat. Depending on the weather, you might also wish to bring a jacket or raincoat. Sunscreen and insect repellent are also suggested items. Be ready for any type of weather, as the field trip will only be cancelled or postponed if weather is severe.

Evaluation Methods:

Student outcome will be assessed via two quizzes, four assignments, attendance on the salamander habitat selection field trip, data collection/submission and five lab reports. The lab reports will be a collaborative effort with your lab partner and will be formatted properly for submission to a technical journal.

Reports will consist of two **Data Analysis** (DA) reports due by midnight on 23 March (Student designed experiment) and 13 April (Human Mate Choice). Also, you will turn in two **Data Analysis and Interpretation (DAI)** reports due by midnight on 27 April (Squirrel Behavior) and 16 May (Salamander habitat selection).

Grading:

Course grades will be determined by performance on the following assignments:

Quizzes (2)	25 pts. each
Introduction to R/R Studio assignment	10 pts.
Behavioral Sampling (crayfish) assignment	10 pts.
Behavioral Sampling (*Betta splendens*) assignment	5 pts.
Student designed experiment plan	15 pts.
Data collection/submission (3)	5 pts. each
DA Reports (2)	25 pts. each
DAI Reports (2)	40 pts. each
Lab participation and field trip attendance	10 pts.
TOTAL	**245 pts**.

Percentage	Grade earned
94 – 100	A
90 – 93	A-
87 – 89	B+
83 – 86	B
80 – 82	B-
77 – 79	C+
73 – 77	C
70 – 72	C-
67 – 69	D
60 – 66	D-
< 60	F

I have no tolerance for cheating. Students are expected to know and follow the University of Scranton policies concerning academic honesty.

While I am happy to discuss grade-related issues with you I will not respond to emails asking about your grade. If you have grade-related questions (or wish to discuss anything else) please instead stop by my office.

Important Dates:

2 February	**- R tutorial results due as MS Word document**
14 February	**- Crayfish data due**
16 February	**- Crayfish assignment due**
23 February	**- *Betta splendens* assignment due**
23 February	**- Student designed experimental plan due**
23 March	**- Student designed experiment report due**
26, 28 March	**- Quiz #1**
6 April	**- Human data due**
13 April	**- Human lab report due**
20 April	**- Squirrel data due**
27 April	**- Squirrel lab report due**
7, 9 May	**- Quiz #2**
16 May	**- Salamander lab report due**

Tentative Lab Schedule

Week	Topic/Activity
Jan 29th	**Introduction to R and R Studio**
Feb 5th	**Snow days**
Feb 12th	**Behavioral Sampling – crayfish, ethograms and BORIS**
Feb 19th	***Betta splendens*, ethograms and BORIS**
Feb 26th	**Student experiments, *Betta splendens* or crayfish**
March 5th	**Scientific writing, data presentation and analysis** **Wednesday Lab cancelled due to weather**
March 12th	**Spring Break**
March 19th	**Monday Lab Section Does Not Meet** **Wednesday Lab Section – Scientific writing, data presentation and analysis**
March 26th	**Quiz** **Human Lab; study design, scientific writing, data entry and analysis**
April 2nd	**Lab does not meet**
April 9th	**Squirrel lab; study design, data entry, figures and analyses**
April 16th	**Collect squirrel data – Lab does not meet**
April 23rd	**Field Trip: Salamander habitat selection**
April 30th	**Salamander habitat selection analysis**
May 7th	**Quiz and Wrap Up**
May 14th	**Finals Week – Lab does not meet**