

**Syllabus**  
**BIO 344 - Neuroethology**  
**Fall 2018**

Neuroethology is the evolutionary and comparative approach to the study of animal behavior with emphasis on its underlying mechanistic control by the nervous system.

**Lecture times:** MWF 11:00 - 11:50 a.m.  
**Location:** C127A Cooke Hall  
**Instructor:** Dr. Todd Hennessey  
**Office:** H610 Hochstetter Hall  
**Email:** [thennes@buffalo.edu](mailto:thennes@buffalo.edu) **Phone:** 645 4973  
**Office Hours:** Tues. and Wed. 2:00 to 3:00  
**Prerequisites:** BIO201 and BIO203.

**Textbook:** Nerve Cells and Animal Behavior by Simmons and Young. Third Edition.

**Required readings:** Posted on UBlerns

**Grading:** Two in class exams and a Final exam as well as an optional graded presentation

**Possible topics to be covered :**

1. Organisation of animal behaviour and of brains – feeding in star-nose moles and courtship in fruit flies
2. Signals in nerve cells – reflexes in mammals and insects
3. Neuronal mechanisms for releasing behaviour – predator and prey: toad and cockroach
4. Neuronal pathways for behaviour – startle behaviours and giant neurons in crayfish and fish
5. Eyes and vision – sensory filtering and course control in insects
6. Sensory maps – hunting by owls and bats
7. Programmes for movement – how nervous systems generate and control rhythmic movements
8. Changes in nerve cells and behaviour – learning in bees and rats
9. Nerve cells and animal signalling – songs of crickets and birds.

**Additional Information:**

University Grading policies (including policy on incompletes):  
<http://undergrad-catalog.buffalo.edu/policies/grading/explanation.shtml>

University Policy on Academic Integrity:  
<http://undergrad-catalog.buffalo.edu/policies/course/integrity.shtml>

Accessibility Resources Office (formerly Office of Disability Services):  
<http://www.student-affairs.buffalo.edu/ods/>

## Grading

There will be three sections of information. Two exams will happen during the class time (on Section 1 and Section 2) and a final (Section 3) will be scheduled later. Each of these three exams would be 1/3 of the final total.

Section 1	Exam 1. Sept. 28
Section 2	Exam 2. Nov. 2
Section 3	Exam 3. To be announced

90%	A
80%	B
70%	C
60%	D
Below 60%	F

Each student must choose one of the following:

1. Your total points would come only from the three exams.
2. Your total points would come from the three exams plus up to 20 points for a presentation. This option can only be done if the student got a B or higher on Exam 1 and it is approved by Dr Hennessey. Examples can be found in UBLearn under Course Documents.

### **Computer and Webpage Help:**

We are not computer experts. We cannot help you with computer or webpage problems. For help with computer issues, see: <http://helpdesk.buffalo.edu/>

You can also visit the help desk. The hours and location are at:  
<http://cit-helpdesk.buffalo.edu/services/hours.shtml>

### **E-mails:**

1. Your e-mails must have the words "BI0334" in the subject line. We may not respond to e-mails that have "hello" or nothing in the subject line because we may think that they are unwanted e-mails (junk)
2. Write your e-mails with complete sentences and captializations. This is not text messaging. Avoid things like, "how R U?" and "hi prof!".
3. Always put your name on your e-mails so I know who you are.

## Learning Objectives

	Program Learning Outcome	Depth	Specific outcome objectives	Assessment instrument
1	Provide breadth of knowledge of basic principles and concepts of Neurobiology	1	Applies basic physical, chemical, biochemical, and physiological principles to understand nervous system function and animal behavior	Exams
2	Provide depth within specialized areas	2	Understands how signals are transduced and conveyed centrally for sensory system and motor responses	Exams
3	Provide an understanding of experimental design and methodology	1	Knows critical experiments that were used to expose the mechanisms involved in each area above	Exams
4	Develop approaches for integration of information	1	Understands the contribution of physical properties of biological systems to their function	Exams
5	Provide contemporary information	1	Understands key recent findings about the brain mechanisms involved in animal behavior	Exams

Depth: 1 = covered 2 = extensively covered

The course learning objectives will be met when 70% of the enrolled students achieve a final course grade of C or higher. This represents a point score that is 70% of the total possible points.