

Course Information ∞ BIOL 381. Animal Behavior ∞

Lecture 3 credits. Tues. and Thurs. 9:30-10:50 in AH 122.

Prerequisites: BIOL 111-112 (Principles of Biology I and II and labs), CHEM 113 or higher, seven additional hours of Biology 200 level or higher, and Junior or Senior standing.

- BIOL 381 is a **Group III Biology elective** (applicable to the biology Major).
- BIOL 381 is offered in even-numbered Spring semesters (alternating with BIOL 414 Animal Histology).

BIOL 381. Animal Behavior: The study of the mechanisms and evolution of animal behavior. Topics include methods for the observation and quantification of behavior, natural selection and evolution of behavior, behavior genetics, neural and physiological mechanisms of behavior, communication, aggression, sexual reproduction, parental investment, and mating systems. The course is an upper-level biology elective appropriate for junior and senior biology majors and others interested in zoology, animal science, and experimental psychology.

Professor Dr. Anna E. Ross, Professor of Biology.

Office: AH 111 *Phone:* 321-3436 (email is the best way to contact me.)

Home page: <http://www.cbu.edu/~aross> *E-mail:* aross@cbu.edu

Office hours: Mon., Thurs., and Fri. 2:00-5:30 p.m.

Additional appointment times are available upon request (see posted schedule).

Required Materials

Text: Drickamer, Lee C., Stephen H. Vessey, and Elizabeth Jakob. 2002. *Animal Behavior: Mechanisms, Ecology, and Evolution*. Fifth edition. McGraw-Hill Publishers. ISBN 9780070121997

Course Supplement: Ross, Anna E. 2012. *Biology 381 Animal Behavior Course Supplement Spring 2012*. CBU Printing Services.

WWW Resources: http://www.cbu.edu/~aross/animbeh/Animal_Behavior.htm

Required Digital images and other required resources: \\facstaff\biology

Student Responsibilities

You are responsible for all information presented during lecture, during class discussions, and presentations by fellow students. Additionally, you are responsible for all material covered in the reading assignments and in class handouts prepared by the professor and by your fellow students. Lecture-Discussion attendance is required. Attendance at exams is required. If you miss class for any reason you are expected to inform me and *you are responsible for making up the missed work on your own time*. Unexcused absences will lower your grade. Excessive absences are grounds for automatic failure.

You will need to read the assigned material *before* you come to class. You will need your textbook and *Course Supplement* with you during most class meetings. Your active participation in class presentations and discussions will be expected. A cooperative and open atmosphere is expected during class meetings. Students are encouraged to study together. Journals (*Animal Behaviour* and *Behavioral Ecology*) and old Reports are available in AH107.

Exams, Reports, and Grades

Five exams will be given. Each exam will count 100 points. No exam may be dropped. *Makeup exams will only be available under extraordinary circumstances.*

If you miss an exam without prior arrangement and fail to notify me before noon the day of the scheduled exam time to arrange a specific time for a make up exam, you will not be eligible for a makeup exam and you will receive a zero for the missed exam. Ordinarily, no makeup exams are granted and a student will be allowed no more than one makeup exam for the course. Ordinarily, a makeup exam must be completed prior to the next meeting of the class. If you need special consideration, please ask.

Exams will cover the topics indicated on the attached schedule unless specific changes are announced in class. Each exam will cover material from lecture, Reports prepared by fellow students, class presentations, discussions, digital resources, reading assignments, and the text. Exams will consist of objective, short answer, and specific essay questions. Exam questions will always require *detailed* and *precise* responses *employing the specialized terminology introduced in the course* and answers may occasionally require well-labeled diagrams. Note: Exam dates will not be changed unless the majority of the class agrees. Changes in the class schedule may be announced in class. Topics not listed on the schedule may be covered by Reports.

Reports: One short Report (study guide) will be required during the semester. The report will be prepared and presented by two students working together. All Final Reports are to be distributed to each member of the class as well as turned in to me (both printed and digital). Students will select subject areas related to the topics covered in the course textbook. Each Report will be succinct but detailed and will *focus on only one specific topic*. Your Report will be an analysis of an experimental study of animal behavior as published in one or two papers in scientific journals or books. *The goal is that the Report will serve as a detailed and specific study guide for enrichment on a course topic. Exams will include material covered in Reports.* Your Report must be organized with informational headings and subheadings (use a topical outline format). Reports cannot be merely paragraphs of text but *must* include tables, charts, diagrams, or other study aides. Reports must be submitted digitally and as print-outs (for the shared directory) and must be at least four pages long (single spaced, not including Literature Cited, tables, and figures).

The material in your Report should be organized to facilitate study by your classmates.

Incorporate the textbook material on your topic into your Report so that students can easily see the connection of your Report topic to the course material. Your Report must be more than a simple paraphrase or recopying of material from your sources. **Your creativity is called for in organizing, explaining, and presenting the material in a way that will assist your classmates.** Although you have a limited amount of space, your Report must include sufficient detail to allow your reader to understand the points you emphasize. Specific examples should be included to illustrate your points. Reports that include nothing more than material directly from the source without supporting definitions, explanations, and interpretations will *not* be helpful as study guides for your classmates. Keep in mind that Exams will include questions on Report topics. *You may include suggestions for exam questions as a part of your Report.*

Figures (including diagrams, graphs, tables, or charts) are essential components of your Report. Figures should be incorporated into the body of the Report, *not* merely appended. You need to tell the reader what to notice in the figure and refer to the figure in the body of your Report. Figures may be photocopied, scanned, redrawn, or you may create original illustrations (in all cases you must *cite the source* of the information). Figures must have detailed, explanatory captions.

The most serious error would be to misinterpret information from your source. However, no such errors should remain in your Report because these can usually be corrected following the Draft conference. Use the correct format for **in text citations** (Author, year). *All information in your Draft and Report must be properly referenced.*

The **last** section of your Draft and Report will be *Literature Cited*. (It is *not* a bibliography because you will not list any sources that you have not cited in the text of your Report.) Use the correct format for the *Literature Cited* section. (Examples of the format can be seen in the *References* section of your textbook.) For example: Author, T. 2011. Title. Journal Vol(issue): pages.

Author, A. 2009. Paper Title. *In*: Book Title. Editors' names. Publisher. Pages.

Word-processing requirements for Animal Behavior Reports:

- Your names, the date, the Report number, and a specific, informative title should appear at the top of the first page (do *not* use a separate title page).
- Your Report must be free of typographical and grammatical errors.
- Use complete sentences for all text material.
- Text should be single-spaced.
- Text material should be *divided into subheadings*.
- Double space only to separate sections and paragraphs.
- List your points whenever possible.
- Use consistent formats and indenting to distinguish headings and levels of sub-headings.
- Use a clear, uncluttered typeface.
- Do **not** right-justify.
- Avoid excessive margins (no more than 1 inch!).
- Number each page.
- Be sure all figures are reproduced clearly and labeled (including a citation). Each figure must have an informative caption.

Draft: The first step is to work with your classmate and me to select a topic and find a **reference paper**. To be sure you are on the right track and to prevent duplication of report topics, you are required to discuss your idea for a topic and possible references with me (in person or via email). Once your primary reference is **approved**, you will need to show me a full text copy of *your major reference source* (I'll need to make a copy if it's one I don't have). You will then prepare a Draft of your report. You will be required to schedule an appointment for a one-hour conference me (the Draft deadlines are listed on the attached schedule). All members of your team must attend. During this meeting, you will *hand in* a printout of a detailed draft including reference citations. (Ideally, you should submit your draft via email prior to our meeting.) You may also prepare a draft version of the powerpoint slides for your presentation. We will discuss the details of your proposed Report and powerpoint presentation during this meeting. You will need printouts of your Draft for each team member (this makes it easier for you to record the suggestions we discuss during our meeting).

Report and Presentation: On or before your Report date, you will distribute a printed copy of the Report to each member of the class and to me (this copy will not be returned). Also email your Report and powerpoint file to me before 9:30 am. You and your classmate will make a brief (15 min.) explanatory powerpoint presentation of your Report and you will be required to answer questions from your classmates and me. PowerPoint or other multimedia presentations are required. You will also need to study the Reports you receive from other students because **you will be required to ask helpful questions during the discussion of the other Reports**.

Each Report will earn a maximum of 70 points: 20 points maximum for the Draft (a detailed and complete draft including figures, in text citations, and correctly formatted Literature Cited), 30 points maximum for the Report, and 20 points maximum for the in-class Presentation, leading a discussion, and answering questions. No point credit will be earned for a late Draft, late Report, or if one or both classmates are unprepared for the in-class presentation. **Satisfactory completion of the Report will be required to pass the course.**

Point Distribution for the Course: (You can see your scores on Moodle)

Exam 1	100 pts.	Exam 4	100
Exam 2	100	Exam 5	100
Exam 3	100	Report	70 (20 for Draft, 30 for Report, 20 for Presentation)
		TOTAL	570 points

Grading Scale: 90.0-100% = A, 80.0-89.9% = B, 70.0-79.9% = C, 60.0-69.9% = D, below 60.0% = F.

An honor system is in effect for all exams. It is considered a violation of the CBU Code of Conduct to receive or give assistance during an examination. Exams are returned, but students may not keep them. *In this course, students may not use old examinations.*

Animal Behavior Course Schedule & Spring 2012

<i>Date</i>	<i>Topic</i>	<i>Text Ch.</i>	<i>Report Deadlines</i>
Jan 10 Tu	Introduction and History	1	
Jan 12 Th	Introduction and History	1	
Jan 17 Tu	History and Approaches	2, 3	
Jan 19 Th	Approaches and	2, 3, 11	
Jan 24 Tu	Methods	3	
Jan 26 Th	Genes and Evolution	4	Resource 1, 2 Fri 26 Jan
Jan 31 Tu	<u>Exam 1</u> [Chs. 1, 2, 11 (in part) & 3]		
Feb 2 Th	Genes and Evolution of Behavior	4, 5	Draft 1, 2 Fri, 3 Feb
Feb 7 Tu	Evolution of Behavior	5, 19	
Feb 9 Th	Evolution; Kin Selection	19, 6	Resource 3, 4 Fri 10 Feb
Feb 14 Tu	Reports 1, 2. Behavior Genetics	6	Presentations 1, 2
Feb 16 Th	Behavior Genetics	6	Draft 3, 4 Fri 17 Feb
Feb 21 Tu	<u>Exam 2</u> [Chs. 4, 5, 19 (in part), 6 and Reports]		
Feb 23 Th	Nervous System and Behavior	7	Exam 2: Reports 1, 2.
Feb 28 Tu	Nervous Sys & Hormones	7, 8	Readings: Wingfield
Mar 1 Th	Reports 3, 4. Nervous Sys & Hormones	7, 8	Presentations 3, 4 Resource 5, 6 Fri 2 Mar
Mar 5-9	<i>Spring Break</i>		
Mar 13 Tu	Hormones and Behavior	8	
Mar 15 Th	Hormones and Behavior	8	Draft 5, 6 Fri, 16 Mar
Mar 20 Tu	<u>Exam 3</u> [Chs. 7, 8 and Reports 3, 4]		
Mar 22 Th	Communication	12	Resource 7, 8 Mon 20 Mar
Mar 27 Tu	Reports 5, 6. Communication	12	Presentations 5, 6
Mar 29 Th	Communication, Aggression		Draft 7, 8 Thur 29 Mar
Apr 3 Tu	Aggression	12, 16	
Apr 5 Th	<i>Holiday</i>	16	
Apr 10 Tu	<u>Exam 4</u> [Chs. 12, 16, and Reports 5, 6]		
Apr 12 Th	Reports 7, 8. Sexual Reproduction	17	Presentations 7, 8
Apr 17 Tu	Sexual Reproduction	17	[CBU Posters 17 April]
Apr 19 Th	Reproduction & Mating Sys.	17, 18	
Apr 24 Tu	Reproduction & Mating Systems	17, 18	
Apr 26 Th	Parental Investment	18	
May 2-8	<u>Exam 5</u> [Chs. 17, 18, and Reports 7, 8]		
Exams			

Deadlines for Reports:

- Before your “**Resource Approval Deadline**” decide on a topic and find a recently published paper that presents an experimental study addressing the concept. Your topic should be selected from the text chapters and lecture slide covered on the Exam that will include your Report or on an earlier course unit. Journals (*Animal Behaviour* and *Behavioral Ecology*) and reference books are available in AH107.
- You need to submit a full citation of your Resource via email, discuss it with Dr. Ross, and receive formal approval before 5:00 p.m. on the Deadline date. Discussion of possible Resources with Dr. Ross may be in person or via email. The Resource Approval Deadline is 5:00 p.m. of the date listed. Upon resource approval, you will need to show Dr. Ross a complete copy of your primary Resource. Your primary Resource may NOT be a paper you have used, presented, or studied in another course.
- Before the “**Draft Conference Deadline**” prepare a word-processed Draft. A full citation of your primary Resources must be included (in the Literature Cited section). Sign up for a one hour appointment to meet with Dr. Ross. You will need to turn in a printed copy of your Draft at the conference. All members of your Report Team must attend the Draft Conference. The Deadline for the Draft Conference is 5:00 p.m. of the date listed. To be sure your Draft meets the course requirements and that you are interpreting your primary resource correctly, you are encouraged to seek Dr. Ross’s advice prior to the official Draft conference.
- Distribution of **Reports** to the class must be complete (stapled copies to all students and to Dr. Ross) and your powerpoint file copied to the classroom computer and emailed to Dr. Ross before 9:30 a.m. on the date of the **Presentation**. You may also distribute 6 per page printouts of your powerpoint slides. Your Report Team needs to be ready to give your PowerPoint presentation starting at 9:30 a.m. on the date listed.
- No point credit will be earned for a late Draft, late Report, or if one or both team-mates are unprepared for the in-class presentation. Nevertheless, satisfactory completion of one Report will be required to pass the course.

Record of Appointments and Points Earned:

- *Lecture Exam 1* _____
- *Lecture Exam 2* _____
- *Lecture Exam 3* _____
- *Lecture Exam 4* _____
- *Lecture Exam 5* _____
- **Report**
 - Resource Deadline Date: _____ Approval: _____
 - Draft Conference Deadline Date: _____
 - Draft Conference Appointment Day & Time: _____
 - Draft Points Earned: _____ (20 points max.)
 - Report and Presentation Date: _____
 - Report Points Earned: _____ (30 points max.)
 - Presentation Points Earned: _____ (20 points max.)

Deadlines for Reports - 2012

<i>Report #</i>	<i>Students (2 per team)</i>	<i>Resource Approval Deadline</i>	<i>Draft Conference Deadline</i>	<i>Distribute Report and Present</i>	<i>Exam for Report</i>
1		Fri. 26 Jan.	Fri. 3 Feb.	Tues. 14 Feb.	Exam 2
2		Fri. 26 Jan.	Fri. 3 Feb.	Tues. 14 Feb.	Exam 2
<i>Report #</i>	<i>Students (2 per team)</i>	<i>Resource Approval Deadline</i>	<i>Draft Conference Deadline</i>	<i>Distribute Report and Present</i>	<i>Exam for Report</i>
3		Fri. 10 Feb.	Fri. 17 Feb.	Thurs. 2 Mar.	Exam 3
4		Fri. 10 Feb.	Fri. 17 Feb.	Thurs. 2 Mar.	Exam 3
<i>Report #</i>	<i>Students (2 per team)</i>	<i>Resource Approval Deadline</i>	<i>Draft Conference Deadline</i>	<i>Distribute Report and Present</i>	<i>Exam for Report</i>
5		Fri. 2 Mar.	Fri. 16 Mar.	Tues. 27 Mar.	Exam 4
6		Fri. 2 Mar.	Fri. 16 Mar.	Tues. 27 Mar.	Exam 4
<i>Report #</i>	<i>Students (2 per team)</i>	<i>Resource Approval Deadline</i>	<i>Draft Conference Deadline</i>	<i>Distribute Report and Present</i>	<i>Exam for Report</i>
7		Mon. 20 Mar.	Thur. 29 Mar.	Thurs. 12 Apr.	Exam 5
8		Mon. 20 Mar.	Thur. 29 Mar.	Thurs. 12 Apr.	Exam 5

- TAS Meeting date TBA Sat., 31 March 2012.
- CBU Research Poster Session is Tues., 17 April 2012.