HUMAN ORIGINS: V55.0305

New York University
Department of Anthropology
Spring 2007 –T-TH 11:00 – 12:15

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Overview

As one of the four major subdisciplines of anthropology, physical anthropology (or biological anthropology) is the study of human biological evolution and variation. This course will examine the evidence for past and present human physical and behavioral adaptations from an evolutionary perspective. The study of human evolution brings together research from many different areas of natural science, including genetics, evolutionary theory, systematics, geology, comparative anatomy, paleontology, primate behavior, ecology, forensic anthropology, and archaeology. We begin the course with the history of evolutionary thought, including a background in genetics and evolutionary processes. We then explore the relationship of humans to the rest of the natural world, focusing on the biology and behavior of the primates, the group of mammals that includes humans and our closest living relatives, the apes. Finally we examine the fossil evidence for human evolution, focusing on major events such as the origin of bipedalism and evolution of larger brains.

At the end of this course students should be able to discuss the key concepts, findings and terminology in physical anthropology and understand the diverse approaches and methods used by physical anthropologists to investigate the origins and evolutionary history of our species. In addition, students will be expected to understand, organize and present coherent arguments for or against various debates in anthropology. Emphasis is on critical thinking and active learning. Laboratories emphasize hands-on activities through experiments, computer programs and simulations, and working with skeletal material and fossil casts.

My goals for you: It is my hope that this class will engage you in critical thinking and encourage you to ask questions. Ultimately, if taking this class widens your worldview and gives you a greater appreciation for the human experience I will feel as if I have done my job.

Required Texts:

Relethford, J.H. 2006. The Human Species: An Introduction to Biological Anthropology. 6th edition. New York: McGraw Hill (listed as **HS** in course outline)
Courtis, M. (Ed.) 2006. Taking Sides. Clashing Views on Controversial Issues in Physical Anthropology. New York: McGraw Hill (listed as **TS** in course outline)

Recommended Text (for visual learners):

Zihlman, A (2001) Human Evolution Coloring Book. 2nd edition. New York: Collins.

Blackboard

- The syllabus, supplemental readings, laboratory grades, and exam grades will all be posted on Blackboard.
- Hand-outs and lecture presentations will be posted on Blackboard after each class. Be sure to download them if you miss a class.

LABORATORIES/RECITATION

- Each week there is **laboratory/recitation** that examines in greater detail some of the concepts, techniques and materials that we have discussed in class.
- You can find the **lab manual** at Unique Copy Center on Greene between Waverly Place and 8th Street.
- **Lab Attendance** is required. There will be no make-up labs or quizzes, no extensions on lab assignments, and no incompletes given for the course. If you miss a lab you must contact your TA as soon as possible to find out what work you have missed.
- You must come to the labs/recitations **fully prepared**. You should be up-to-date with the readings and have familiarized yourself with any pre-lab materials or worksheets given out beforehand.
- It is important to remember that each lab/recitation has a **written assignment or quiz** associated with it. All written assignments are due by the next lab date.

REQUIREMENTS AND EXPECTATIONS

- **Class attendance is required**! This course and its labs are heavily based upon lectures and class discussions. To do well you must attend class, listen, participate and take useful notes. There are no make-ups for exams or one-minute essays! *Attendance is considered in your final grade.*
- **Courtesy**: Come to class on time. Turn off your mobile phones before entering labs and classrooms.
- **Reading materials**: All of the assigned reading material is required. You must complete the readings for each week before attending class and/or lab. Supplemental readings are available as .pdfs on Blackboard.
- **Academic dishonesty**: Cheating is unethical and **WILL NOT BE TOLERATED**. Rewording an assignment/article/lab report and turning it in as your own is considered plagiarism and is not acceptable. If you are found to be plagiarizing someone else's work *you will get an "F" for the class*. Students charged with academic dishonesty are subject to the procedures outlined by the College of Arts and Sciences, which can be found at: http://www.nyu.edu/cas/Academic/Bulletin0204/Policies.html.

GRADING

- **Exams:** There will be a mid-term and final exam. Each comprises objective questions and short answer/essays. The mid-term and final (non-cumulative) are each worth ~30% of your grade.
- **Laboratory assignments:** Quizzes, lab reports, written assignments, attendance and participation all contribute to your grade. The lab/recitation component comprises ~30% of your final grade.
- **One-minute essays:** Doing the readings BEFORE class is crucial to understanding the lectures. One-minute essays are intended to make sure you understand the material presented in the book and in lecture. Throughout the semester at the beginning of class students will be asked to discuss one important thing they learned from the assigned reading and provide one question they still have about the reading or lecture material up to that point. The one-minute essays comprise ~10% of your final grade. YOU MUST COME TO CLASS ON TIME TO DO THE ASSIGNMENT!

See me regarding **DOCUMENTABLE**, extraordinary personal circumstances affecting your academic performance.

Your final grade consists of:

Midterm	90
Final	100
One-minute essays	30
Laboratory/Recitation	90
TOTAL	310

Important dates: Deadline to drop without "W" is February 5, 2007

CLASS	LECTURE TOPIC	READ	LAB
WEEK 1	**Introduction**		
Jan 16	What is anthropology? Scientific method	HS – Ch. 1	NO LAB THIS WEEK
Jan 18	History of evolutionary thought Topic: evolution and creation	TS – I:4	
WEEK 2	**Human Genetics**		
Jan 23	DNA, cell division, protein synthesis	HS – Ch. 2: 31-41 & 62-67	LAB 1:Orientation/discussion. **Quiz**: the human skeleton
Jan 25	Genetics and inheritance Genes and behavior	HS – Ch. 2: 41-61; TS – I:2	
WEEK 3	**Human Genetics & Variation**		
Jan 30	Forces of evolution	HS – Ch. 3; TS – I:3; *Add'l Read	LAB 2: Human genetic traits and variation
Feb 1	Human variation	HS – Ch. 5; TS – I:17; *Add'l Read	
WEEK 4	**Disease and Human evolution**		
Feb 6	Natural selection, disease and human evolution	HS – Ch. 7	LAB 3: What is Race?
Feb 8	Human adaptation	HS – Ch. 8	
WEEK 5	**Our place in Nature**		
Feb 13	Origin and evolution of species Mode and tempo of evolution	HS – Ch. 4, TS – I:1	LAB 4: Anthropometry
Feb 15	Our place in nature Approaches to classification	HS – Ch. 9	
WEEK 6	**Introduction to Primates**		
Feb 20	Survey of primates: taxonomy, locomotion and diet	HS – Ch. 10, *Add'l Read	LAB 5: Comparative anatomy: Humans as peculiar primates
Feb 22	What makes us human?	HS – Ch 11	
WEEK 7			
Feb 27	Primate social organization	HS - Ch. 9: 243-245; TS – I: 6, 7	LAB 6: Social organization of living primates
Mar 1	Primate behavior	TS: 5, 8 *Add'l Read	
WEEK 8			
Mar 6	Reconstructing the past: phylogenetic analysis & dating	HS – CH. 9: 224-225 Ch. 12: 315-323	LAB 7: Primate behavior
Mar 8	MIDTERM		

CLASS	LECTURE TOPIC	READ	LAB
WEEK 9			
Mar 13& 15	SPRING RECESS		
WEEK 10			
Mar 20	Primate evolution	HS – Ch. 12 323 -341 Add'l Read	LAB 8: Phylogenetic relationships: Coding characters and building trees
Mar 22	Origin of bipedalism, trends in human evolution	HS – Ch. 13: 370-375; TS – I:10	
WEEK 11			
Mar 27	Contenders for 'earliest hominin' Genus *Australopithecus*	HS– Ch. 13: 245-370; TS – I: 11 Add'l Read	
Mar 29	NO CLASS		
WEEK 12			
Apr 3	*Paranthropus* and *Homo* the human lineage splits	HS– Ch. 14: 379-384; TS – I: 12	LAB 9: Bipedalism
Apr 5	Emergence of *Homo erectus* Out of Africa: first intercontinental migrations	HS– Ch. 14: 384-396; TS – I: 13; *Add'l Read	
WEEK 13			
Apr 10	archaic *Homo sapiens*	Ch. 14: 396-403 TS: I:15	LAB 10: The fossil record for human evolution I: early hominins
Apr 12	Neandertals and early modern humans	Ch. 14: 404-410; *Add'l Read	
WEEK 14			
Apr 17	Modern *Homo sapiens* What does it mean to be modern?	HS – Ch. 15: 413-423; TS – I:16, *Add'l Read	LAB 11: The fossil record for human evolution II: early *Homo*
Apr 19	Modern Human Origins debate: Fossil evidence and the molecules	HS– Ch. 15: 423-434 *Add'l Read	
WEEK 15			
Apr 24	Peopling of the world: Asia, Australasia and the New World	HS – Ch. 6	LAB 12: The fossil record for human evolution III: later *Homo*
Apr 26	Human Biocultural Evolution	HS – Ch. 15 434-437, Ch. 16	
FINAL			
May 3	10:00-11:50		

***Add'l Read** denotes there are additional readings assigned to this week (see below).

Additional Required Readings (available on Blackboard):

January 30

Trost, C. 1982. The blue people of Troublesome Creek. (excerpt).
Woolf, CM and Dulepoo, FC. 1969. Hopi Indians, Inbreeding and Albinism. Science. 164: 30-37 (excerpts)
Drayna, D. 2006 Founder Mutations. Scientific American, September 58-65

February 1

Marks, J. 1994. Black, white, other. Natural History, December: 32-35
Rensberger, B. 1981. Racial Odyssey. Science Digest, Jan/Feb

February 20

Milton, K. 2006. Diet and Primate Evolution. Scientific American, September 22-27.

March 1

Wright, R. 1994. Our cheating hearts. Time. August.

March 20

Begun, D.R. 2006. Planet of the Apes. Scientific American, September 4-13

March 27

Wong, K. 2003. Ancestors to call our own. Scientific American, January 4-13
Wood, BW. 2002. Hominid revelations from Chad. Nature. 418:133-135
Wolpoff, MH. 2002. '*Sahelanthropus*' or '*Salhelpithecus*'? Nature. 419:581-582

April 5

Wong, K. 2003. Stranger in a new land. Scientific American. November 74-83
Wong, K. 2005. The littlest human. Scientific American. February 56-65

April 12

Trinkaus, E. 1978. Hard Times among Neandertals. Natural History 87:58-63
Wong, K. 2003. Who were the Neandertals? Scientific American, April 28-37

April 17

Stringer, C. 2002. Modern human origins: progress and prospects. Philosophical Transactions of the Royal Society of London, B. 357. 563-579.
Thorne, AG & Wolpoff, MH. 2003. The multiregional evolution of humans. Scientific American. 46-53

April 19

Tattersall, I. 2006. How we came to be Human. Scientific American, September, 66-73
Wong, K. 2006. The morning of the modern mind, Scientific American, September, 74-83