

# Psychology 339: Comparative and Evolutionary Psychology

Spring Semester, 2023

Mondays, Wednesdays, & Fridays, 1:00 – 1:50. Maxey 301.

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Office Hours: To be Announced

**Class web resources:**

<https://www.whitman.edu/canvas/>

<http://people.whitman.edu/~herbrawt/classes/339/psych339.html>

## Course Materials

Available at the Bookstore:

Dawkins, R. (2016). *The Selfish Gene*. Oxford: Oxford University Press.

Sherman, P.W. & Alcock, J. (2013). *Exploring Animal Behavior: Readings from American Scientist (6<sup>th</sup> ed.)*. Sunderland, MA: Sinauer Associates, Inc.

Wynne, C.D.L. & Udell, M.A.R. (2021). *Animal Cognition: Evolution, Behavior & Cognition (3<sup>rd</sup> ed.)*. New York: Palgrave Macmillan.

Additional Readings:

Additional assigned and optional readings will be available on Canvas or on the course web page: <http://www.whitman.edu/~herbrawt/classes/339/psych339.html>

## Course Overview

This seminar considers the field of psychology from an evolutionary perspective. That is, it acknowledges that brains and minds are subject to the same principles of evolution that shape other organs and characteristics. Considering this focus on evolution, we will spend a great deal of time talking about the behavior and mental lives of many non-human species (humans do still figure into the mix, but do not occupy any privileged position). In a sense, one important goal of this class is to fight the rampant anthropocentrism that grips modern psychology. It is my hope that you will gain an expanded appreciation for the breadth and ecological relevance of our field. I also hope that you will come to appreciate that *human* psychology is no more a complete picture of

psychology than botany is a complete picture of biology. I should also mention that while we will discuss animal behavior, this is not a biology course (which I would be woefully under-qualified to teach). Those of you who may have taken courses in evolution, zoology, and the like will no doubt see their relevance, but these are by no means necessary for you to understand and benefit from comparative psychology. Similarly, those of you who have taken a course on learning or behavior analysis will no doubt see the relevance, even though the focus here is very different. In fact, I see the two as quite complimentary: Comparative psychology focuses on behavioral differences between species, while behaviorism emphasizes on the universal principles of learning that operate similarly for everything from humans to fruit flies.

**Learning Goals:** After completing Psyc 339, a student should:

1. understand how the theory of evolution is relevant to various areas of psychology;
2. be familiar with the ways psychologists study behavior and cognition in nonhuman animals;
3. articulate how the study of animal behavior is relevant to an understanding of human behavior;
3. appreciate the complexity of human-animal interactions and their importance in the modern world.

## Grading and Assignments

Class Participation	20%
Short writing assignments	20%
Discussion lead	20%
Animal-human interaction paper	20%
Mid-term exam	20%

**Class Participation:** As this is a seminar, participation is integral to our learning goals. Therefore, 20% of your final grade will be based on regular contribution of meaningful and substantive discussion. It is my hope that readings and discussions will be sufficiently fascinating that discussions will be vigorous, and these points will be quite easily earned.

**Short writing assignments:** Classes will regularly have a short, relatively informal writing assignment (1-2 pages, typed). Some of these will be on an assigned topic, distributed at the previous meeting. Others will be considerably more free-form “thought papers”, in which you explore some extension of the day’s topic.

The rationale for these writing assignments is two-fold. First is that our time together is limited and writing gives you a chance to make your ideas more structured and articulate before you come to class. I’m constantly impressed with the quality of ideas that show up in these, and they tend to take discussion to a new level, as well as prevent the occasional lulls and awkward silences that can creep up. The second reason is to encourage you to make the class material relevant. We’ll be discussing some exotic species and bizarre behaviors that you may never witness in real life. The challenge of

the course is to realize that no matter how exotic or bizarre, they're still relevant to your life and to general psychology.

*Short assignments / Thought papers will be graded on a scale of 0-5:*

5: A meaningful, interesting and concise paper. The topic is relevant, and the conclusion is sound, reflecting creative and original thought about a relevant topic.

4: An interesting, relevant topic and a conclusion that shows evidence of effort and serious thought, but not as well crafted, or containing some annoying linguistic errors.

3: A good paper, but one which communicates less original thought, or indicates only a superficial articulation of the relevant psychological concepts; A kernel of a great topic that needs more work to blossom into a solid paper.

2: A paper which reflects little genuine thought; may be based on a hollow cliché, or unmodified regurgitation of classroom discussions or readings.

1: Unacceptable work. Barely comprehensible, self-contradictory or irrelevant, and/or loaded with grammatical or linguistic errors.

0: A blank sheet of paper, or a rambling tirade filled with disparaging, potentially obscene remarks about specific Whitman faculty.

**Discussion lead:** You will share the role of discussion leader for one class session during the semester. You'll want to read the assigned readings well in advance of the class period in which you will be discussion leader, to make sure you grasp the content, and to allow sufficient time to make necessary clarifications. As discussion leader, you will (naturally) lead class discussion. But don't overdo it or get too stressed: you do not have the responsibility of teaching the class or of correcting others' mistakes. Your goal is simply to make discussion fun, lively, and keep it pointed in a logical direction.

As part of the process, I'd like you to turn in a structured outline/handout of your class plan to me (some also like to hand them out to class members). I will return these to you with comments about the organization and written feedback about your performance as discussion leader.

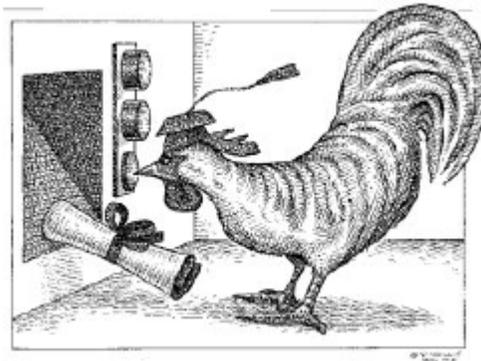
**Animal-human interaction Paper:** Over the course of the semester, we'll see many examples of how humans and non-humans mutually affect one another. Given this interaction, an important contribution that comparative psychology can give to the modern world is consideration for how to best configure and optimize these interactions (for the benefit of both the humans and non-humans involved). For this assignment, you'll select a species of animal that is affected by the presence of humans (this could be a domesticated pet, a farm animal, a zoo resident, a denizen of a city-encroached forest, etc.). Formulate a program that fosters natural behaviors and is sensitive to their behavioral and/or psychological world. Doing this will require not only some ingenuity and thought, but also some research on the animal's current situation, as well as their evolutionary history and typical behaviors. These will be due at the end of the semester. I'll distribute detailed instructions for these later.

**Mid-term exam final:** There will be an in-class, closed-book exam covering some of the laboratory methods covered in class. The exam will consist of short-answer and essay-

type questions, based on parts I - II of class as listed on the syllabus, and readings from the Wynne textbook.

**Grading Scale:** Grades will be assigned based on the percentage of all possible points earned (see above for the relative contributions of each assignment). Below are the overall performance ranges that result in various letter grades.

A 93 - 100%	B 83 - 86%	C 73 - 76%	D 63 - 66%
A- 90 - 92%	B- 80 - 82%	C- 70 - 72%	D- 60 - 62%
B+ 87 - 89%	C+ 77 - 79%	D+ 67 - 69%	F 0 - 59%



## Some important class policies you'll want to know about:

### Late Assignments:

I like to think I'm a reasonable fellow, so I'm not against granting deadline extensions from time to time. Here are my guidelines:

1. Extension requests made 1 week (or more) before the due date are almost certain to be granted, without penalty, provided that

a) the conflict is a reasonable and legitimate one, and

b) you haven't requested an extension for every assignment all semester long.

After all, Wally didn't just fall off the turnip wagon yesterday. (No, the turnip incident was *years* ago).

In short, make your requests as early as possible, and don't abuse my generosity.

2. Within one week (7 calendar days) of the deadline, extensions may still be granted, subject to the following (no exceptions).

a) If supported by the Dean of Students, there will be no late penalty.

b) If not, there will be a penalty of 5% per calendar day (e.g., a score of 96% would become a 91%, then an 86% and so on for each day late).

In other words, plan your semester early. Identify your busy weeks early on and get the "free" version of the extension, rather than losing 5% or more. If you're unexpectedly abducted by howler monkeys, the Dean and I will understand. If you simply forgot you had 3 other assignments due tomorrow, we're less forgiving.

### Attendance:

If you must miss class because of some commitment that can't be rescheduled, that's fine. I reckon you're a grown-up and can manage your own affairs. Check with me to make sure you didn't miss any important announcements and collect any handouts. Re-read the assigned chapters and ask about any questions you might have. I also recommend borrowing class notes from that attractive classmate you've been dying to meet. Here's your opener: "Herbranson doesn't give out his lecture notes (I know, right?). Can I borrow yours?". From there you're on your own. Good luck. Make eye contact (but not too much), modulate your voice, and remember to smile.

## Tentative Schedule of Topics and Assignments:

### *Part I: Four Theoretical Positions*

- W, 1-18 Introduction to comparative and evolutionary psychology / course mechanics
- F, 1-20 Two scientific perspectives on animal minds (readings on web page)  
Burghardt, G., "Darwin's legacy to comparative psychology and ethology"  
Epstein, R., Lanza, R.P. & Skinner, B.F. "Self-awareness in the pigeon"
- M, 1-23 Two philosophical perspectives on animal minds (readings on web page)  
Nagel, T. "What's it like to be a bat?"  
Cottingham, J. "A brute to brutes? Descartes treatment of animals"

### *Part II: Contemporary Research in the Lab*

- W, 1-25 Perception and Concepts  
Read: Wynne, Chapters 1 – 3
- F, 1-27 Conditioning and Reasoning  
Read: Wynne, Chapters 4 - 5
- M, 1-30 Memory  
Read: Wynne, Chapter 10
- W, 2-1 Complex behavior and Tool Use  
Read: Wynne, Chapters 6 - 8
- F, 2-3 Language and Communication  
Read: Wynne, Chapters 11 - 12
- M, 2-6 Catch-up day
- W, 2-8 Exam

### *Part III: An Evolutionary Framework*

- F, 2-10 The Selfish Gene, part 1  
Read: Dawkins, Chapters 1 - 3
- M, 2-13 The Selfish Gene, part 2  
Read: Dawkins, Chapters 4 - 5
- W, 2-15 The Selfish Gene, part 3  
Read: Dawkins, Chapters 6 - 7
- F, 2-17 The Selfish Gene, part 4  
Read: Dawkins, Chapters 8 - 9
- M, 2-20 No Class – Presidents' Day**
- W, 10-22 The Selfish Gene, part 5  
Read: Dawkins, Chapters 10 - 11
- F, 2-24 The Selfish Gene, part 6  
Read: Dawkins, Chapters 12 - 13

M, 2-27 Catch-up day

***Part IV: Research Outside the Lab***

*(all readings in this section are from Sherman & Alcock)*

- W, 3-1 Levels of explanation in comparative psychology  
Holekamp, K.E. & Sherman, P.W., "Why Male Ground Squirrels Disperse" (p. 38-45)  
Trut, L.N., "Early Canid Domestication: The Farm-Fox Experiment" (p. 239-248)
- F, 3-3 Explaining complex behavior  
Hrdy, S.B., "Infanticide as a Primate Reproductive Strategy" (p. 46-55)  
Holmes, W.B. & Sherman, P.W., "Kin Recognition in Animals" (p. 118-127)
- M, 3-6 Searcy, W.A. & Nowicki, S. "Bird Song and the Problem of Honest Communication" (p. 312-319)  
Presenter: \_\_\_\_\_
- W, 3-8 Borgia, G. "Why do Bowerbirds Build Bowers?" (p. 233-238)  
Presenter: \_\_\_\_\_
- F, 3-10 Sherman, P.W. & Flaxman, S.M., "Protecting Ourselves from Food" (p. 249-258)  
Presenter: \_\_\_\_\_

**Spring Break March 13 – March 24**

- M, 3-27 Provine, R.R., "Yawning" (p. 128-136)  
Presenter: \_\_\_\_\_
- W, 3-29 Warner, R.R., "Mating Behavior and Hermaphroditism in Coral Reef Fishes" (p. 148-156)  
Presenter: \_\_\_\_\_
- F, 3-31 Eberhard, W.G., "Animal Genitalia and Female Choice" (p. 157-165)  
Presenter: \_\_\_\_\_
- M, 4-3 Schoech, S.J., "Physiology of Helping in Florida Scrub-Jays" (p. 275-282)  
Presenter: \_\_\_\_\_
- W, 4-5 Heinrich, B. & Marzluff, J., "Why Ravens Share" (p. 99-106)  
Presenter: \_\_\_\_\_
- F, 4-7 West, P.M., "The Lion's Mane" (p. 166-175)  
Presenter: \_\_\_\_\_
- M, 4-10 Getz, L.L. & Carter, C.S., "Prairie Vole Partnerships" (p. 176-182)  
Presenter: \_\_\_\_\_
- W, 4-12 No Class – Professor is out of town at a research conference**
- F, 4-14 No Class – Professor is out of town at a research conference**

- M, 4-17 Mock, D.W., Drummond, H. & Stinson, C.H., “Avian Siblicide” (p. 184-195)  
Presenter: \_\_\_\_\_
- W, 4-19 Emlen, S.T., Wrege, P.H. & Demong, N.J., “Making Decisions in the Family: An Evolutionary Perspective” (p. 89-98)  
Presenter: \_\_\_\_\_
- F, 4-21 Honeycutt, R.L., “Naked Mole Rats” (p. 107-117)  
Presenter: \_\_\_\_\_
- M, 4-24 Seeley, T.D., Visscher, P.K. & Passino, K.M., “Group Decision Making in Honey Bee Swarms” (p. 69-78)  
Presenter: \_\_\_\_\_
- W, 4-26 No Class – Professor is out of town at a research conference**
- F, 4-28 No Class – Professor is out of town at a research conference**

*Part V: Finishing Up*

- M, 5-1 “My Life as a Turkey”
- W, 5-3 “My Life as a Turkey”
- F, 5-5 Present papers;  
**Interaction papers due**
- M, 5-8 Finish up

### **Some not so commonly asked questions...**

#### **Q: I hate this! How do I withdraw?**

A: Students may drop without record until February 24<sup>th</sup>. If you plan to drop this class, please do so as quickly as possible so that others may register. After that date you may withdraw until April 8<sup>th</sup>, and doing so will leave a nifty “W” on your transcript. I think it’s for “Wally”, to help you remember me.

#### **Q: Is attendance required?**

A: Yes. You should plan to be in class each scheduled class day. Of course, I will gladly accommodate excused absences according to College policy (for field trips, competitions, illnesses and so forth). I also realize that life can be chaotic and unpredictable, so you can miss up to 3 class periods without penalty. If you do miss class for any reason let me know (preferably ahead of time) so that I can respond appropriately to your absence (ie, not organize a search party or alert the College’s response system). Also note that to receive a passing grade, a student cannot miss more than 20% of class meetings.

#### **Q: I think I’m going to have smallpox on several critical dates this semester. Can I schedule makeups?**

A: Notify me as soon as you realize there will be a serious conflict. Makeups can be arranged for *legitimate* and *properly documented* excuses (i.e., serious illnesses, natural disasters and the like, with a corresponding doctor’s note, CNN footage, subpoena, etc.) Note: The big wedding on Days of our Lives is not a serious conflict. If it’s that important I’ll help you track down a recording. Also see the late assignment policy elsewhere in the syllabus.

#### **Q: I’m nervous about the upcoming exam. Help!**

A: This is normal, but if you take a measured approach I can assure you, you’ll do fine. My best advice is to stay on top of material as we cover it (rather than procrastinating and trying to cram immediately before). I will also distribute some study questions in advance to help you assess where you’re at, and if you need to review anything specific.

#### **Q: Dude, I bombed that first exam... What can I do?**

A: I don’t offer extra credit, but keep in mind that the remaining assignments (over 80% of your grade) should provide a good opportunity to correct a rough start.

#### **Q: I have no idea what you were talking about last week...**

A: Please feel free to ask questions during class sessions and let me know if I’m moving too quickly or am not explaining something clearly - It’s difficult for me to know what you’re experiencing in class. I’m also glad to take some time at the beginning of class to clarify points from previous lectures or from the text.

**Q: Is there anything the Government wanted to make sure you had on your syllabus, in an oddly precise form?**

A: Yes. I'm so glad you asked. In accordance with the College's Religious Accommodations Policy, I will provide reasonable accommodations for all students who, because of religious observances, may have conflicts with scheduled exams, assignments, or required attendance in class. Please review the course schedule at the beginning of the semester to determine any such potential conflicts and let me know by the end of the second week of class about your need for religious accommodations. While I am happy to provide such accommodations, I understand that asking a faculty member for assistance can be intimidating; if that's the case, you can contact your academic advisor or Adam Kirtley, Whitman's Interfaith Chaplain, for support in making this request. If you believe that I have failed to abide by this policy, here is a link to the Grievance Policy, where you can pursue this matter: <https://www.whitman.edu/human-resources/grievance-policy>