

Animal Behavior

Syllabus: BIOL 480, Spring 2014

Course Instructors: Dr. Rachel Sturge, rsturge1@umbc.edu
Office hours: TBA

Textbook: No required textbook
Goodenough, McGuire and Jakob, *Perspectives on Animal Behavior* 3rd edition (recommended)

Class meeting times: Mon, Wed, Friday 9-11:50am IT 239

1) Course Description:

This course will explore the general themes and important questions in the field of animal behavior. We will cover subjects that examine how and why non-human animals interact in the way they do with each other and with their environment. Topics will include the underlying genetics of behavior, behavioral development and learning, sensory perception and animal communication, habitat selection, foraging, sexual selection and mating systems, and ecological aspects of social behavior, among others. This is a quantitative course. BIOL 142 is a pre-requisite, and at least a passing familiarity with statistics and mathematics is assumed.

2) Learning Objectives:

1. Gain knowledge of common biological terms and principles used in the study of animal behavior
2. Comprehend behavioral terms and principles and demonstrate this comprehension via interpretation of material in lecture
3. Apply studied behavioral terms and principles to new situations
4. Analyze behavioral principles based on the ability to distinguish between facts and inferences
5. Synthesize general principles from different sub-fields of behavior to solve problems using creative thinking
6. Evaluate behavioral principles in a study of the behavioral literature
7. Understand how evolution by natural selection shapes current behavior and how shared evolutionary relationships (phylogeny) can be used to understand the evolutionary history of behavior

Students will be evaluated in the course based on examinations and assigned work designed to measure student success in meeting each of the above objectives.

3) Academic Honesty:

All work in this course is covered by UMBC policies on academic misconduct. Students engaged in academic misconduct on an exam or assignment will be reported to the Academic Conduct Committee (http://www.umbc.edu/undergrad_ed/ai/documents/ACC2011.pdf) in accordance with UMBC policies, and will at a minimum receive a grade of zero on that assignment, and will risk receiving an F in the course or being dismissed from the university. In particular, students should take care to avoid plagiarism, which is failure to put other's words in quotes, or failure to cite sources. See this link (esp.p.1). http://writing.wisc.edu/Handbook/Acknowledging_Sources.pdf Plagiarism is a serious offense, and it will not be tolerated. Failure to properly acknowledge other people's words, information or ideas has had serious consequences for students in this course in the recent past.

4) Course Policies:

- Come to class on time and be ready to start as soon as class begins
- Be sure to read related material for lecture and discussion BEFORE class
- Ask questions and discuss results and observations with other students. Group discussion promotes learning. Be an active learner and participate fully in all aspects of the course. Do not be content to let others in your group do the work for you
- **Turn off your cellphones in class.** Be considerate of your classmates
- I encourage minimal computer in lecture and lab, and ONLY for course-related activity. Students who plan to use computers should sit at the back or sides of the room to minimize distractions. Anyone caught using computers for non-coursework related activities will be docked participation points and may lose the privilege of being able to use computers during class time

5) Assessment:

a) Methods of instruction

The basic information of the course will be presented through lectures on major topics, student-led literature reviews of recent articles, and group-based active learning exercises. Class attendance is mandatory and prompt arrive is crucial. Lectures will be given during the first half of class on Monday and Wednesday. Exams will be based largely on lecture material and will start promptly at 10am. No additional time will be given to students who arrive late without a legitimate reason for their tardiness. Note that traffic problems are NOT considered a legitimate excuse so please give yourself lots of extra travel time on exam days.

b) Primary literature discussions

One hour of class time per day will be devoted to the presentation and discussion of a scientific paper on a topic related to that week's lecture topic. At the beginning of this hour, the class will be divided into groups and each group will be assigned to present some portion of the paper (usually a multi-part question) to the class; the choice of questions to be presented by each group will be determined randomly by the professor. Each group will have a graduate student assigned to it that will act as a discussion leader as well – grad students will be graded on their ability to facilitate discussion and keep groups on track (part of the leadership grade). At the end of this period, each group will assign one or more representatives from the group to present assigned material. Discussion by the entire class will

follow each section that is presented. Your participation grade will depend on your contribution to the discussion in the class, the answers that you hand in and your contribution to your group when preparing your presentation. All group members will assign a participation grade to all members of the group twice during the course. Additionally, the grad students who will act as discussion leaders will grade your overall participation to discussions twice during the course. To ensure that you get participation points you need to carefully read the paper **BEFORE** class and come to class prepared to discuss all parts of the assigned paper, bring your answers to the pre-assigned questions to class, and contribute to the group and class discussions each week.

c) Exams

Exams will be based on the lecture and discussion material preceding each exam. Readings supplement the lecture material and are immeasurably helpful in preparing for the exams. These exams will consist of multiple choice, short answer and problem-solving questions. There will also be a cumulative final exam that will be similar in format to earlier exams, but may include a few longer essay questions as well. Makeup exams will **ONLY** be permitted with a valid, UMBC-accepted, excuse and will be given on a mutually agreeable date. You **WILL** need to bring documented proof of your excuse (such as a doctor's note) with you to verify your excuse. If no arrangements have been made within **24 hours** of a missed exam, a score of zero will be given and no makeup exam will be permitted.

d) Active-learning exercises

Students will participate in active learning and a group-based exercises aimed at promoting deeper thinking about the concepts introduced in this course. Many of these exercises will include writing assignments that will be collected and graded for understanding and for participation. These activities will take place on Wednesdays during and after lecture. Some of these activities will require reading of additional material or research outside of the classroom, and the bulk of them will include oral presentations or class-wide discussion. More details regarding these assignments will be given out during lectures.

e) Final Presentation

All students will work in groups of two to prepare a 20 minute presentation (15 minutes of presentation, 5 minutes of questions/answers) at the end of the semester. The topic should be an elaboration on some topic covered in the course, or an area of animal behavior that was not covered that interests you. These must be presentations of a specific scientific topic and should include a current review of the topic and future directions of the field. All presentation topics must be approved by your professor. Students will prepare a short paragraph describing your topic by June 13th, which will be reviewed by other students in class time. These paragraphs will then be edited and turned in for credit. Students will also prepare an outline of their talks that will again be peer-reviewed, edited, and turned in for credit. **All students must attend class during these talks as part of your participation grade.** Please see the deadlines on the following page for additional information:

Presentation Deadlines:

June 13 th	<ul style="list-style-type: none">• Paragraphs are due• Students will read each other's paragraphs in class and provide feedback
June 23 rd	<ul style="list-style-type: none">• Outlines are due• Students will read two outlines and fill out review sheets in class
June 27 th – July 2 nd	<ul style="list-style-type: none">• Presentations will take place in class

f) Grading policies

Attendance: Students are responsible for all material that is presented in lecture and in laboratory. If you miss a class, you are strongly advised to obtain the notes and assignments from another student. Participation in paper discussions and behavioral exercises will be an important factor in determining borderline grades, so attendance (and participation) is strongly advised.

Category	Percent
Exam 1	20%
Exam 2	20%
Exam 3	20%
Paper discussions	10%
In class exercises	10%
Final Presentations	20%

Grade Cutoffs:

Letter Grade	Percent Needed
A	90% to 100%
B	80% to 89%
C	70% to 79%
D	60% to 69%
F	0% to 60%

Late assignments will not be accepted for paper discussion questions without a valid excuse. For all other assignments, work that is turned in late will be penalized by 10% per day unless student provides documented proof of the reason for their tardiness.

One week “Statute of Limitations”: All grading questions about exams, homework, quizzes, group exercises, literature review, etc. must be addressed within one week of the scores being posted online or handed out in class. After this time, no changes will be made to existing grades unless there is a calculation error. Thus, it is essential that you check your grades regularly and contact your instructor within one week if you feel an error has been made or if you are unsure why you lost points.

Schedule & Assigned Readings

BIO480: Animal Behavior

Instructor: Dr. Rachel Sturge (rsturge1@umbc.edu)
Lectures: Mon, Wed, Friday 9:00 – 11:50am I.T. 239

Readings from “Principles of Animal Behavior” 3rd edition, Goodenough et al.

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Reading</u>
1	May 28	Intro & History of animal behavior	Chapter 1, 2
	May 30	Behavioral genetics	Chapter 3
2	June 2	Hormones & nerve cells	Chapters 6 & 7
	June 4	Development & learning	Chapters 5 & 8
	June 6	Learning & Language	Chapter 17
3		Exam 1	
	June 9	Signals & Communication	Chapter 17
	June 11	Communication modalities	Chapter 16
	June 13	Habitat selection	Chapters 10, 11
4		Paragraph due	
	June 16	Group living	Chapter 19
	June 18	Evolutionary stable strategies	Chapter 18
	June 20	Ecology of Social Behavior	Chapters 17, 19
5		Exam 2	
	June 23	Foraging strategies, optimal foraging	Chapter 12
		Outline due	
	June 25	Sexual selection & mating systems	Chapters 14, 15
6	June 27	Parental Care	Chapter 15
	June 30	Presentations	
	July 2	Presentations	
	TBA	Exam 3	