

Anth 120
Human Origins
Spring 2020



Professor: Zachary Cofran
Meetings: Blodgett 101, Tuesday & Thursday 9:00–10:15 am
Email: zcofran@vassar.edu
Office: Blodgett Hall 323
Office hours: Tuesday 1–3 pm, or by appointment

Humans occupy a small branch in the evolutionary tree of animal diversity, and biological anthropologists study the history and variation of life on this branch. This course introduces students to the wide world of biological (a.k.a. “physical”) anthropology. We examine the biology and behavior of humans and our closest living (and extinct) relatives, in the context of evolutionary theory. Living primates and a vast fossil record provide important clues for understanding how and why humans vary today. Through lectures, discussions, and lab assignments, students learn the variety questions asked and data examined by biological anthropologists.

Course objectives

- Appreciate the place of humans among the diversity of life on Earth, both past and present
- Understand the significance of human variation in the context of evolutionary biology
- Comprehend evolutionary theory, including how evolution does and does not work
- Learn to develop research questions and testable hypotheses
- Become familiar with the types of data, especially anatomical, that are employed in biological anthropology

Readings

There is no textbook. Instead, weekly readings are posted to Moodle. All readings should be completed for the day in which they are posted/assigned, before coming to class.

Grading

Participation = 10%

Each week there will be discussions and activities to which you are expected to contribute. Frequent active (but not overbearing) participation earns the full 10%, and sporadic contribution earns 5%. You completely forfeit your participation score if you have at least four unexcused absences (see "Attendance" below), or if you rarely or never participate in class activities.

Glossary = 10%

For each day with readings, you will compile and provide definitions for at least five terms or concepts. Definitions must be written in your own words, neither copying+pasting nor directly quoting the source (see also "Academic Integrity," below). If, toward the end of the semester, you find that readings don't present any terms or ideas that are new to you, you may write a brief (~5 sentence) summary of the reading(s) instead of making a glossary. Glossary submissions must be posted to Moodle before coming to class each day.

Midterm exam = 10%

In class Tuesday 25 February

Final paper in lieu of exam = 15%

Prompt given last day of class

Due 15 May

Lab Activities & Reports = 55%

- Lab 1: Brains (15%)
Due Tuesday February 18
- Lab 2: Footprints (20%)
Due Friday 27 March
- Lab 3: Hands (20%)
Due Thursday 23 April

Schedule of topics, readings & assignments*

* Schedule and content subject to change at professor's discretion.

Week 1 (24 January): What Is Biological Anthropology?

Thursday

- Calcagno, J., & Fuentes, A. (2012). What makes us human? Answers from evolutionary anthropology. *Evolutionary Anthropology*, 21, 182.

Week 2 (28–30 January): What Is Evolution?

Tuesday: Evolutionary theory

- Forbes, A. and Krimmel, B. (2010). Evolution is change in the inherited traits of a population through successive generations. *Nature Education Knowledge*, 3, 6. (<http://bit.ly/1IYS8Sn>)
- Futuyma, D. (2013). Natural selection and adaptation. In J. Losos et al. (Eds.), *The Princeton Guide to Evolution* (pp. 189–191). Princeton: Princeton University Press.
- Malik, A. et al. (2018). An untold story in biology: the historical continuity of evolutionary ideas of Muslim scholars from the 8th century to Darwin's time. *Journal of Biological Education* 52, 3–17.

Thursday: The human fossil record

- Pontzer, H. (2012). Overview of hominin evolution. *Nature Education Knowledge*, 3, 8. (<http://bit.ly/homeevol>)
- Pick (at least) one from the following:
 - Su, 2013. The earliest hominins: *Sahelanthropus*, *Orrorin*, and *Ardipithecus*. *Nature Education Knowledge* 4:11. (<https://go.nature.com/2R9t48M>)
 - Ward & Hammond, 2016. *Australopithecus* and kin. *Nature Education Knowledge* 7:1. (<https://go.nature.com/2T7Nu4O>)
 - Constantino, 2013. The “robust” australopiths. *Nature Education Knowledge* 4,1. (<https://go.nature.com/38pToCO>)
 - Van Arsdale, 2013. *Homo erectus* – A bigger, smarter, faster hominin lineage. *Nature Education Knowledge* 4:2. (<https://go.nature.com/37S5uEk>)
 - Bae, 2013. Archaic *Homo sapiens*. *Nature Education Knowledge* 4:4. (<https://go.nature.com/2FU9fgA>)
 - Baab, 2012. *Homo floresiensis*: Making sense of the small-bodied hominin fossils from Flores. *Nature Education Knowledge* 3:4. (<https://go.nature.com/360UnaE>)
 - Anonymous. *Homo neanderthalensis*. Smithsonian Institute website. (<http://s.si.edu/2xo2JJE>)

Week 3 (04–06 February): Genes & brains

Tuesday: What literally makes us human?

- Pollard, K. (2012). What makes us different? *Scientific American*, 22, 30.
- Pennisi, E. (2015). Of mice and men. *Science*, 349, 21.

Thursday: [Lab 1 – Brain size & scaling](#)
[Meet in Library room 160!](#)

- Schoenemann, P. (2006). Evolution of the size and functional areas of the human brain. *Annual Review of Anthropology*, 35, 379–403.

Week 4 (11–13 February): Brain

Tuesday: Brain size & scaling

- (same as last Thursday) Schoenemann, P. (2006). Evolution of the size and functional areas of the human brain. *Annual Review of Anthropology*, 35, 379–403.

Thursday: Paleo-neurology, or Frivolous Phrenology?

- Falk, D. (2014). Interpreting sulci on hominin endocasts: Old hypotheses and new findings. *Frontiers in Human Neuroscience*, 8, 1–11.

Week 5 (18–20 February): Intelligence & Culture

Lab report 1 due Tuesday 18 February before midnight, via email or Google Drive

Tuesday: Animals

- [Watch Ape Genius before coming to class Tuesday](https://www.youtube.com/watch?v=wg-mPjhCnc8) (<https://www.youtube.com/watch?v=wg-mPjhCnc8>)
- Laland, K. & Hoppitt, W. (2003). Do animals have culture? *Evolutionary Anthropology*, 12, 150–159.

Thursday: Evolutionary psychology?

- Smith 2020. Why evolutionary psychology (probably) isn't possible. Blog post @ the Evolutionary Institute.
- Fuentes, 2017. Human niche, human behavior, human nature. *Interface Focus* 7, 2060136.

Week 6 (25–27 February): Midterm & Lab

Tuesday: **MIDTERM EXAM in class**

Thursday: [Lab 2 – Laetoli footprints](#)

- Raichlen, D. et al. (2010). Laetoli Footprints Preserve Earliest Direct Evidence of Human-Like Bipedal Biomechanics. *PLoS One*, 5, e9769.

Week 7 (04–06 March): Locomotion

Tuesday: Primate locomotion

- Gebo, 2013. Primate locomotion. *Nature Education Knowledge* 4: 1. (<http://bit.ly/1DM7oX0>)

Thursday: Bipedal adaptations

- Aiello, L and Dean, MC. (1996). Chapter 14: Bipedal locomotion and the postcranial skeleton. In *An Introduction to Human Evolutionary Anatomy*, (pp. 244–274). New York: Associated Press.

***** Spring Break 06–22 March *****

Week 8 (24–26 March): Life history

Lab report 2 due Friday 27 March

Tuesday: Babies

- Dunsworth, H. and Eccleston, L. (2015). The evolution of difficult childbirth and helpless hominin infants. *Annual Review of Anthropology*, 44, 55–69.

Thursday: Milk

- Hinde, K and Milligan, L. (2011). Primate milk: proximate mechanisms and ultimate perspectives. *Evolutionary Anthropology*, 20, 9-23.

Week 9 (31 March–02 April): Food

Tuesday: Trends in tastes

- Sponheimer, M. et al. (2013). Isotopic evidence of early hominin diets. *Proceedings of the National Academy of Sciences*, 110, 10513–10518.
- Gibbons, E. (2014). The evolution of diet. *National Geographic*. (<http://www.nationalgeographic.com/foodfeatures/evolution-of-diet/>)

Thursday: Entomophagy

- Lesnik, J. 2018. Ch. 3 and 5 of *Edible Insects and Human Evolution* (pp. 31–48 and 67–89).

Week 10 (07–09 April): Sexual Dimorphism

Tuesday: Evolutionary perspective

- Fuentes, A. (2012). Chapter 6: Myths about Sex. In *Race, Monogamy, and Other Lies They Told You*. Berkeley: University of California Press. (ebook: <http://bit.ly/2UKt4kq>)

Thursday: Lab 3 – Paleolithic cave artists

- Pettit, P. (no date). Hand stencils in Upper Palaeolithic cave art (<http://bit.ly/2F0Ztab>)
- Snow, D. (2013). Sexual dimorphism in European Upper Paleolithic cave art. *American Antiquity*, 78, 746–761.
- Nelson, E. et al. (2017). Beyond size: the potential of a geometric morphometric analysis of shape and form for the assessment of sex in hand stencils in rock art. *Journal of Archaeological Science*, 78, 202–213. (*only read Sections 1, 2, 6, 7*)

Week 11 (14–16 April): Race

Prof. Cofran away in LA @ AAPA

Tuesday and Thursday – no regular class

- Watch PBS documentary *Race: The Power of an Illusion*, comprised of three hour-long episodes. Access via Vassar Library. Be ready to discuss next week!
- Link: <https://vassar.kanopy.com/video/race-power-illusion-0>

Week 12 (21–23 April): Race & variation

Lab report 3 due Thursday 23 April

Tuesday: What genes say

- AAPA Statement on Race and Racism (<http://bit.ly/3az5X0p>)
- Barbujani, G. et al., (2013). Nine things to remember about human genome diversity. *Tissue Antigens*, 82, 155–164.

Thursday: What society says

- Gravlee, C. (2013). Race, biology and culture: Rethinking the connections. In J. Hartigan (Ed.), *Anthropology of Race* (pp. 21–42). Santa Fe: School for Advanced Research Press.
- Reich, D. (2018). How genetics is changing our understanding of Race. *New York Times*.
- Marks, J. (2018). There's an arrogant anti-intellectual hereditarian at Harvard who isn't Steven Pinker! Who would have thunk it? *Anthropomics* (weblog).

Week 13 (28–30 April): Environments

Tuesday: Skin

- Jablonski, N. and Chaplin, G. (2017). The colours of humanity: The evolution of pigmentation in the human lineage. *Philosophical Transactions of the Royal Society B* 370: 20160349.
- Gibbons, E. (2017). New gene variants reveal the evolution of human skin color. *Science* (<http://bit.ly/2F019AJ>)

Thursday: Body

- Leonard, W. and Katzmarzyk, P. (2010). Body size and Shape. In Muehlenbein (Ed.) *Human Evolutionary Biology* (p. 157–169). Cambridge: Cambridge University Press.

Week 14 (06 May): Are Humans Still Evolving?

[Paper in lieu of Final Exam assigned Tuesday 06 May](#)

Tuesday

- Weiss, K. (2015). Life goes on. *Evolutionary Anthropology*, 24, 106–110.
- Hawks, 2016. Humans never stopped evolving. *The Scientist* (<http://bit.ly/2bSviGW>).

Paper in lieu of Final Exam due no later than Friday 15 May

Course Policies

Territory Acknowledgement

The Vassar campus exists on lands that were once home to the [Delaware](#) Nation, the Delaware [Lenape](#) Tribe, and the [Stockbridge-Munsee](#) Band of Mohican Indians. Although many sources reference the Wappingers as the indigenous peoples of our campus, they were a confederacy of Native peoples who organized at one time in response to Euro-American incursions into the area.

Attendance

You are allowed up to three excused, penalty-free, no-questions-asked absences throughout the semester. The exception to this is that you must be in attendance for the exam and Lab activities 2-3. Exceptions to this rule can only be made with appropriate documentation from Health Services or the Dean of Students.

Assignment submission and late work policy

Assignments must be completed and submitted on time – however, you are allowed one amnesty day, for you to use (or not use) at your discretion, for the lab reports only. If you think you will need a little more time to complete a given report, let me know before it is due, and you can submit it a day later free of penalty. This does not apply to the glossaries, midterm exam, or paper-in-lieu-of-final exam.

Barring amnesty, late work will be reduced by 10% for each day that it is late. The only other time I will accept late work without penalty is if it is accompanied by documentation from Health Services or the Dean of Students.

Disability accommodation

Academic accommodations are available for students registered with the Office for Accessibility and Educational Opportunity (AEO). Students in need of disability (ADA/504) accommodations should schedule an appointment with me early in the semester to discuss any accommodations for this course that have been approved by the Office for Accessibility and Educational Opportunity, as indicated in your AEO accommodation letter.

Academic Integrity

All work you submit must be your own. You may discuss assignments with colleagues, but you may not turn in the same work. When you use references, other people's ideas, and especially other people's direct words, you absolutely must cite them. For more information, see pages 82–83 of the Vassar College Regulations (<http://bit.ly/2bMuogv>) and "Going to the Source" (<http://bit.ly/2bMuNQ8>). Plagiarism and other academic misconduct will result in a grade of 0 on the assignment and referral to the College's Academic Panel.

Technology

Turn your phones off (or at least put on silent) when you come to class. I can and will

confiscate phones if I find them distracting. Phones may only be used in class to access course materials (e.g., readings). You may take notes on a computer if you wish, however, if you become distracting to myself or other students I will confiscate the computer for the duration of class as well. I reserve the right to ban all technology from the classroom at any point in the semester.

Title IX Responsibilities

Vassar College is committed to providing a safe learning environment for all students that is free of all forms of discrimination and sexual harassment, including sexual assault, relationship abuse, and stalking. If you (or someone you know) has experienced or experiences any of these incidents, know that you are not alone. Vassar College has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.

Please be aware all Vassar faculty members are “responsible employees,” which means that if you tell me about a situation involving sexual harassment, sexual assault, relationship abuse, or stalking, I **must** share that information with the Title IX Coordinator. Although I have to make that notification, the Title IX office will only provide outreach by email. You will control how your case will be handled — you don’t have to read or respond to the email, and it is completely up to you whether to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

If you wish to speak to someone privately, you can contact any of the following on-campus resources:

- Counseling Service (counselingservice.vassar.edu, [845-437-5700](tel:845-437-5700))
- Health Service (healthservice.vassar.edu, [845-437-5800](tel:845-437-5800))
- Nicole Wong, SAVP (Sexual Assault and Violence Prevention) director (savp.vassar.edu, [845-437-7863](tel:845-437-7863))
- SART (Sexual Assault Response Team) advocate, available 24/7 by calling the CRC at [845-437-7333](tel:845-437-7333) and asking for SART

The SAVP website (savp.vassar.edu) and the Title IX section of the EOAA website (eoaa.vassar.edu/title-ix/) have more information, as well as links to both on- and off-campus resources.