

# Biology/Psychology 388/588: Animal Behavior Syllabus

Spring 2017

## **Class information posted at Desire2Learn.**

### Course Overview:

#### *Course Description:*

At first glance, we may be amazed by eels that resist eating prey fish that are providing a dental cleaning service, or by the elaborate displays of male birds in their attempts to woo females, or by kangaroo moms that guard their toddler-like young in their own bodies. But at closer inspection, we realize that all of these animals are facing similar challenges: All animals are driven to eat and not be eaten, to stay healthy, to make babies, and to keep their babies alive. And animals have developed behavioral tools to achieve these goals, such as ways of finding or making food and a place to live, ways to defend these things, techniques for attracting the opposite sex, and parental methods. The details are diverse across species, but the ultimate goals and many of the strategies are common. And amazingly, the brain and hormonal systems that regulate these behaviors are common too. In this course, we will explore what some of those challenges are, some alternative behavioral solutions to them, and the physiological bases of these behaviors.

Studying animal behavior, either as a Biologist or Psychologist, requires careful recording of observations and descriptions of behaviors. From these observations and descriptions of behaviors, both disciplines work towards explaining causes of behavior. These causes can be evolutionary (ultimate) or the immediate results of social interactions or changes in physiological functions (proximate). Through this course, we will gain experience making behavioral observations of animals and describing those behaviors as they occur in the context of an animal's habitat.

#### *Interdisciplinary Studies Learning Objectives (ISLOs):*

- 1) Identify an issue or question related to the interdisciplinary course(s), and describe what each discipline contributes to an understanding of that issue
- 2) Explain the benefits of being able to combine these contributions

#### *Course Learning Objectives:*

- 1) Describe ultimate and proximate causes of a variety of animal behaviors
- 2) Collect animal behavior data using a range of techniques used in biological and psychological fields (ISLO 1)
- 3) Describe what the fields of biology and psychology each contribute to an understanding of animal behavior and the benefits of being able to combine these contributions (ISLOs 1 and 2)
- 4) Critically read and evaluate scientific journal articles in biology and psychology (ISLO 1)
- 5) Demonstrate effective writing for both scientific and lay audiences

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*Times:* Lectures: M/W: 9:35-10:50 p.m. in CCC 321  
Final Exam Time: Tues May 16 2:45-4:45 p.m. in CCC 321

*Texts:* Animal Behavior: An Evolutionary Approach, 10<sup>th</sup> Edition by Alcock (2013), Sinauer Publishers (required rental)

Measuring Behavior: An Introductory Guide, 3<sup>rd</sup> Edition by Martin and Bateson (2007), Cambridge University Press (required rental)

*Other readings:* We will read and discuss several papers over the course of the semester. These are **required** reading and will be posted at Desire2Learn.

*Key Dates:* Exam 1 = **February 15** (will include material presented prior to 1<sup>st</sup> exam)  
Exam 2 = **March 15** (will include material presented between 1<sup>st</sup> and 2<sup>nd</sup> exams)  
Exam 3 = **April 19** (will include material presented between 2<sup>nd</sup> and 3<sup>rd</sup> exams)  
Exam 4 = **May 16** (will include material presented between 3<sup>rd</sup> and 4<sup>th</sup> exams)

### Course Requirements and Grading:

#### *Point Distribution:*

Practical Assignments	2 X 10 points each = 20 points
Pop-Science Paper	20 points
Discussion Notes	4 X 10 points each = 40 points
Class Participation	20 points
Unit Exam 1	100 points
Unit Exam 2	100 points
Unit Exam 3	100 points
Unit Exam 4	100 points
Group Paper	100 points

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**Total** **600 points**

#### *Letter Grades:*

93-100% = A; 90-92.9% = A-; 87-89.9% = B+; 83-86.9% = B; 80-82.9% = B-;  
77-79.9% = C+; 73-76.9% = C; 70-72.9% = C-; 60-69.9% = D; 0-59.9% = F

### Course Expectations:

#### *Exams:*

Unit Exams will focus on content from the assigned readings and lecture and will not be cumulative. The format of the exams will be a combination of multiple choice, fill in the blank, and short answer.

#### *Discussions:*

Periodically we will have an assigned primary research paper to read and discuss in class. You will be assigned a set of discussion questions prior to each paper discussion. Read the assigned paper before class and think about/take notes on each of these questions with regard to the paper. Your notes will be due (submitted on D2L) prior to the start of lecture and you should also bring a copy to class for discussion and note-taking purposes. Discussion is intended to clarify any confusion about the paper and foster critical thinking. Answers to each of these questions for each paper are fair game on the exams.

### *Practical Assignments:*

We will have two individual practical assignments for you to gain experience with animal behavior data collection methods in biological and psychological fields. More details on these assignments will be provided later. Briefly, the assignments will include:

- 1) **Create an ethogram for a captive, domesticated, or wild species:** Using observation strategies learned in class, describe and define the behaviors of a captive, domesticated or wild species based on lab or field observations.
- 2) **Recording methods for a single animal or a social group of animals:** Choose a sampling method, identify individuals, and collect behavioral data on a single animal or on multiple animals simultaneously using observation strategies learned in class.

### *Group Paper:*

You will also do a group assignment. Your group will consist of roughly half biology students (registered for BIOL 388) and half psychology students (registered for PSYCH 388).

- 3) **Group paper:** Write a paper in which you compare biological and psychological approaches to a category of animal behaviors (e.g. territorial behavior, parental behavior, courtship behavior, etc.). Use journal articles to identify contributions of each field to our understanding of your chosen category of animal behavior.

### *Pop-Science Article:*

You will write an individual pop-science (short for “popular science”) article presenting primary research on a primary research article of your choice. This paper will be written for a broad audience, high school age and up, and will include accompanying pictures. You will be given more information on this later in the semester.

### *Online Publication Opportunity:*

If you are interested, you can submit your pop-science article to be considered for publication on *The Scorpion and the Frog* (<http://the-scorpion-and-the-frog.blogspot.com/>), Sarah Jane Alger’s animal physiology and behavior blog. The top articles submitted will be provided feedback and invited to revise. Accepted revisions will be published on *The Scorpion and the Frog* as a Guest Post, with your profile as a Guest Science Writer. *This process is additional work and will not influence your grade, but the perk is seeing your work in public and including an online publication on your résumé.*

### Absence Policy:

Attend all your classes regularly. We do not have a system of permitted “cuts”. Please arrive to lectures on time and turn your cellphone off.

As per the UWSP Attendance Policy, students are expected to attend the first meeting of class or have permission from the instructor or department chair to be absent. Those who do not attend the first one or two days of class may be required to drop the course if there are others who wish to add the course. **If required to drop the course, it is the student's responsibility to officially drop the course through the Registration & Records Office or on the web.**

### Exam Policies:

Everything covered in lecture is fair game on exams. If you miss a lecture, we strongly advise you to make arrangements with another student for notes and to review what was covered. We will post most lecture slides on D2L prior to class, but they only serve as an aid for taking notes, not a replacement. You may only make up exams if you provide evidence of personal or medical emergencies. If this

occurs, you must contact us *prior to* the exam, and you will have 5 days in which to complete the exam.

To maintain the integrity of in-class exams, the use of electronic devices will not be permitted during exams without prior documented approval from the Disability Services office or other pertinent offices on campus. This includes, but is not limited to, requests to use cellular or wireless network-enabled mobile devices for foreign language translation assistance. Students who are found using these devices will be dismissed and receive a zero for their exams. Other penalties will be considered under the misconduct policy. Moreover, students who arrive late to an exam will only be allowed to take it if they arrive before the first student finishes and leaves the room. After that point, requests to take exams will be declined unless they are consistent with the makeups policy.

Likewise, recording of lectures and taking of photos during class is not permitted without permission of the instructor.

#### UWSP Community Bill of Rights and Responsibilities:

UWSP values a safe, honest, respectful and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive leaning environment at UWSP. For more information go to <http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx>.

Academic integrity is central to the mission of higher education in general and UWSP in particular. Academic dishonesty (cheating, plagiarism, etc.) is taken very seriously. So don't do it!! The minimum penalty for a violation of academic integrity is a failure (zero) for the assignment. For more information, see the UWSP "Student Academic Standards and Disciplinary Procedures" section of the *Rights and Responsibilities document*, Chapter 14, which can be accessed at the following site: <http://www.uwsp.edu/dos/Documents/CommunityRights.pdf#page=11>

#### Accommodations:

In compliance with the Americans with Disabilities Act, we will make every effort to honor requests for reasonable accommodations made by individuals with disabilities. If you have a disability and require accommodations, please register with the Disability and Assistive Technology Center (6<sup>th</sup> floor Learning Resource Center in the Library) and *let us know as soon as possible*. Requests for accommodation can be responded to most effectively if we receive the requests early in the semester. Such requests are confidential.

For more information about UWSP's policies with respect to the Americans with Disabilities Act (ADA), check here:

<http://www.uwsp.edu/stuaffairs/Documents/RightsRespons/ADA/rightsADAPolicyInfo.pdf>

You can also find more information on services provided at: <http://www4.uwsp.edu/special/disability/>

#### Title IX:

Under several federal and state laws, and according to several university guidelines, we are required to report acts of a criminal or offensive nature. This includes acts of sexual harassment and assault, bias and hate crimes, illicit drug use, and acts of violence. Any disclosure or description of these incidents – both current and in the past – may be reported to the Dean of Students office (<http://www.uwsp.edu/dos/>) or the local authorities.

Emergency Preparedness:

In the event of a medical emergency, call 911 or use the red emergency phone located outside of room 227 CCC. Offer assistance if trained and willing to do so. Guide emergency responders to victim.

In the event of a tornado warning, proceed to the lowest level interior room without window exposure or any of the hallways in CCC. Avoid wide-span rooms and buildings. For floor plans showing severe weather shelters, see <http://www.uwsp.edu/rmgt/Pages/em/procedures/other/floor-plans.aspx>.

In the event of a fire alarm, evacuate the building in a calm manner. Meet in the parking lot behind CCC. Notify instructor or emergency command personnel of any missing individuals.

In the event of an active shooter, your first priority should be to run and escape. Once you are safely out of range, call 911. If you are not confident that you can get out safely, then lock doors, turn off lights, spread out, hide, and remain quiet (turn your phone ringer and vibration off). Look around for potential weapons in case you will need to fight. If an active shooter enters the room and is aware of your presence and/or the presence of others, fight with everything you've got. Follow the instructions of emergency responders when they arrive.

For details on all emergency response plans at UW-Stevens Point See UW-Stevens Point, please view the Emergency Management Plan at [www.uwsp.edu/rmgt](http://www.uwsp.edu/rmgt).

Lecture Topics, Reading Assignments, and Key Dates:

*Lecture topics and reading assignments* (readings from the textbooks or assigned papers):

<b>Date</b>	<b>Topic</b>	<b>Readings and Due Dates</b>
Mon Jan 23	Course Expectations, History and Introduction to Animal Behavior	Alcock Ch 1
Wed Jan 25	Ultimate and Proximate Causes of Behavior	Alcock Ch 10; <b>Discussion reading 1 on D2L</b>
Mon Jan 30	Methods 1: Defining Behaviors	Martin and Bateson Ch 1-3
Wed Feb 1	Group Paper Workshop	<b>Meet in Library (ALB/LRC 316)</b>
Mon Feb 6	The Development of Behavior	Alcock Ch 11
Wed Feb 8	...continued	
Mon Feb 13	Exam Review	<b>Ethograms due</b>
Wed Feb 15	<b>UNIT EXAM 1</b>	
Mon Feb 20	Methods 2: Measuring Behaviors	Martin and Bateson Ch 4-7
Wed Feb 22	...continued	
Mon Feb 27	Evolution, Nervous Systems, and Behavior	Alcock Ch 12
Wed Mar 1	...continued	
Mon Mar 6	How Neurons and Hormones Organize Behavior	Alcock Ch 13
Wed Mar 8	...continued	<b>Discussion reading 2 on D2L; Behavior data due</b>
Mon Mar 13	Exam Review	
Wed Mar 15	<b>UNIT EXAM 2</b>	
Mon Mar 20	SPRING BREAK	
Wed Mar 22	SPRING BREAK	
Mon Mar 27	Behavioral Ecology and the Evolution of Altruism	Alcock Ch 2: Pages 15 – 31 and pages 37 (starting with <i>Kin Selection and Social Conflict</i> ) – 41
Wed Mar 29	The Evolution of Social Behavior	Alcock Ch 3
Mon Apr 3	...continued	<b>Discussion reading 3 on D2L</b>
Wed Apr 5	Group Paper Workshop	<b>Group paper rough drafts due; Meet in Computer Labs CPS 107 and TNR 356 (you will be told which one)</b>
Mon Apr 10	The Evolution of Communication	Alcock Ch 4, Ch 14 pages 424-431
Wed Apr 12	...continued	
Mon Apr 17	Exam Review	
Wed Apr 19	<b>UNIT EXAM 3</b>	
Mon Apr 24	The Evolution of Reproductive Behavior	Alcock Ch 7, Ch 14 pages 432-449
Wed Apr 26	...continued	<b>Discussion reading 4 on D2L</b>
Mon May 1	The Evolution of Mating Systems	Alcock Ch 8
Wed May 3	...continued	
Mon May 8	The Evolution of Parental Care	Alcock, Ch 9: Pages 257 – 273 and 278 – 291
Wed May 10	Exam Review	<b>Pop-science articles due</b>
Tues May 16	<b>UNIT EXAM 4: 2:45-4:45 Rm 321 CCC</b>	<b>Group papers due</b>