

# **Animal Behavior**

## **Bio 370 - Spring 2018**

### Time/Location:

Tuesday and Thursday from 1:00 pm – 2:15 pm, Loyola Science Center 439

### Instructor:

Dr. Robert Smith  
Professor of Biology  
Loyola Science Center 252  
Phone: 941-6581  
Email: Robert.Smith@scranton.edu

### Office Hours:

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

### Course description:

The study of animal behavior encompasses all animals, ranging from single-celled organisms to complex animals such as mammals, in an effort to develop a better understanding of how animals interact with both the biotic and abiotic components of their environment. This course explores both the proximate and ultimate reasons animals behave the way they do. Over the course of the semester we will explore the functional, evolutionary and ecological basis of animal behavior, including how and why animals sense their environment, communicate, find food and mates, avoid predators, select habitat, migrate, care for offspring and live in groups.

### Materials:

**Textbook:** We are using Nordell, S.E. and T.J. Valone. 2017. Animal Behavior: Concepts, Methods and Applications, Oxford University Press, New York, ISBN 978-0-19-027674-4.

### Desire to Learn:

I incorporate Desire to Learn as part of my teaching methodology and will make MS Powerpoint presentations, transparency overheads, etc. available to you using this medium. I will also post grades online.

Student Learning Outcomes:

This class will focus on the proximate and ultimate causes of behavior in animals. Upon completion of this course, students will/will be able to:

1. Understand the process of science including how scientists employ the scientific method to generate knowledge about the world.
2. Understand how researchers use science to study animal behavior and behavioral ecology.
3. Discuss basic evolutionary concepts and principles, including variability, heritability, fitness, natural and sexual selection, evolutionary change, adaptation, microevolution, speciation, macroevolution and adaptive radiation.
4. Understand what behavior is and how proximate and ultimate factors determine behavior.
5. Discuss behaviors associated with communication, foraging, mate selection, predator avoidance, habitat selection, migration and dispersal, parental care and living in groups.

Evaluation Methods:

Student outcome will be assessed via three examinations and a comprehensive final exam. You have the option of writing a synthetic paper on a vertebrate topic acceptable with the instructor.

Exams will cover material presented in class along with textbook readings.

Optional Term paper:

This course will no longer automatically fulfill Portfolio Learning Objective 5 – Effectively communicate biological information in writing. If you intend to use this course to meet this requirement then you must write the optional term paper.

The optional paper will be worth 120 points and can be used to augment your grade. If you choose to write a term paper your final grade will be determined based on 520 pts.

The paper must include at least **12 primary** source articles and have a text (not including Literature Cited) of 12 – 15 pages at 1.5 spacing with 1 inch margins.

If you chose to do a paper:

1. you must **have your topic approved** by Friday, March 23rd.
2. by midnight on Friday, April 20th you must provide me with a **prospective title, a brief (preliminary) outline** demonstrating preliminary exploration of your topic, and a list of citations for at least **3 relevant primary articles** you plan to use.
3. **your topic must be approved and you must turn in an outline by the due dates.**
4. you must turn it in by the due date or suffer a penalty of 5 points per day late. Papers will **not** be accepted after the last day of Finals Week.

Further expectations for the paper are provided on D2L.

Grading:

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

If you choose not to write the optional paper:

Exams I – III	100 pts. each
Comprehensive Final Exam	100 pts.
<b>TOTAL</b>	<b>400 pts.</b>

If you choose to write the optional paper:

Exams I – III	100 pts. each
Comprehensive Final Exam	100 pts.
Optional Term Paper	120 pts.
<b>TOTAL</b>	<b>520 pts.</b>

Grades will be determined by dividing the total points earned by the total points possible and multiplying by 100. Grade assignments are below:

<u>Percentage</u>	<u>Grade earned</u>	<u>Percentage</u>	<u>Grade earned</u>
94 – 100	A	73 – 76	C
90 – 93	A-	70 – 72	C-
87 – 89	B+	66 – 69	D+
83 – 86	B	60 – 65	D
80 – 82	B-	< 60	F
77 – 79	C+		

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 feel free to stop by my office.

Student Responsibilities:

Students are responsible for all information presented in lecture, along with assigned readings. I have no tolerance for cheating. Students are expected to know and follow the University of Scranton policies concerning academic honesty.

Center for Teaching and Learning Excellence

In order to receive appropriate accommodations, students with disabilities must register with the Center for Teaching and Learning Excellence and provide relevant and current documentation. Students should contact Mary Ellen Pichiarello (Extension 4039) or Jim Muniz (Extension 4218), 5th floor, Loyola Science Center, for an appointment. For more information see <http://www.scranton.edu/disabilities>

Important Dates:

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|----------------------|--|
| Tuesday, 27 February | - Exam #1                                |
| Tuesday, 5 April     | - Exam #2                                |
| Friday, 23 March     | - Optional Paper topic approval due date |
| Friday, 20 April     | - Optional Paper Outline due             |
| Thursday, 3 May      | - Exam #3                                |
| Wednesday, 9 May     | - Optional Term Paper due                |
| Exam Week            | - Comprehensive Final                    |

Tentative Lecture Schedule

<b>Week</b>	<b>Topic</b>	<b>Reading</b>
1	<b>The Science of Animal Behavior/Studying Animal Behavior</b>	Chapter 1,2
2	<b>Evolution and the Study of Animal Behavior</b>	Chapter 3
3	<b>Behavioral Genetics</b>	Chapter 4
4	<b>Sensory Systems and Behavior</b>	Chapter 5
5	<b>Communication</b>	Chapter 6
6	<b>Learning, Neuroethology and Cognition</b>	Chapter 7
7	<b>Spring Break</b>	
8	<b>Foraging Behavior</b>	Chapter 8
9	<b>Antipredator Behavior</b>	Chapter 9
10	<b>Dispersal and Migration</b>	Chapter 10
11	<b>Habitat Selection, Territoriality and Aggression</b>	Chapter 11
12	<b>Mating Behavior</b>	Chapter 12
13	<b>Mating Systems</b>	Chapter 13
14	<b>Parental Care</b>	Chapter 14
15	<b>Sociality</b>	Chapter 15
16	<b>Finals</b>	