The Science of Cats

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Meeting Time: Wednesdays 2:30-5:00, MCZ G022

Week 1 (Sept. 7). Introduction and Cat Anatomy
Introduction to the course and laboratory session in the Mammalogy Department of the Museum of Comparative Zoology where we will study the anatomy of cats and compare the housecat to its wild relatives, small and large.

Week 2 (Sept. 14). The Secret Lives of Cats
We will discuss research investigating the outdoor activities of housecats. In addition, we will plan short-term projects in which students place kitty-cams on their own pets back home for a week.

Assignments:
View BBC documentary *The Secret Life of the Cat: What Do Our Feline Companions Get up to?*
https://vimeo.com/108062526
View University of Georgia KittyCam Project webpage: http://www.kittycams.uga.edu/research.html
Read:

Week 3 (Sept. 21). The Origin of Housecats—Archaeology
We will read zooarchaeological papers documenting the first evidence of cats in association with humans and will visit a zooarchaeology lab at Harvard to learn first-hand how such research is conducted.

Read:


A press release reporting on this paper: Vigne et al. 2016. Earliest “Domestic” Cats in China Identified


**Week 4 (Sept. 28). The Diversity of Cats**
This week will focus on the varieties of cat breeds and discuss how artificial selection works and how particular breeds were developed.

Read:

Learn cat breeds and read how two new breeds were developed:
http://www.tica.org/cat-breeds
https://en.wikipedia.org/wiki/Munchkin_cat
https://en.wikipedia.org/wiki/Savannah_cat

Weekend Field Trip: New England Cat Show

**Week 5 (Oct. 5). The Origin of Housecats—Molecular Genetics**
We will read studies on cat genetics that have inferred when and where cats were domesticated and how genetically altered they are from their wild ancestors.

Reading assignment:


**Week 6 (Oct. 12). Sequence Your Own Cat!**
We will get the results of the cat DNA sequencing back and will discuss what they mean.

Reading assignment:

**Week 7 (Oct. 19). Cat Behavior**

Why do cats behave as they do? To what extent is their behavior a legacy of their evolutionary past, and to what extent does it represent adaptation to living among humans?


**Week 8 (Oct. 26). Cats in Popular Culture**

Discussion of cats around us. We'll prepare for the international cat video festival and discuss various cat memes—Grumpy Cat, anyone?—and events.

Discuss how to celebrate National Cat Day, Saturday, October 29th.

Assignment:

Read:


Read about Cooper, the cat photographer: [http://www.photographercat.com/](http://www.photographercat.com/)

Come prepared to discuss your favorite cat videos

Field Trip, Thursday evening, Oct. 27: International Cat Film Festival, Berklee Performance Center.

**Week 9 (Nov. 2). What about Dogs?**

What does research on dog domestication tell us about cats? Have dogs and cats travelled the same evolutionary path, or has their domestication been very different?

Read:


**Week 10 (Nov. 9). Cats’ Effect on Nature**
How do cats affect natural ecosystem? To the extent that they are a problem, what can be done? Should they be outlawed as some in Australia are proposing?

Read:


https://strangebehaviors.wordpress.com/2015/08/14/csi-and-a-poison-pill-for-cats-that-kill/

Article and comments in *The Economist* on Australian plan to eliminate feral cats:


**Week 11 (Nov. 16). Cats through the Ages**
We will consider the role of cats through human history. On a field trip to the Fogg Museum, we will examine feline-related material.


**Week 12 (Nov. 30). Cats and People**
Why do people love their cats? Have cats evolved to bond with humans? Have humans evolved to bond with cats?
Course wrap-up.
Student reports on video and DNA analyses.


Field Trip: Coffee at *Le Chat Noir Cat Café*
Assignments
Each student will turn in a 10-page paper or a 10-minute iMovie on a subject of their choice related to topics raised in the class. Projects must be approved in advance and will be due the last day of reading period.

In addition, students will form into groups to analyze behavioral or video data and will report on their findings on the last day of class.

Academic Integrity and Honor Code
"Members of the Harvard College community commit themselves to producing academic work of integrity – that is, work that adheres to the scholarly and intellectual standards of accurate attribution of sources, appropriate collection and use of data, and transparent acknowledgement of the contribution of others to their ideas, discoveries, interpretations, and conclusions. Cheating on exams or problem sets, plagiarizing or misrepresenting the ideas or language of someone else as one’s own, falsifying data, or any other instance of academic dishonesty violates the standards of our community, as well as the standards of the wider world of learning and affairs.”