

## ANTH 003: Introduction to Human Evolution

MWF 12-2:30pm

Summer Session II

June 30, 2022 – August 5, 2022

### Instructor:

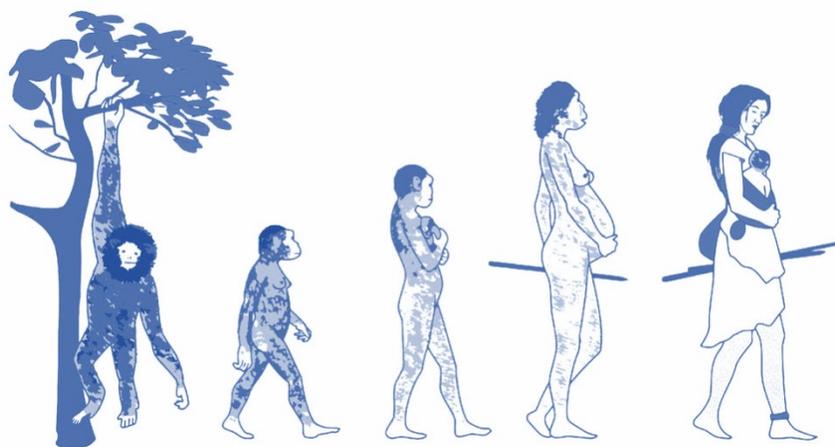
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### Office Hours:

2:30-4pm Mondays in 421B



### COURSE SUMMARY

How did humans evolve? When did humans start to walk on two legs? How are humans related to non-human primates? This course focuses on the scientific study of human evolution describing the emergence, development, and diversification of our species. First, we cover the fundamental principles of evolutionary theory and some of the basics of genetics and heredity as they relate to human morphological, physiological, and genetic variation. We then examine what studies of nonhuman primates (monkeys and apes) can reveal about our own evolutionary past, reviewing the behavioral and ecological diversity seen among living primates. We conclude the course examining the "hard" evidence of human evolution - the fossil and material culture record of human history from our earliest primate ancestors to the emergence of modern *Homo sapiens*.

### REQUIRED TEXT

You will be required to purchase the following book- available online: Clark Spencer Larsen, *Our Origins: Discovering Physical Anthropology*, 5<sup>th</sup> edition. WW Norton & Company. The digital version and its content is available here: <https://digital.wwnorton.com/ourorigins5>.

### REQUIRED WORK

1. **Tests:** There will be three NON-CUMULATIVE exams for this course. The exam will consist of a short answer questions and essays as well as a timed multiple choice portion

using class time. **Each exam will count for 20% of your grade.** There will be no regrades for exams.

2. **Media Project:** Each student will select a claim in the popular media (advertisements, youtube, news articles, social media posts, etc) that shows a misunderstanding of human nature/human evolution. You will create a popular science media presentation to counteract the misinformation, due at the end of the term. This project will involve proper use of evidence and logic from the course. Topics will be chosen early in the term to give you ample time to prepare. **Your presentation is worth 15% of your final grade.**
3. **Lab Activities:** You will complete 3 lab activity worksheets. These will either be in person in the classroom or online using 3D models. These worksheets will be posted in canvas. **Labs make up 5% of your total grade.**
4. **Weekly Quizzes:** You will be required to take weekly quizzes ONLINE through Canvas. These EASY quizzes are designed to help you review the course material, and also boost your grade! They will consist of 10 relatively easy questions based on material from the week's lectures. They will be open note and you can take as long as you like to answer them. They will be due each week by 11:59 PM on Sunday, so you have time to complete them over the weekend. You will have two attempts at each weekly quiz, and the best score will be kept. **Each quiz will count for 4% of your grade, totaling to 12%**
5. **Attendance and Participation:** Attendance at all class sessions is required for the course. Missing any class is not advisable, your attendance and participation grade will be deducted you miss more than 3 lectures. This is a heavily lecture-dependent class and missing will deprive you of information and experience you will need to pass the course. If you need to miss lecture, write me an e-mail letting me know before. Class participation is also an important part of your grade. There will be activities, questions, and other opportunities for engagement – and I expect everyone to participate and try, even if you don't know the right answer. If you have done your readings before class, you should be fully prepared. It doesn't matter if you get it wrong, I just want to know you are making an effort to prepare and participate in class. All in class assignments or activities will also count towards your participation grade. Online discussion participation is a further part of class participation grade. Weekly discussion questions are geared to help you connect this course and its relevance to your life and the world right now. These are open-ended without a set length. They will be due each week by 11:59 PM on Sunday. **Attendance and Participation is worth 8% of your final grade.**

### GRADING BREAKDOWN

Exam 1 (non-cumulative) 20%, Exam 2 (non-cumulative) 20%, Exam 3 (non-cumulative) 20%, Media Project 15%, Weekly Quizzes (4 total) 12%, Labs 5%, Attendance and Participation 8%, TOTAL 100%

**Grade scale:** 94 and >=A, 90-93=A-, 87-89=B+, 84-86=B, 80-83=B-, 77-79=C+, 74-76=C, 70-73=C-, 67-69=D+ 64-66=D, 60-63=D-, 59 and <=F

### HOW TO DO WELL IN THIS CLASS:

1. *Do the readings!* Take notes on them before each class. These readings are not designed to fill space or give you erroneous work, but to be your first exposure to the course information and prime you for lecture.
2. *Come to class!* Takes notes, ask questions, be involved. This will be your second exposure to the course information. Also, this is mandatory.

3. *Take the weekly quizzes!* They will help you study and will boost your grade at the end of the semester. This will be your third exposure to the course information during the week. Learning is best accomplished through multiple reviews of course material. Readings, lectures, and quizzes will help you digest the information 3x more than if you just passively sit through lecture.
4. *Review your lectures a small amount every day*, if you can. You are more likely to remember information and think more clearly for the test if you have studied over a longer period of time rather than crammed.
5. Come to office hours if you are struggling with the course content. I am more than willing to walk you through concepts that are tough.
6. Connect the media project to something you care about and are interested in. Expressing authentic interest will help you do well in that assignment.

### Course Content:

1. Principles of Evolution: Theory and Mechanism. In the first section of the course, you will learn the basics of human evolutionary theory. This will be accomplished by first being able to distinguish between evolutionism and creationism and understand the historical developments behind contemporary evolutionary theory. Next, we will break down biological evidence for evolution. After understanding evolutionary theory and its evidence, we will learn *how* evolution actually occurs through genetic inheritance and the forces of evolution.
2. Early Human Evolution. In the second section of the course, you will understand how modern *Homo sapiens* evolved from our primate cousins and into anatomically modern humans. We will begin by learning about non-human primates, and how they have been used as a model for hominin behavior. We will then discuss human evolution in three stages: the evolution of primates as a species, the development of early modern humans, and the emergence of the species *Homo*. In each stage, we will discuss debates about species classification, behavior, and the emergence of modernity.
3. Modern Human Variation. In the final section of the course, you will be able to understand how contemporary diversity modern human populations arose through human migration and the spread of agriculture. We will discuss how the environment (both natural and cultural) has shaped, and continues to shape, human genetic and physical variation through genetic adaptation.

### Student Learning Outcomes (SLO):

1. Demonstrate general knowledge of evolutionary theory, genetic mechanisms of evolution, non-human primates & behavior, human evolution, variation, and adaptation.
2. Answer the question “what does it mean to be human?” for yourself.
3. Be able to explain with evidence where there is no one way to be human (ie, diet, weight, attraction).
4. Explain how just because something about our bodies or behavior seems to be “common sense” socially doesn’t mean it evolved to be that way and is ingrained (race, gender, sex, etc).
5. Demonstrate an ability to evaluate scientific claims in popular media with evidence and to communicate that scientific understanding with the public.

**OTHER IMPORTANT INFORMATION:****Accommodation for various disabilities:**

Your academic success is important! If you have a documented disability that may have an impact upon your work in this class, please contact me. Students must provide documentation of their disability in coordination with the Weingarten Learning Resources Center and the Office of Student Disabilities Services. I encourage you to come forward and discuss this matter as early as possible in the semester, to demonstrate to you that I and the University are more than willing to work with you and to provide the necessary accommodations, to help you to focus on your academic success and to provide you with further resources, including web links, offices and people who can help.

**Academic Integrity:**

If you are dishonest, cheat or plagiarize anyone else's work you will receive a zero for the assignment and may face disciplinary action by the university. Cutting and pasting text and images from the internet without giving proper credit counts as plagiarism. For a more detailed rundown of the consequences of violating the university's academic integrity policy, see the Student Handbook or the appropriate website:

<http://www.college.upenn.edu/policies/integrity.php>.

**Behavior:**

Under no circumstances will I tolerate disrespectful language or behavior on the basis of any personal, cultural, ethnic, political or any other perceived difference between students. Good (and adaptable!) hominids show group cohesiveness. I know that slang is common for online writing, but I expect you to write in complete sentences and to avoid typing in all caps or shorthand, like "lol" or "omg". I would also recommend being careful with sarcasm, it's hard to communicate without non-verbal cues, such as the tone of your voice. This is an easter egg- if you e-mail me a picture of an otter you will receive an extra credit point. This shows me you have thoroughly read the syllabus.

**COVID-19 Considerations**

This is a hard time for everyone. You can write to me for accommodations regarding COVID-19. Further, I know a lot of things feel frustrating and useless in the scale of the world right now, and I want to help the study of human evolution fall not feel that way as much as possible. Therefore, I've added weekly discussion questions as part of your participation grade designed to give you space to reflect on both the course material and the state of the world. Further, the media project is designed to help you learn about and participate in popular science communication, a major issue in a world where scientists are always trying to communicate facts to the public about health and disease and combat misinformation.

**LECTURE SCHEDULE**

When assigned, all online quizzes will be uploaded by the end of the day on Friday, and due at the end of each week, by 11:59 PM on Sunday.

**READINGS ARE MANDATORY AND MUST BE DONE BEFORE CLASS**

Section	Week	Date	Topic	Assignments	Reading
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Evolutionary Theory	Week 0	1 Fri July 1	Class Introduction: Review Syllabus, Assignments - What is Physical Anthropology? - Evidence for Evolution		Larsen Chapter 1
		Week 1	Mon July 4	University Holiday	
	2 Weds July 6		Development of Evolutionary Theory	<i>Pre-quiz, Survey, and Introduction worksheet</i>	Larsen Chapter 2
	3 Fri July 8		Mendelism, Structure of DNA & The Modern Synthesis  Inheritance & Population Genetics	<i>Weekly Quiz 1 &amp; Discussion Question 1 Released</i>	Larsen Chapter 3
	4 Mon July 11		Forces of Evolution	<i>Lab 1: Evolutionary Concepts Due Wednesday</i>	Larsen Chapter 4
	5 Weds July 13	<b>FIRST EXAM</b> ( <i>Class Sessions 1-4, 4 lectures</i> )			
Early Modern Evolution	Week 2	6 Fri July 15	Non-Human Primates	<i>Weekly Quiz 2 &amp; Discussion Question 2 Released</i>	Larsen Chapter 6
		7 Mon July 18	Primate Behavior	<i>Activity on evaluating popular science claims Due Today</i>	Larsen Chapter 7

	Week 3	8 Weds July 20	The Evolution of Primates  -  Early Modern Humans: <i>Australopithecus</i> and earlier forms pt 1	<i>Media Presentation Topics Due Today</i>	Select portions of chapter 8 and 9 (8.1, 8.2, 9.1, 9.4, 9.6)
		9 Fri July 22	Early Modern Humans: <i>Australopithecus</i> and earlier forms pt 2	<i>Lab 2: Fossil Hominin Evolution Due Today</i>  Weekly Quiz 3 & Discussion Question 3 Released	Larsen Chapter 10
Modern Human Variation	Week 4	10 Mon July 25	<b>SECOND EXAM</b> ( <i>Class Sessions 6-9, 4 lectures</i> )		
		11 Weds July 27	Modern Human Dispersals - Agricultural Transition  Modern Human Biology- Race		Select portions of Chapter 13 and 5 (13.1, 13.2, 13.3, 5.1, 5.3)
	12 Fri July 29	Modern Human Biology- Sex, Gender, Sexual Orientation	Weekly Quiz 4 & Discussion Question 4 Released	Select portions of Chapter 5 and 14 (5.2, 14.1, 14.2)	
	Week 5	13 Mon August 1	Early Modern Humans: The emergence of Homo & the Evolution of Behavior	<i>Lab 3: Fossil Hominin Evolution Due Today</i>	Larsen Chapter 11

		14 Weds August 3	Archaic Human Dispersals		Larsen Chapter 12
		15 Fri August 5	<b>MEDIA PROJECT DUE AT 9am TODAY</b> <b>THIRD EXAM</b> ( <i>Class Sessions 11-14, 4 lectures</i> )		