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## The Coevolution of Dogs & Humans

Crosslisted in Biology, Anthropology, Veterinary Medicine, and/or Bioethics; 4 credit hours

**Instructor:** Sara Freeman

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### Course content

The relationship between dogs and humans is an undeniable part of our human culture. But where, when, how, and why did this relationship begin? How have humans and dogs changed each other over the course of our shared history? This course will seek to answer these questions by using a cross-disciplinary approach that covers areas such as anthropology, evolutionary biology, genetics, veterinary medicine, ethics, and cognitive and behavioral neuroscience. There are many prevailing theories about the origins of the dog and its split from the wolf, and this course will discuss the anthropological, archaeological, and genetic evidence behind these theories. In this context, domestication theory as well as the comparative anatomy and physiology of the Canidae family will also be discussed. It is obvious today that the artificial selection used by humans in the breeding of modern dogs has resulted in vast physical and behavioral differences between breeds. At the end of the semester, the genetics, health, and behavior of modern dog breeds will be covered, especially in the context of the ethics of purebreeding. The class will come to a close with a review of the most recent research being conducted in the cognitive neuroscience of dogs, with a focus on learning, memory, and social behavior.

Each student will have to complete a final research paper about a dog breed of their choice, as well as a mid-term group project and class presentation entitled “Dogs in World Cultures” and various other short in-class and take-home writing assignments.

### Course Requirements

- Attendance & participation in discussions & in-class activities
- Completing the readings & assignments listed on the weekly schedule
- Class presentation about chosen topic
- Final Paper about topic

### Policies

#### Honor code

You are required to abide by the Emory Honor Code, available online at [http://college.emory.edu/current/standards/honor\\_code.html](http://college.emory.edu/current/standards/honor_code.html). All cases of suspected academic dishonesty will be referred to the Emory Honor Council.

#### Grading

- 20% Participation/Attendance
- 20% Written Reflections
- 30% Dogs of the World Class Presentation
- 30% Final Research Paper

	<b>A 100-94%</b>	<b>A- 93-90%</b>
<b>B+ 89-87%</b>	<b>B 86-84%</b>	<b>B- 83-80%</b>
<b>C+ 79-77%</b>	<b>C 76-74%</b>	<b>C- 73-70%</b>
<b>D+ 69-67%</b>	<b>D 66-60%</b>	<b>F &lt;60%</b>

### **Absences**

Attendance is required and will be determined from the in-class daily written responses. You are allowed two absences without penalty, but additional absences will result in a lower grade in the course. Extenuating circumstances causing three or more absences will be considered on a case-by-case basis.

### **Late Work**

All work must be turned in on the due date listed either in hard copy form handed in at the beginning of class or via email by 5pm. Late work will not be accepted.

### **Special Needs**

If you need an accommodation for any type of physical, medical, or learning disability, please meet with one of us as soon as possible. In addition, if you have not already done so, you need to contact the Office of Disability Services at (404) 727-9877.

### **The Writing Center**

If you are having difficulty with your writing please come see one of us during our office hours or make arrangements to get extra help at the writing center. <http://writingcenter.emory.edu/>

### **Revisions to Syllabus**

We reserve the right to make changes to this syllabus as needed. Revisions will be posted on Blackboard.

### **Safe Space**

All instructors, teaching assistants, and guest lecturers treat all individuals with respect, empathy, and understanding. Most of us are also trained and certified by Emory's Safe Space training program ([http://www.emory.edu/CAMPUS\\_LIFE/LGBTOFFICE/safe\\_space.php](http://www.emory.edu/CAMPUS_LIFE/LGBTOFFICE/safe_space.php)):

"Being a Safe Space at Emory means that you are an open resource for others who may have questions or concerns related to sexual and gender identities. It also means that you actively engage to create a more open and accepting environment for LGBTQ individuals and communities on and off Emory's campus"

### **Writing Requirements**

This course will involve several writing assignments, both in-class and take-home. The in-class writing assignments are to be completed by hand, in pen, on the provided hand-outs, and turned in during the class period. These short (~2-5 min) in-class writing activities during each class period will be used to take attendance, to assess student reactions to the course material, and to provide an avenue for the students to ask questions about the material. Be sure to put your name at the top of the paper.

Take-home writing assignments, including both short reflections and the longer essay assignments, must be typed using the following format:

- *Margins*: 1 inch margins for Left, Right, Top, and Bottom (in Word, go to Format: Document, click on the "Margins" tab, and set the margins for 1")
- *Font*: Arial or Helvetica, 12 pt size
- *Heading*: At the top of the page, include your first and last name, your major, a short description of the assignment (for example, "Reflection on Nature Documentary Part 1"), and the due date
- *Spacing*: Single spaced

### **Texts:**

#### **Required:**

Miklosi, Adam. (2009). *Dog Behavior, Evolution, and Cognition*. Oxford: Oxford Biology.

**Excerpts from books (pdfs will be posted online):**

- Budiansky, Stephen. (2000). *The Truth About Dogs*. New York: Viking Adult Press.
- Derr, Mark. (2011). *How the Dog Became the Dog: From Wolves to Our Best Friends*. New York: Penguin Group.
- Fuller, John L. and John Paul Scott. (1998). *Genetics and the Social Behavior of the Dog*. Chicago: University Of Chicago Press.
- Serpell, James (Ed). (1995). *The Domestic Dog: Its Evolution, Behaviour and Interactions with People*. Cambridge: Cambridge University Press.

**Scientific papers (pdfs will be posted online):**

- Akey JM, Ruhe AL, Akey DT, Wong AK, Connelly CF, Madeoy J, Nicholas TJ, Neff MW. Tracking footprints of artificial selection in the dog genome. *Proc Natl Acad Sci U S A*. 2010 Jan 19;107(3):1160-5. Epub 2010 Jan 11.
- Berry, R.J. (1969). "The Genetical Implications of Domestication in Animals". In Ucko, Peter J., Dimbleby, G.W. *The Domestication and Exploitation of Plants and Animals*. Chicago: Aldine. pp. 207–217.
- Derr, Mark. From the Cave to the Kennel. *The Wall Street Journal*. 29 Oct 2011. <http://online.wsj.com/article/SB10001424052970203554104577001843790269560.html>
- Gácsi M, Györi B, Virányi Z, Kubinyi E, Range F, Belényi B, Miklósi A. Explaining dog wolf differences in utilizing human pointing gestures: selection for synergistic shifts in the development of some social skills. *PLoS One*. 2009 Aug 28;4(8):e6584.
- Gogoleva SS, Volodin IA, Volodina EV, Kharlamova AV, Trut LN. Vocalization toward conspecifics in silver foxes (*Vulpes vulpes*) selected for tame or aggressive behavior toward humans. *Behav Processes*. 2010 Jun;84(2):547-54. Epub 2010 Feb 1.
- Hare B, Plyusnina I, Ignacio N, Schepina O, Stepika A, Wrangham R, Trut L. Social cognitive evolution in captive foxes is a correlated by-product of experimental domestication. *Curr Biol*. 2005 Feb 8;15(3):226-30.
- Lakatos G, Gácsi M, Topál J, Miklósi A. Comprehension and utilisation of pointing gestures and gazing in dog-human communication in relatively complex situations. *Anim Cogn*. 2011 Sep 17. [Epub ahead of print]
- Saetre P, Lindberg J, Leonard JA, Olsson K, Pettersson U, Ellegren H, Bergström TF, Vilà C, Jazin E. From wild wolf to domestic dog: gene expression changes in the brain. *Brain Res Mol Brain Res*. 2004 Jul 26;126(2):198-206.
- Spady TC, Ostrander EA. Canine behavioral genetics: pointing out the phenotypes and herding up the genes. *Am J Hum Genet*. 2008 Jan;82(1):10-8.
- Trut L, Oskina I, Kharlamova A. Animal evolution during domestication: the domesticated fox as a model. *Bioessays*. 2009 Mar;31(3):349-60.
- Virányi Z, Gácsi M, Kubinyi E, Topál J, Belényi B, Ujfalussy D, Miklósi Á (2008). Comprehension of human pointing gestures in young human-reared wolves and dogs. *Animal Cognition* 11 (3): 373–387.
- Schleidt WM and Shalter MD. Co-evolution of Humans and Canids. An Alternative View of Dog Domestication: Homo Homini Lupus? *Evolution and Cognition* 2003 Vol 9; No.1.