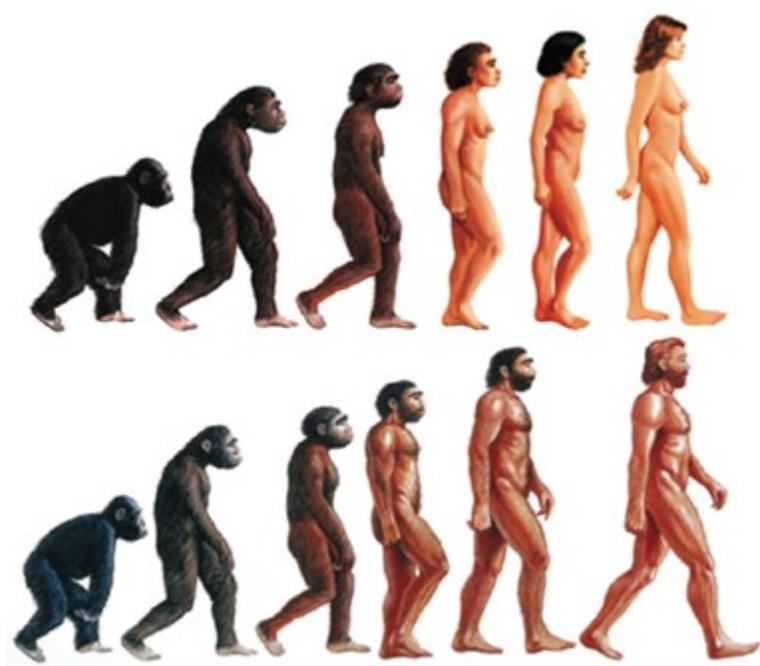


Introduction to Human Evolution (ANTH 003-601): Summer 2021



Remotely Taught **Tentative** Syllabus

INSTRUCTOR

Dr. Deborah I. Olszewski, Department of Anthropology

E-mail: deboraho@sas.upenn.edu

Office Hours: TBA and/or by Zoom appt.

COURSE SUMMARY

The central theme of this class is the scientific study of human evolution. This is an interdisciplinary endeavor that combines many kinds of scientific evidence—primate behavior and ecology, evolutionary biology, genetics, comparative anatomy, geology, paleontology, and archaeology—that together produce a coherent picture of the emergence, development, and diversification of our species, *Homo sapiens*. This central theme will be used to introduce you to the field of Biological Anthropology, the science that deals with the adaptations, variability, and evolution of human beings and their living and fossil relatives, in the context of human culture and behavior.

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The class is divided into three interrelated sections:

Part I covers the fundamental **principles and processes of evolution**. We will start with an overview of the development of evolutionary theory and then delve into some of the basics of genetics and heredity—what DNA is, what information it encodes and how, and how that information is passed from generation to generation. We will then talk about variation—an important prerequisite for evolution. Finally, we will overview the principles by which evolutionary biologists infer the relationships among sets of species.

In Part II, we examine the **place of humans in nature**, focusing specifically on **our heritage as members of the primate order, and the earliest members of the human lineage**, the fossil and material culture record of human history from our earliest primate ancestors to the emergence of genus *Homo*. We will begin by looking at the behavioral and ecological diversity among living primates and consider what studies of nonhuman primates can reveal about our own evolutionary past. In doing this, we will draw on modern evolutionary theory—particularly on the concepts of natural selection and adaptation—and explore how evolutionary thinking informs our understanding of morphological, behavioral, and cultural variation in humans and other animals.

Finally, in Part III, we will examine the **later members of the human lineage**—the fossil and material culture record of human history from about 2 million years ago to the emergence of modern *Homo sapiens*, **and modern human diversity**. Here, we will discuss issues such as how paleontologists date and determine the ecological contexts of the materials they recover and examine the contributions that molecular anthropologists are increasingly making to the study of human evolution. We also will explore some of the controversies surrounding modern interpretations of the fossil and molecular evidence. We will finish the course by examining the adaptive significance of some kinds of living human morphological, physiological, and genetic variation.

Throughout the course, we will focus not only on what we know about human origins and evolution, but also on how we know it. You will have the opportunity to not only learn about the various methods and approaches used by scientists studying human evolution, but to also apply some of these approaches yourselves in hands-on exercises during class.

- A Final Note -

One important thing to keep in mind throughout this course is that the study of human origins and evolution is an ever-changing discipline. For example, new fossil discoveries are made every year that compel paleoanthropologists to rethink our species' evolutionary tree. Similarly, recently developed molecular techniques now allow geneticists to better investigate the evolutionary relationships among our primate relatives and to address contentious questions such as the relationship between Neandertals and modern *Homo sapiens*. In this course, the goal is to convey to you some of the excitement that scientists who study human origins and evolution feel for their subject and some of the breadth of their approaches. I look forward to hearing your thoughts and insights on the materials we cover.

READINGS

There is one required book. This is a basic textbook that provides an overview of many of the topics we will be discussing in the course.

Author: Clark Spencer Larsen **Title:** *Our Origins: Discovering Physical Anthropology*, 5th edition (2019); **Publisher:** WW Norton & Company; **ISBN:** 978-0393680881

You can also use the 4th edition of this textbook, which may help you with overall costs, although the page numbers in the syllabus might not match exactly with the 5th edition. Please do not use editions earlier than the 4th, as they will be out-of-date for the subject matter. Any student may consult with [Student Financial Services](#) to find out what support they are eligible to receive to cover course costs or other items that ensure their health, safety, and secure learning environment.

ACADEMIC INTEGRITY

The work you submit in this class is expected to be your own. If you submit work that has been copied without attribution from any published or unpublished source, that has been prepared by someone other than you, or that in any way misrepresents somebody else's work as your own, it will represent a violation of the Code of Academic Integrity (this, of course, includes cheating in exams). Please consult the Student Handbook or the appropriate web-page: <http://www.college.upenn.edu/policies/integrity.php>

NON-DISCRIMINATION POLICY

The Policy of Equal Opportunity, Affirmative Action and Nondiscrimination At the University of Pennsylvania states that: "The University of Pennsylvania prohibits unlawful discrimination based on race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status, or any other legally protected class."

The course instructor is LGBTQ+ Safe Space Certified.

CLASS STRUCTURE FOR SUMMER 2021 (remotely taught)

A Typical Week

- **Asynchronous Activities will be scheduled for listening to the recorded lectures, taking lecture-related quizzes, and completing the online examinations.**
 - Watch recorded lectures (broken into several 15-to-20-minute podcasts per lecture topic).
 - Read the textbook assignments.
 - Take low-stakes quizzes on the recorded lectures (due dates for quizzes will be posted on our Canvas site [Eastern USA time zone]).
 - Take the online examinations.
- **Synchronous In-Person Sessions will be scheduled for all class days with assignments, as well as the Presentations day.**
 - You will work in pairs to complete in-class assignments. Assignments are due by the end of the class period, unless otherwise noted.
 - A few times we will have either discussions or time for the presentation groups to coordinate.
- In pre-COVID summer sessions, this course would have met for 7 hours and 30 minutes each week (three 150-minute classes), with lectures of varying lengths on all three days, along with in-class pair assignment work. The combination of synchronous and asynchronous course activities this term is

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designed to provide an equivalent experience adapted to the special circumstances and demands of online teaching and learning.

Graded Components

- 10 low-stakes quizzes (related to the lecture materials): 5 questions each
- 8 synchronous pair assignments during class time
- 3 short essay online timed examinations (one at the end of each section of the class): 5 questions each
- 1 group presentation (short powerpoint presentation on the subject of on-going/future evolution of humans): end of the semester
- [Assignments, quizzes, examinations, group presentations that are submitted after the due date will be subject to a one-letter grade deduction. None will be accepted more than three days after the original due date.](#)

Graded Components Points and Weights

- Low stakes quizzes: 10 points each; 7% of the total grade
- Pair assignments: 10 points each; 12% of the total grade
- Short essay online timed exams: 100 points each; 63% of the total grade (21% per examination)
- Group presentation: 100 points; 18% of the total grade

Final Grades

The final grade in this course will be based on the sum of all the scores. Grades are calculated on a straight percentage basis. Grading will be based on the following cut-offs:

98 – 100% = A+	88 – 89.9% = B+	78 – 79.9% = C+	68 – 69.9% = D+
93 – 97.9% = A	83 – 87.9% = B	73 – 77.9% = C	63 – 67.9% = D
90 – 92.9% = A-	80 – 82.9% = B-	70 – 72.9% = C-	60 – 62.9% = D- <60% = F

Grades will not be rounded up.

PLEASE NOTE THAT THERE IS NO EXTRA-CREDIT

[Please see next page for class schedule.](#)

SCHEDULE

please do the readings before the class period with the assignments

Date	Day	Module	Topic	Reading	Synch/Asynch	
24 May 2021	M	Introduction	overview	Larsen: Chapter 1	synchronous	
26 May 2021	W	Evolution/Genetics	evolutionary theory/ human biology (skeleton)/ molecular genetics	Larsen: Chapter 2 Larsen: Appendix Larsen: Chapter 3	asynchronous	
28 May 2021	F		In class assignments #1 & #2		synchronous	
31 May 2021	M		Memorial Day Holiday			
2 June 2021	W		Mendelian genetics/ population genetics/ evolutionary forces/ species and speciation/ studying human evolution	Larsen: review pp. 41-46 Larsen: Chapter 4 Larsen: review pp.92-95	asynchronous	
4 June 2021	F		In class assignment #3 In class assignment #4		synchronous	
7 June 2021	M		FIRST EXAM		online	
9 June 2021	W		Primates/Early Hominins	who are the primates/ primate behaviors/ chimpanzees, bonobos & humans/ evolution of primates	Larsen: Chapter 6 Larsen: Chapter 7 Larsen: Chapters 8-9	asynchronous
11 June 2021	F			In class assignment #5 In class assignment #6		synchronous
14 June 2021	M			the earlier hominins/ bipedalism, diets/ late Australopiths	Larsen: Chapter 10 Larsen: Chapter 11	asynchronous
16 June 2021	W			In class assignment #7/ review/discussion		synchronous
18 June 2021	F	SECOND EXAM			online	
21 June 2021	M	Later Hominins/ Modern Variation		earlier genus <i>Homo</i> / Neanderthals/ origins of modern humans	Review Larsen: Chapter 11 Larsen: Chapter 12	asynchronous
23 June 2021	W		In class assignment #8/ presentation group get-together		synchronous	
25 June 2021	F		human biological diversity/ "race"/ evolution is on-going	Larsen: Chapters 5, 13 Larsen: Chapter 14	asynchronous	
28 June 2021	M		PRESENTATIONS		synchronous	
30 June 2021	W		THIRD EXAM		online	

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