

PY 420: Cognitive Ethology

Block 7, 2005
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Course Description

This course provides an overview of cognitive ethology (= the study of animal behavior in the natural environment), with a focus on non-human animal communication systems. The natural communication systems and cognitive abilities of several species will be examined, including bees, birds, non-human primates, and cetacea. In addition, the course will explore attempts to teach non-human animals (e.g., *Pan paniscus* and *Tursiops truncatus*) human-based artificial languages. One purpose of this endeavor is to dispel Disneyesque caricatures of non-human animals and to foster a true appreciation for their cognitive/communicative abilities.

The course is organized as a **seminar**, which means there will be no formal lectures. Students share equal responsibility (with the professor and other students) for contributing to discussions, and for the success of the course. The key to good discussions is a willingness to express and support your opinion—don't be disappointed if someone challenges your opinion or disagrees with you; simply reevaluate your position, and then continue to participate in the discussion process. To discuss the material adequately, it is essential that you read the assigned articles well ahead of time, preferably twice, and that you think about the articles in relative depth before you come to class. Each day, imagine you are leading the discussion of the article. We must all work together to insure meaningful coverage of the material. Class will generally begin exactly at 9 AM, and discussions will continue as long as they are fruitful.

Required Textbooks

¹ Dawkins, M. S. (1993). *Through our eyes only? The search for animal consciousness*. Oxford: W.H. Freeman Spektrum.

²Goodall, J. (1990). *Through a window*. Boston: Houghton Mifflin.

²Howard, C. J. (1995). *Dolphin chronicles*. New York: Bantam.

²Poole, J. (1996). *Coming of age with elephants: A memoir*. New York: Hyperion.

¹To be purchased by everyone.

²The entire class will not read all of these books; only a portion of the class will read each of these.

Grading Procedures

Final grades are calculated as follows (you decide the specifics for items 2-4):

1) Class discussion grade	20%
2) Article presentation/discussion	20-30%
3) Essay assignment #1	20-30%
4) <u>Essay assignment #2</u>	<u>25-35%</u>
Total	100%

with the following breakdown (of course, "+" and "-" will also be given when appropriate)::

A =	90-100%
B =	80-89%
C =	70-79%
D =	65-69%
NC =	below 65%

A = Excellent work that reflects superior understanding and insight, creativity, or skill.

B = Good work that reflects a high level of understanding and insight, creativity, or skill.

C = Adequate work that indicates readiness to continue study in the field.

D = Marginal work, only minimally adequate, indicating lack of readiness to continue in the field.

NC = Failing work, clearly inadequate and unworthy of credit.

Note: Your grade in this course is based only on your mastery of the material, not on your perceived effort.

- 1) Class discussion grades will be given by the professor to the class as a whole—in other words, everyone will receive the same discussion grade for the course. Multiple absences on any given day will negatively affect the grade. In general, grades will be based on whether the class generates meaningful, on-topic discussions that illustrate not only comprehension of the basic material but insight that goes beyond the material itself. A key factor here is each student's ability to involve others in the discussion of the material. Discussions must involve everyone in the course and must be balanced to be successful. Knowing when to talk, and when to listen are equally important.
- 2) For the **Journal report/presentation**, you will work individually or in pairs (depending on the size of the class) and are responsible for the following:
 - (a) A 30 minute power-point presentation of the article assigned for that day. All presentation must use powerpoint. In this presentation, you should synthesize the main points from the article and present them to the class in the form of a coherent, logical, and instructive lecture. In general, you will provide the class with (1) basic background information on the topic, (2) a summary of the

- methodology (e.g., subjects, operational definitions, statistical techniques), (3) the results, and (4) the limitations and implications of the results. You should try as much as possible to integrate information from the assigned readings into your presentation. The presentation should not be read. It is generally helpful to provide the class with a handout to make it easier to follow your presentation--but the handout should be in outline form only (i.e., not complete summaries or sentences). Note that the presentation will be timed, with sufficient time allocated after the half hour presentation for questions and answers. Talk with the paraprof two days ahead of your presentation to make sure you have arranged everything. Make sure you are up and running by the time class starts—that is, don't waste class time trying to make everything work. Get all technical issues of your presentation taken care of BEFORE class begins. Failure to be ready when class begins will result in points being deducted from your presentation grade.
- (b) Write up a critical analysis (in APA format) of the article you present. A critical analysis is part summary and part critique—you should assume that the reader has not read the article, and therefore you must provide enough context so that your critique makes sense. This is due at the beginning of your presentation and is limited to a maximum of two pages. Longer papers will lose points.
 - (c) After your presentation, you are also responsible for leading the discussion of the material for the day. Part of your grade will depend on your ability to lead the discussion. In preparation, you must meet with the professor at least 2 class days before you give your presentation to discuss which aspects of the assigned readings will be addressed. For this initial meeting, you need to have perused all of the readings for the day in question. Be prepared at this meeting to outline what you have planned in terms of leading the discussion. The extent of your preparation for this meeting will also figure into your presentation grade.

Your grade will be based on your presentation to the class, the quality of your report, and your contribution to leading subsequent class discussion (see grade sheet at end of syllabus). If done in pairs, both students will receive the same grade unless there are extenuating circumstances.

- 3) **Essays:** You will receive two essay assignments to answer during the course. Answers to these essays will come from assigned readings and, importantly, from outside reading not discussed in class (similar to what you would do for a research paper). All answers to questions must be typed (in APA format) and provide a concise but thorough (and well supported) response to the questions. Excessively wordy or vague answers will lose points, as will answers that provide many examples but little integration of the material. References must also be cited where relevant. Page limitations on the essays must be followed or points will be deducted. You must turn in the grade sheet attached to your paper (failure to attach the grade sheet will result in points being deducted). Late essays will result in a minimum of a full-grade deduction, if they are accepted at all.

With regard to the evaluation of your writing, you should consider the following grading standards:

An 'A' paper commands attention because of its insightful development and mature style. It presents a cogent analysis of the topic, elaborating with well-chosen examples and persuasive, original reasoning. The paper is concise and shows that its writer can usually choose words aptly, use sophisticated sentences effectively, and observe the conventions of formal written English. It is generally a pleasure to read.

A 'B' paper is clearly competent. It presents a thoughtful analysis of the topic, elaborating with appropriate examples and sensible reasoning. It is typically less cohesive and concise than an 'A' paper, with a less fluent and complex style. The paper shows that the writer can usually choose words accurately, vary sentences with some degree of effectiveness, and observe most conventions of formal written English. Generally, it can be read without undue effort on the part of the reader.

A 'C' paper is satisfactory, sometimes marginally so. It presents an adequate analysis of the topic, elaborating with sufficient examples and acceptable reasoning. Just as these examples and reasoning will be less developed than those in a 'B' paper, so will the paper's style be less effective--even to the point of distracting the reader and making the logic difficult to follow. Nevertheless, the paper shows that the writer can usually choose words of sufficient precision, control sentences of reasonable variety, and observe most conventions of formal written English. It is generally somewhat difficult to read.

A 'D' paper is unsatisfactory in some marginal way. It presents an insufficient analysis of the topic, with poor elaboration and/or reasoning. The paper's style is generally not effective, making the paper difficult to follow. Words may not be chosen with sufficient precision, with insufficient control of formal written English. It is difficult to read and understand, requiring effort on the part of the reader.

A 'NC' paper is unsatisfactory in one or more ways. It may analyze the topic illogically or disregard the topic's demands; it may lack coherent structure or elaboration with examples; it may reflect an incomplete understanding of the topic. Its prose is usually characterized by at least one of the following: wordiness, frequently imprecise or simplistic word choice, little sentence variety or fragmented sentence structure; occasional major errors in grammar and usage, or frequent minor errors. Takes considerable effort to read and understand the main points of the paper.

Disability

If you have a disability and require accommodations for this course, please speak with the professor as soon as possible so that your learning needs may be appropriately met. If you have not provided acceptable documentation for this by the end of the second day of class, no special accommodations can be made. If you have not already done so, you will need to register with Disability Services (Learning Commons at Tutt Library, Room 152, 227-8285), the office responsible for coordinating accommodations and services for students with disabilities.

Honor System

According to the Colorado College Honor System (see <http://www.ColoradoCollege.edu/Students/Pathfinder/Policies/Academic/Constitution/>), students must adhere to the following general guideline regarding **plagiarism**:

In papers, direct quotations must be acknowledged by quotes and footnotes. Ideas or paraphrasing taken from outside sources (including course textbooks) must be properly acknowledged, unless the professor specifically states otherwise (*Pathfinder*, 1996-97, p. 57).

More specific rules about plagiarism are found in the *American Psychology Association (APA) Publication Manual* (1994, pp. 292, 294):

Quotation marks should be used to indicate the exact words of another. Summarizing a passage or rearranging the order of a sentence and changing some of the words is paraphrasing. Each time a source is paraphrased, a credit for the source needs to be included in the text . . . The key element of this principle is that an author does not present the work of another as if it were his or her own work. This can extend to ideas as well as written words.

Plagiarism is avoided by proper use of quotations and paraphrasing.

A quotation is an exact copy the language from your source; for this you use quotation marks, cite the reference and the page number(s)--as detailed in the APA Publication Manual (see pp. 168-174). In general, one will quote in scientific writing only when the original text contains memorable words or phrases. These quotes generally have emotional overtones, and often express the original author's bias. **Because science is primarily concerned with information (more so than how the ideas are expressed), quotations are very rare in scientific writing. Overuse of quotations detracts from a paper in both style and content, and generally reflects a lack of effort on the part of the writer.**

Paraphrasing is a presentation of information from another source in your own words (and therefore in your own style and syntax). You only need to give the source of the original text (no page number) for the in-text citation. Paraphrasing is very common in scientific writing because you often base your arguments on information synthesized from other sources. You should paraphrase when you want to simplify or summarize ideas presented in the original text.

If you have any questions with regards to this matter, you may also find valuable information on the following websites:

<http://www.ColoradoCollege.edu/Dept/PY/Plag.html>
<http://www.coloradocollege.edu/Library/Course/webplag2b.html>
<http://sja.ucdavis.edu/avoid.htm>

If you continue in this course beyond the first day, it is assumed you fully understand and accept the guidelines of the course as outlined in this syllabus (and by the Psychology department), and that you have familiarized yourself with the general guidelines of the Colorado College honor

system. In accordance with the honor system, you must write and sign the following on your paper and on your tests (“HCU” alone is not sufficient):

"On my honor, I have neither given nor received any unauthorized aid on this paper/exam."

Do not put your name anywhere on your paper; **use only your student ID#**. Sign the honor code only with your student ID# as well.

WEEKLY SCHEDULE

Notes#1: You are responsible for knowing this schedule. Complete all readings by the day and time they are listed and be ready to discuss them. Dates and times listed are subject to change.

Note#2: The articles below are online at—you will need your student ID# to access them: <http://www.coloradocollege.edu/dept/PY/Faculty/Jacobs.html#Clinks> Click on “Readings” for PY420 and follow the login instructions.

Note#3: Only the person presenting on a given day will read the article to be presented; other members of the class are not expected to have read the presented article.

WEEK #1

MONDAY

9 AM: Introductions and overview of course: Discussion about discussions

TUESDAY

9 AM: Dawkins (1993): Chapters 1-3 [101 pages]

VIDEO: Inside the animal mind: Intelligence

WEDNESDAY

9 AM: Dawkins (1993): Chapters 4-6 [76 pages]

VIDEO: Inside the animal mind: Consciousness

THURSDAY

9 AM: ON COGNITIVE ETHOLOGY [39 pages]

Bekoff, M. (2002). Animal minds and what's in them. In: *Minding animals: Awareness, emotions, and heart* (pp. 84-99). Oxford: Oxford University Press. [Read this chapter first]

Jamieson, D. & Bekoff, M. (1996). On aims and methods of cognitive ethology. In M. Bekoff, & D. Jamieson (Eds.), *Readings in animal cognition* (pp. 65-78). Cambridge, MA.: MIT.

Blumberg, M. S., & Wasserman, E. A. (1995). Animal mind and the argument from design. *American Psychologist*, 50, 133-144.

VIDEO: Inside the animal mind: Emotion

First essay assignment: Remember that this is a formal essay and should be written in academic prose. The limit for this paper is 3 pages, double-spaced. Longer papers will lose points. Address the following question; and remember that this should not simply be a summary of information covered in class—you should probably have 10-20 references in this paper:

What is cognitive ethology? Discuss arguments for and against this approach as well as how it relates to other psychological investigations of animal learning. Provide a historical perspective, and information about its relevance to broader issues of mind, cognition, and consciousness.

DUE: WEEK 2, WEDNESDAY at 4 PM. Late assignments, if accepted, will lose one full grade.

FRIDAY

9 AM: BEES [5 pages]

Kirchner, W.H., & Towne, W.F. (1994). The sensory basis of the honeybee's dance language. *Scientific American*, 270, 74-80.

PRESENTATION #1:

Richter, M.R., & Waddington, K.D. (1993). Past foraging experience influences honey bee dance behaviour. *Animal Behaviour*, 46, 123-128.

WEEK #2

MONDAY

9 AM: BIRDS, ELEPHANTS, and COMMUNICATION [5 pages]

Ben-Ari, E.T. (1999). A throbbing in the air. *BioScience*, 49, 353-358.

Marler, P. (1970). Birdsong and speech development: Could there be parallels?
American Scientist, 58, 669-674.

PRESENTATION #2:

Brooks, R.J., & Falls., J.B. (1975). Individual recognition by song in white-throated sparrows. I. Discrimination of songs of neighbors and strangers. *Canadian Journal of Zoology*, 53, 879-89.

TUESDAY

9 AM: Goodall (1990): Chapters 1-8
Howard (1995): Chapters 1-4
Poole (1996): Parts I–II

1 PM: Video: People of the forest (#4167)

WEDNESDAY

9 AM: Goodall (1990): Chapters 9-16
Howard (1995): Chapter 5-8
Poole (1996): Parts III-IV

1 PM: Video: Elephants

4 PM: Essay assignment #1 due

THURSDAY

9 AM: Goodall (1990): Chapters 17-20
Howard (1995): Chapters 9-14
Poole (1996): Part V

1 PM: Video: The private lives of dolphins

FRIDAY

9 AM: NON-HUMAN PRIMATES [12 pages]

de Waal, F. (1995). Bonobo sex and society. *Scientific American*, 274 , 82-88.

Seyfarth, R.M., & Cheney, D.L. (1992). Meaning and mind in monkeys. *Scientific American*, 267, 122-128.

PRESENTATION #3:

Russell, C.L., Bard, K.A., & Adamson, L.B. (1997). Social referencing by young chimpanzees (*Pan troglodytes*). *Journal of Comparative Psychology*, 111, 185-193.

WEEK #3

MONDAY

9 AM: CETACEA [86 pages]

Connor, R.C., & Peterson, D.M. (1994). *The lives of whales and dolphins*. New York: Henry Holt. [Chapters 2, 4, and 5 only]

PRESENTATION 4:

Ford, J. (1989). Acoustic behavior of resident killer whales (*Orcinus orca*) off Vancouver Island, British Columbia. *Canadian Journal of Zoology*, 67, 727-745.

TUESDAY

9 AM: ON NON-HUMAN LANGUAGE [84 pages]

Hauser, M.D. (1996). The evolution of communication: Historical overview. In *Evolution of communication* (pp. 17-70). Cambridge, MA: MIT Press. [Read this chapter first]

Kuhl, P. (1999). Speech, language, and the brain: Innate preparation for learning. In M.D. Hauser & M. Konishi (Eds), *The design of animal communication* (pp. 419-450). Cambridge, MA: MIT Press.

WEDNESDAY

9 AM: CETACEA and general discussion [25 pages]—read this article at least twice!!

Jerison, H.J. (1986). The perceptual world of dolphins. In R. J. Schusterman, J. A. Thomas, & F. G. Wood (Eds.), *Dolphin cognition and behavior: A comparative approach* (pp. 141-166). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

PRESENTATION #5:

Sayigh, L.S., Tyack, P.L., Wells, R.S., & Scott, M.D. (1990). Signature whistles of free-ranging bottlenose dolphins *Tursiops truncatus*: Stability and mother-offspring comparisons. *Behavioral Ecology and Sociobiology*, 26, 247-260.

THURSDAY

9 AM: PARROT [GROUP A: 6 pages; GROUP B: 52 pages]

[GROUP A] Pepperberg, I.M. (2002). Cognitive and communicative abilities of Grey parrots. In M. Bekoff, C. Allen, C., & G.M. Burghardt (Eds.), *The cognitive animal: Empirical and theoretical perspectives on animal cognition* (pp. 247-253). Cambridge, MA: MIT Press.

[GROUP B] Pepperberg, I. M. (1990). Some cognitive capacities of an African grey parrot (*Psittacus erithacus*). *Advances in the Study of Behavior*, 9, 357-409.

PRESENTATION #6:

Pepperberg, I.M. (1987). Acquisition of the same/different concept by an African grey parrot (*Psittacus erithacus*): Learning with respect to categories of color, shape, and material. *Animal Learning & Behavior*, 15, 423-432.

FRIDAY

9 AM: CHIMPANZEES [29 pages]

Video: Kanzi

- Premack, D. (2004). Is language the key to human intelligence? *Science*, 303, 318-320.
- Savage-Rumbaugh, S. (1997). Why are we afraid of apes with language? In A.B. Scheibel & J. W. Schopf (Eds.), *The origin and evolution of intelligence* (pp. 43-69). Sudbury, MA.: Jones and Bartlett.

PRESENTATION #7:

Savage-Rumbaugh, E.S., McDonald, K., Sevcik, R.A., Hopkins, W.D., & Rubert, E. (1986). Spontaneous symbol acquisition and communicative use by pygmy chimpanzees (*Pan paniscus*). *Journal of Experimental Psychology: General*, 115, 211-235.

WEEK #4

MONDAY

9 AM: DOLPHINS [GROUP A: 31 pages; GROUP B: 8]

- [GROUP A] Herman, L.M. (1986). Cognition and language competencies of bottlenosed dolphins. In R. J. Schusterman, J. A. Thomas, & F. G. Wood (Eds.), *Dolphin cognition and behavior: A comparative approach* (pp. 221-252). Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- [GROUP B] Herman, L.M. (2002). Exploring the cognitive world of the bottlenosed dolphin. In M. Bekoff, C. Allen, C., & G.M. Burghardt (Eds.), *The cognitive animal: Empirical and theoretical perspectives on animal cognition* (pp. 275-283). Cambridge, MA: MIT Press.

Video excerpts from Lou Herman's research

PRESENTATION #8:

Pack, A.A., & Herman, L.M. (1995). Sensory integration in the bottlenosed dolphin: Immediate recognition of complex shapes across the senses of echolocation and vision. *Journal of the Acoustical Society of America*, 98, 722-733.

TUESDAY

WORK ON FINAL ESSAY

WEDNESDAY

10 AM: Essay assignment #2 due
FINAL DISCUSSION and (re)organization of articles in notebooks

Second essay assignment: Remember that this is a formal essay and should be written in academic prose. Answer **two** of the following questions—each answer should be separate and self-contained. These will be graded together. The limit for **each question is 4 pages** (total = 8 pages maximum). Longer papers will lose points. Remember that this should not simply be a summary of information covered in class—you should probably have 20-30 references in this assignment.

- (a) Discuss the issue of theory of mind as it relates to non-human animals.
- (b) Discuss the concept of communication in non-human animals. What can we say about non-human animal communication systems? What can we not say? And what do communication systems reveal about the cognitive abilities of non-human animals?
- (c) Pick a particular species you like, and discuss its cognitive and communicative abilities in detail.

DUE: FINAL WEDNESDAY at 10 AM. Late assignments will receive a NC.

Books of relevance to course material

[Note: The following books will be useful for the essay questions. These may be checked out from the professor for one night only if they cannot be found in the library.]

Allen, C., & Bekoff, M. (1997). *Species of mind*. Cambridge, MA: MIT.

Balda, R.P., Pepperberg, I.M., & Kamil, A.C. (1998). *Animal cognition in nature: The convergence of psychology and biology in laboratory and field*. San Diego: Academic Press. [in library: QL785.A551998]

Bekoff, M. (2002). *Minding animals: Awareness, emotions, and heart*. Oxford: Oxford University Press.

Bekoff, M., Allen, C., & Burghardt, G.M. (Eds.). (2002). *The cognitive animal: Empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press. [in library: QL785.C485 2002]

Bekoff, M., & Byers, J. A. (Eds.). (1998). *Animal play*. Cambridge: Cambridge University Press. [in library: QL763.5.A54 1998]

Bekoff, M., & Jamieson, D. (Eds.). (1996). *Readings in animal cognition*. Cambridge, MA.: MIT.

Candland, D. K. (1993). *Feral children & clever animals*. New York: Oxford University Press.

Carew, T.J. (2000). *Behavioral neurobiology*. Sunderland, MA: Sinauer Associates, Inc.

Cheney, D. L., & Seyfarth, R. M. (1990). *How monkeys see the world*. Chicago: University of Chicago Press.

Conner, R. C., & Peterson, D. M. (1994). *The lives of whales and dolphins*. New York: Henry Holt.

De Waal, F. (1996). *Good natured: The origins of right and wrong in humans and other animals*. Cambridge, MA.: Harvard.

Galdikas, B.M.F. (1995). *Reflections of Eden: My years with the orangutans of Borneo*. Boston: Little, Brown, and Company.

Gibson, K. R., & Ingold, T. (Eds.). (1993). *Tools, language and cognition in human evolution*. Cambridge: Cambridge University Press.

Griffin, D. R. (1992). *Animal minds*. Chicago: University of Chicago Press.

Hauser, M.D. (1996). *The evolution of communication*. Cambridge, MA.: MIT.

- Hauser, M.D., & Konishi, M. (1999). *The design of animal communication*. Cambridge, MA.: MIT. [in library: QL776.D47 1999]
- Herman, L. M. (Ed.) (1980). *Cetacean behavior: Mechanisms and functions*. New York: John Wiley & Sons.
- Hughes, H.C. (1999). *Sensory exotica: A world beyond human experience*. Cambridge, MA.: MIT.
- Kesner, R. P., & Olton, D. S. (Eds.). (1990). *Neurobiology of comparative cognition*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Krasnegor, N. A., Rumbaugh, D. M., Schiefelbusch, R. L., & Studdert-Kennedy, M. (Eds.). (1991). *Biological and behavioral determinants of language development*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Leatherwood, S., & Reeves, R. R. (Eds.). (1990). *The bottlenose dolphin*. San Diego: Academic Press.
- Linden, E. (1999). *The parrot's lament*. New York: Plume.
- Manning, A., & Dawkins, M.S. (1998). *An introduction to animal behavior*. (5th ed.). Cambridge: Cambridge University Press. [in library: QL751.M22 1998]
- Owings, D.H., & Morton, E.S. (1998). *Animal vocal communication: A new approach*. Cambridge: Cambridge University Press. [in library: QL776.O851998]
- Parker, S. T., & Gibson, K. R. (Eds.). (1990). *"Language" and intelligence in monkeys and apes: Comparative developmental perspectives*. Cambridge: Cambridge University Press.
- Parker, S. T., Mitchell, R. W., Boccia, M. L. (Eds.). (1994). *Self-awareness in animals and humans: Developmental perspectives*. Cambridge: Cambridge University Press.
- Payne, K. (1998). *Silent thunder*. New York: Simon and Schuster.
- Pepperberg, I.M. (1999). *The Alex studies: Cognitive and communicative abilities of grey parrots*. Cambridge, MA: Harvard University Press.
- Pryor, K., & Norris, K. S. (Eds.). (1991). *Dolphin societies: Discoveries and puzzles*. Berkeley: University of California Press.
- Quiatt, D., & Itani, J. (Eds.). (1994). *Hominid culture in primate perspective*. Niwot, Colorado: University Press of Colorado.
- Ristau, C. A. (Ed.). (1991). *Cognitive ethology: The minds of other animals*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

- Rogers, L. J. (1997). *Minds of their own*. Boulder, CO: Westview Press.
- Roitblat, H. L., Herman, L. M., & Nachtigall, P. E. (1993). *Language and communication: Comparative perspectives*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Savage-Rumbaugh, S., Shanker, S. G., & Taylor, T. J. (1998). *Apes, language, and the human mind*. New York: Oxford.
- Schaller, G.B. (1994). *The last panda*. Chicago: University of Chicago.
- Scheibel, A.B., & Schopf, J. W. (1997). *The origin and evolution of intelligence*. Sudbury, MA: Jones and Bartlett.
- Schusterman, R. J., Thomas, J. A., & Wood, R. G. (Eds.). (1986). *Dolphin cognition and behavior: A comparative approach*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Sherman, P.W. & Alcock, J. (Eds.). (2001). *Exploring animal behavior: Readings from American Scientist* (3rd ed.). Sunderland, MA: Sinauer Associates, Inc.
- Snowdon, C.T., & Hausberger, M. (Eds.). (1997). *Social influences on vocal development*. New York: Cambridge University Press.
- Steinhart, P. (1995). *The company of wolves*. New York: Vintage Books.
- Tobias, M., & Solisti-Mattelon, K. (1998). *Kinship with the animals*. Hillsboro, OR: Beyond Words Publishing.
- Yoerg, S.I. (2001). *Clever as a fox*. New York: Bloomsbury.

Guidelines for oral presentations (adapted from Kristi Erdal)
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Make eye contact with the class.

- Do not just read from your notes or from your Powerpoint slides.
- Do not just look at the professor.

Practice speaking clearly and fluently.

- Fluency in the material means very few of the following:
 - a) "umms"
 - b) starting sentences over 2, 3 and 4 times
 - c) stammerings

Monitor the speed of the presentation.

- Do not speak more quickly than people can take notes.
[e.g., After defining a word, wait for the class to write it down before proceeding.]
[The class will not be shy about telling you if you are going too fast.]

Use visual aids (e.g., Powerpoint).

- These should help you tell the “story” you want to tell.
- Less is more in visual aids. Do not put up more than the class can digest at one time.
[e.g., If you are putting up text, only write single words or an outline.]
- If you are using graphs, make sure you explain them fully; that is, describe the x- and y-axes before moving on to the content of the graph.

Provide enough background information.

- Remember that the class has not read the article you are presenting; you will have to provide them with the appropriate context, either from the article itself, or from other readings discussed in class.

Appropriately target your information.

- Explain technical language (e.g., terms you might have had trouble with yourself when you were reading the article).

Organize your presentation flawlessly.

The flow should be from general to specific, from less difficult to more difficult, etc.

Be sure you are competent in the material.

- The class should have several questions for you. Be sure you understand the material

well enough such that you could provide a well-informed guess even though you may not know the exact answer.

Complete the presentation in the allotted time.

- You must practice and time your presentation.

Advice from former students

The following statements are direct quotes from former students (note that some might not be relevant insofar as some course requirements have changed):

- Work on the final take-home a little every day.
- Read the book early! It will save you a lot of time and help you get ahead on the other readings which will plague you with far more brain pain.
- Sign up for a presentation early on in the block- use Power Point for the presentation
- Do your abstracts as they are presented - don't wait because you won't remember the specific. Write your essays early and the class is pie! do the reading - it makes your time in class worthwhile.
- Write abstracts soon after the presentation - don't wait until end of the course. Place more weight (percent grade) on early assignments so you can enjoy the final days of class. Practice your presentation a few times, use demonstrations, give hand-out, use overheads with sufficiently large print, try to avoid presentation dates toward the end of class when most students are tired of discussion.
- Don't put things off. Read material a couple of times through before discussion.
- do your reading and writing n time. if you haven't finished your thesis, hurry up and don't waste time on anything but class and thesis work.
- treat the essays as full blown research papers, using what you think you know or what you read without actually researching more is not going to get you a very good grade on the essays.
- Do your readings, have fun, and write your essays early so you have time to proof read them.
- Don't fall behind. Don't be scared of Bob. At least skim readings, as they are interesting.
- take breaks to just go off and understand the material. try to discuss it with your classmates, it will make it easier. and keep you interested. read early.
- Start the essays early and keep up with the abstracts!! The essays take a lot longer than you expect and require more outside time than I ever thought they would.
- study, don't get behind, and take what bob says "seriously"
- do your papers early.
- keep caught up on all the assignments, otherwise they will get you in the end.

- Do all of the reading. As you read, outline ideas for the final essays.
- do your abstracts as you go. Do not wait to write them all at once.
- Absolutely do not put off the essay assignments! They are not as daunting as they sound, and actually were kind of fun to think on and write on. Also, start your presentation at least 2 days before--you have to do this in order to do a good job and present something the class will want to hear.
- even if you don't start actually writing the paper until it's down to the wire, at least start researching it early, otherwise things become way too overwhelming at the end.
- As always, work on the essays a little each day. Relax and have fun.
- do not allow all of the written assignments to build up at the end of the course
- Discuss a lot. Ask questions. Don't get mad if you get shot down.
- To work ahead on their finals. Summaries. Take good notes while reading the articles to help with take-home.
- Definitely be prepared to dedicate time and mental energy. Begin the take-home ASAP! And really keep up with all of the readings. Each assigned reading was relevant and informative.
- Read the material carefully and critically. Get started on researching the papers early. Immerse yourself and really enjoy this class - it's fascinating!
- enjoy it, it's a great class
- Think about the essays more than two days in advance! If you are the type of person who can jot down notes on readings as you go do it. Also, if something strikes you in class, don't be afraid to speak up and discuss it. You get the most out of the class by discussing what's NOT in the readings.
- Do the readings. You are only hurting everyone else if you can't discuss the material. Don't take the course if you are not really interested in the subject because I think you'll find the reading terrible after a while.
- Choose a presentation day early in the block, then it'll be out of the way and done so that you can concentrate on the other assignments. Get help from the writing center for the papers it can really make a difference. Other than that, enjoy the class, it can be one of the most fulfilling courses you take at CC
- dive into the course! the material can be very exciting. the more thoroughly you do the readings, the more you will get out of them, and for the most part they are very interesting. don't stress out about the papers. they're not very difficult if you answer them in a concise and straight forward manner. and have fun with the presentation, as much as

is possible, at least. make fun of bob at all possible opportunities and he'll like you better. laugh alot.

- Start your papers early and do the reading, it's interesting.
- This course is one that you should take if you are AT ALL interested in animal behavior. Even if you start out not at all fascinated by animals at the beginning of the course, I guarantee you will find them and even ourselves even more fascinating by the end. Take the class!!! And...the students basically decide how the class goes. Go into the class with enthusiasm and willingness to work hard and keep that ethic up until the end! You will get so much more out of the class.
- Dive into the class....the material is very thought provoking....participate to the fullest!
- I'm very glad i read the books over spring break, and then just looked over them before class discussions. It did free up more time in the beginning of the course. Give an early presentation so you're not trying to work on your final and presentation at the same time!
- it is possible to go through this class and not work too hard. Just work a lot every day (especially some on the essays and presentations). It's really interesting, and by doing so, you won't feel like you've worked hard at all. I went into this class believing that it would be a block of hell. I was totally wrong.
- Participate in class discussion, however think about what you want to say before you speak. Complete the reading assignments twice-once a few days prior to the day it is to be discussed and again the day before the discussion.
- stay as far ahead as possible and don't look back for anything.
- Think critically about the readings as you read them so that you can really contribute to the discussion. Start thinking about the papers a few days before you start writing to clarify your thoughts.
- read the articles twice, or at least until you understand them, Write down what you think the key points are so you can discuss them in class. Get started on the papers early, and use the binders, the class reading will not be enough.
- Do your work even on days when you aren't as motivated. There are awesome articles that you won't want to miss that can really make you think and open your eyes unlike some classes at this school. Plus, Bob has really made an effort to pick good articles for you and has them at your fingertips, so there is no excuse not to read them.
- if you don't read, the class is absolutely worthless. it's the literature that makes the course, you won't get a thing out of it unless you read the stuff
- get into the reading, its good stuff, and take notes on it for later use. pretty much everything you read will be relevant for the essays at the end.

- take the papers seriously
- Don't do your senior thesis during this block! Seriously, this class has a lot to offer, hopefully not only in the way we think about animals but also in the way we treat them.
- start early on your work. cramming the essays or presentation in at the end would be too much.
- I chose to focus on one species specifically throughout the course and was happy for it. The presentation definitely took longer than I expected to prepare.
- read all course material and show up for every class
- Do your reading or you may potentially develop a foul odor that will stay with you forever.

Worksheet for Discussions

1. Think of the best group discussions you've ever been involved in. What things happened that made these conversations so satisfying? Make a few notes on this by yourself.
2. Think of the worst group discussions you've ever been involved in. What things happened that made these conversations so unsatisfactory? Make a few notes on this by yourself.
3. Now form a group with 3 other people. Take turns in talking about what made discussion groups work so well for you. Listen for common themes, shared experiences and features of conversation that a majority of you would like to see present in this course.
4. Take turns in talking about what made discussion group work so awful for you. Listen for common themes, shared experiences and features of group conversation that a majority of you would like to see avoided in this course.
5. For each of the characteristics of good discussion you agree on, try and suggest three things a group could do to ensure that these characteristics were present. Be as specific and concrete as you can. For example, if you feel good conversation is developmental, with later themes building on and referring back to earlier ones, then you could propose a rule that every new comment made by a participant is prefaced with an explanation as to how it relates to an earlier comment.
6. For each of the characteristics of bad discussion you agree on, try and suggest three things a group could do to ensure that these characteristics were avoided. Be as specific and concrete as you can. For example, if you feel that bad conversation happens when one person's voice dominates then you could propose a rule whereby once someone has spoken they are not allowed to make a second comment until at least three other people have spoken (unless another group member explicitly invites the participant to say something else).
7. Try and finish this exercise by drafting a charter for discussion that comprises the specific ground rules you agree on. We will make each group's rules public and see if we can develop a charter for discussion to guide us in the coming weeks.

Grade Sheet for Presentation

Students _____ & _____ Overall grade _____

Article presented _____

I. Presentation

Background information relevant to article	A	B	C	D	NC
Summary of article's (1) Methodology	A	B	C	D	NC
(2) Results	A	B	C	D	NC
(3) Implications	A	B	C	D	NC
(4) Limitations	A	B	C	D	NC
Integration with assigned readings	A	B	C	D	NC
Clarity	A	B	C	D	NC
Presentation form, style, pacing, etc.	A	B	C	D	NC

II. Critical analysis of article

Content	A	B	C	D	NC
Quality of writing	A	B	C	D	NC

III. Contribution to leading discussion

Preparation for initial meeting with professor	A	B	C	D	NC
Coverage of material	A	B	C	D	NC
Ability to stimulate meaningful discussion	A	B	C	D	NC

Correcting Symbols

<u>Symbol</u>	<u>Problem</u>	<u>Example</u>
A	article	<u>The</u> water is necessary for life.
Agr.	agreement (verb or noun)	The professor <u>lecture</u> every <u>days</u> .
Awk/?/unclear	awkwardness	(unclear, confusing sentence, or suggested change).
C.	capital letter	We are studying <u>E</u> ngineering.
Combine	sentences are too short	The experiment was successful. The engineers were impressed. (The successful experiment impressed the engineers.)
Frag.	fragment	<u>The meter that was broken.</u>
G:I	gerund: infinitive	They want <u>working</u> in the lab.
Id.	idiom	The hot water <u>contacts</u> the outer pipes.
Irr.	irrelevant	[the sentence(s) underlined do not pertain to the topic]
Poss.	possessive	The plastic lost <u>it's</u> flexibility.
Pr.	preposition	The plane landed <u>in</u> LAX. (at)
P.	punctuation	Nevertheless__he was quite upset. (.)
RC	relative clause	[use a relative clause]
Red.	redundant	The basic <u>fundamental</u> concept was incorrect.
Ref.	referent is unclear	The reactor produced plutonium and <u>it</u> was expensive.
Reg.	register (spoken vs. written)	It was a <u>real good</u> experiment.
RO	run-on sentence	<u>Reagan is the president, he beat Mondale.</u>
S.	spelling	They <u>recived</u> a note of gratitude.
Sub.	subordination	The man is not nice. But I like him. --> Although the man is not nice, I like him.
T.	tense (including passive)	We <u>have lived</u> here in 1973.
Tone	inconsistency of tone	The water is heated. <u>Return the solution to the flask.</u>
TR	transition	[you need a transition, or a better transition]
WF	wrong form	She sings <u>beautiful</u> .
WM	word missing	You must cover the vase to protect_____.
WO	word order	He <u>at eight o'clock was watching T.V.</u>
WW	wrong word	He <u>discussed</u> with us. (talked)
Wordy	wordiness	<u>This was a situation which was really very dangerous and we could have avoided it.</u>

Scoring guide for essays (make copies and attach to the end of each essay)
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TOTAL _____/250 _____% GRADE _____

CONTENT: Relevant, important, and sufficient information is presented. Ideas are thoroughly and completely developed.

_____ /150

ORGANIZATION: Clearly organized so each main idea is logically connected. Ideas flow smoothly. Paragraphs are evenly balanced with good transitions. Within paragraphs, each idea is logically developed and supported by the data.

_____ Very good (25 points)

_____ Good (20 points)

_____ Adequate (10 points)

_____ Inadequate (5 points)

RHETORIC: Appropriate use of formal academic language, and adheres to APA style guidelines. The essay is concise and clearly written.

_____ Very good (25 points)

_____ Good (20 points)

_____ Adequate (10 points)

_____ Inadequate (5 points)

LANGUAGE: Clear sentence structure, use of English grammar; incorporates a variety of sentence structures; sentences are easy to process.

_____ Very good (25 points)

_____ Good (20 points)

_____ Adequate (10 points)

_____ Inadequate (5 points)

MECHANICS: Neatly typed according to APA format, including margins, in-text citations, references, spelling, and punctuation.

_____ Very good (25 points)

_____ Good (20 points)

_____ Adequate (10 points)

_____ Inadequate (5 points)

Student contract

Note: This sheet must be turned in to the professor by the second day of the class.

1) Mark the courses below that you have taken in Psychology:

- | | |
|-------------------------------|----------------------------------|
| _____ PY312/299: Neuroscience | _____ PY201/202: Research Design |
| _____ PY324: Perception | _____ PY362: Abnormal Psychology |
| _____ PY332: Learning | _____ PY374: Development |
| _____ PY344: Cognition | _____ PY382: Gender |
| | _____ PY394: Emotion |

2) I have read and understand the requirements of this course with regard to the following (initial each):

- _____ This is a seminar and, as such, student participation is essential. It is important that I come to class well-prepared to discuss the readings.
- _____ In discussions, some one may disagree with my opinion. This is okay. It is important to both express and support my opinion. Not everyone will agree on all points.
- _____ All grading in the course is done blindly; grades are based entirely on the quality of the work turned in, and not on who has done the work, nor on the perceived effort involved in doing the work.
- _____ The essays, their due dates and times; papers must be turned in complete with references—late papers will either not be accepted, or will lose a minimum of one full grade.
- _____ The requirements for the journal report/presentation
- _____ The Honor System, including plagiarism, quotations, citations and APA format
- _____ I will only put my student ID# (not my name) on all assignments.
- _____ Class begins exactly at 9 AM unless specifically noted otherwise.

3) Please fill in the percentages you would like for each assignment—total must be 100% (print clearly!):

1) Class discussion grade	20%
2) Article presentation/discussion	_____ (between 20-30%)
3) Essay assignment #1	_____ (between 20-30%)
4) Essay assignment #2	_____ (between 25-35%)
<hr/>	
Total	100%

I have thoroughly read and understand the above:

Signature: _____

Print name: _____

Date: _____