

OXFORD COLLEGE
Fall Semester 2011

ANTHROPOLOGY 201Q

Concepts and Methods in Biological Anthropology

(Class # 4679 ANTH_OX 201Q.1J SNT)

TuTh 1:00 pm – 2:15 pm
Humanities Hall 201

Professor: Dr. Aaron Stutz

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Office Hours: by appointment (PLEASE DON'T BE SHY)

Biological Anthropology – Human Diversity in Evolutionary Perspective

Using human evolution as a case study, we will investigate the following questions:

- i. What is biological evolution?**
- ii. How do we study microevolution—that is, changes in allele frequencies in populations over an observable number of generations?**
- iii. How do we use genetic analysis and fossil studies to extrapolate from microevolution to macroevolution (adaptation and speciation)?**
- iv. What is an adaptation, and how do adaptations evolve?**
- v. What is a species, and how do species evolve?**

Synthesizing our answers to these questions, we will conclude by asking:

- ***Why do humans vary so much within a single species, and how do the concepts of adaptation and speciation help us to understand that variation?***
- ***Why does the modern human pattern of variation provide evidence to falsify our common ideas about human races?***

Textbook (REQUIRED): *Biological Anthropology: Concepts & Connections*, 2nd Edition, by Agustín Fuentes (2012). McGraw Hill, New York.

- [Available at the Oxford College Bookstore](#)

Additional REQUIRED Readings will be posted on Anthro 201's [Blackboard](#) page.

COURSE GRADES

Your grades are assigned on an objective, absolute scale. If everyone in the course performs at an excellent level, then everyone will receive an A.

The exams and assignments will be weighted as follows:

Three Midterm Exams: 10-20-30% (sliding scale)

Response Papers/Lab Assignments: 30%

IN CLASS LAB - Group Activities: 5%

Attendance/In Class Participation: 5%

The sliding scale for the midterm exam weights means that the exam that you do better on will be weighed at the higher percentage value.

IMPORTANT: Remember that you are bound to follow assignment and exam instructions according to the Honor Code of Oxford College. You may collaborate in studying for exams and in preparing your lab/response paper assignments, but cheating and plagiarizing are simply Honor Code violations. Do not cheat on exams and turn in work that you yourself thought of, wrote, and drew.

JUST AS IMPORTANT: The exams are MANDATORY. A failure to complete any one of these will result in a failing grade for the course.

STILL JUST AS IMPORTANT: Unless you have a valid excuse that you present to me beforehand, *all exam and due dates must be strictly adhered to*. RARE EXCEPTIONS are granted under the following clear conditions: you have a valid, documented medical or family *emergency*. If you require special arrangements through Disability Services, or if you otherwise know ahead of time that you have a major schedule conflict, contact the professor as soon as possible to schedule an alternative exam. Be prepared to provide documentation.

Response Papers/Lab Assignments: You will have 6 response paper and/or lab assignments. These will be designed to facilitate INQUIRY into the topics of microevolution, speciation, and adaptation in human evolution, including reflection over the methods and concepts employed to make your inquiry. The assignments are also designed as study notes, guides for participation in discussion, and complements to lecture and class discussions. For each assignment you should expect to fill about *about 2-4 pages, single-spaced*. To receive full credit, you must print out your assignment in hard copy. (Handwritten assignments will be accepted at a 1 point penalty.) *Additional lab drawing assignments will, of course, be handwritten.*

Be prepared to spend an hour a week in the Anthro Lab during open lab times when you have lab-based assignments.

I will keep track of participation by collecting your assignments at the end of class on the due date. One full participation point will be deducted from your grade if you are not present in class on the due date or if you e-mail your assignment to me. I will allow up to two exceptions to the participation requirement (to allow for slow printers, illness, or whatever – no excuses required).

Each lab/response paper assignment contributes 5 total points to your grade. *Do not be late with your assignments.*

Further instructions on format and content will be given in class and in handouts on Blackboard.

KEY DATES TO REMEMBER:

Exam I - In class, Thu September 22
Exam II - In class, Thu November 10
Exam III- In class, Tue December 6

ALL EXAMS TAKE PLACE IN HUMANITIES 201

THIS SYLLABUS IS SUBJECT TO CHANGE AT THE PROFESSOR'S DISCRETION
ANY CHANGES WILL BE ANNOUNCED IN CLASS.

Anthropology 201 Syllabus

Week 1 Introduction

Thu August 25 - *Human Diversity in Evolutionary Perspective*

Week 2 Darwin's Impact on How We Investigate Nature

BLACKBOARD Lecture - *Biological Anthropology - The Holistic Science of Us*

Text: Fuentes - Introduction
Chapter 1, pp. 15-22

Tue August 30 - *What's the big deal with Darwin?*

Text: Fuentes - Chapter 1, pp. 22-43.

[E-COURSEPACK](#): 1-Weiner - Beak of the Finch Chs. 1
2-Weiner - Beak of the Finch Ch. 2

FILM: The Origin of Species

Thu September 1 - In Class Lab - *Human Evolutionary Anatomy*

Text: Fuentes - Chapter 2

Week 3 Descent with Modification. Or, One With the Unity of Life

BLACKBOARD Lecture - *The Origin of Species and the Evolution/Creationism Debate*

[E-COURSEPACK](#): 3-Alonso & Ricardo - Life on Earth
4-Talbot - Darwin in the Dock
5-Brumfiel - Intelligent Design

Tue September 6 - *What's the Difference between Genetics and Genomics?*

Text: Fuentes - Chapter 3
[E-COURSEPACK](#): 06-Weiss - Good Vibrations
DUE IN CLASS: 1st Response paper/Lab Exercise

Thu September 8 - *The Basics of Evolutionary Theory*

Text: Fuentes - Chapter 4

Week 4 Evolutionary Theory - From Micro to Macro

BLACKBOARD Lecture - *The Modern Synthesis*

[E-COURSEPACK](#): 7-Mayr - Darwin's Legacy

Tue September 13 - In Class Lab - *Microevolution in Human Populations*

Text: Fuentes - Chapter 10, pp. 316-320
[E-COURSEPACK](#): 8-Livingstone - Anthropological Implications of the Sickle-Cell Gene
9-Piel et al - Global Evidence for the Malaria Hypothesis

Thu September 15 - *How do we define species?*

[E-COURSEPACK](#): 10-Wood & Riesenbergr - Introduction to Speciation

Week 5 EXAM I

Tue September 20 - In Class Lab - *Speciation*

SUPPLEMENT: Speciation Powerpoint

DUE IN CLASS: 2nd Response Paper/Lab Exercise

Thu September 22 - *EXAM I - IN CLASS*

Week 6 Primatology – Case Studies of Adaptation, Part 1

BLACKBOARD Lecture – *Meet the Primates*

Text: Fuentes – Chapter 5, pp. 119-127

Tue September 27 – *Introduction to Adaptation*

E-COURSEPACK: 11-Reznick & Ghalambor – Observing Rapid
 Adaptation

Thu September 29 – *Variation in Primate Adaptation*

Text: Fuentes – Chapter 5, pp. 127-159

E-COURSEPACK: 12-Milton – Primate Diets
 13-DeWaal et al – Overcrowding and Social
 Behavior

Week 7 Studying Hominin Evolutionary Emergence

BLACKBOARD LECTURE – *Human Evolution as Primate Evolution*

E-COURSEPACK: 14-Washburn – The New Physical Anthropology
 15-Washburn – Primate Evolution and Human
 Origins

Tue October 4 – *The Great Apes in Comparative Perspective*

E-COURSEPACK: 16-DeWaal – Bonobo Societies
 17-Whiten & Boesch – Chimpanzee Cultures
BLACKBOARD FILM: *The Demonic Ape*

Thu October 6 – In Class Lab – The Hominin Lineage

E-COURSEPACK: 18-Leonard – Food for Thought
 19-Lovejoy – Understanding Ardi's Evolution

Week 8 Ardipithecines and Australopithecines

Tue October 11 – **NO CLASS – Mid-semester break**

Thu October 13 – *The Origin of the Hominins*

Text: Fuentes – Chapter 7
 20-Coppens – East Side Story
 21-Leakey & Walker – Australopiths

DUE IN CLASS: 3rd Response Paper/Lab Exercise

Week 9 **Adaptation and Speciation in Early Hominin Evolution**

BLACKBOARD Lecture - *Canines, Bipedalism, Birth, and Hominin Sociality*

E-COURSEPACK: 22-Lovejoy - Bipedalism
23-Rosenberg & Trevathan - Giving Birth

Tue October 18 - *Speciation and the Hominin Niche*

Text: Fuentes - Chapter 8, pp. 217-237

E-COURSEPACK: 24-Ackermann & Smith - Hominin Speciosity

Thu October 20 - *Making Silent Stones Speak*

E-COURSEPACK: 25-Schick & Toth - Ch. 3
26-Schick & Toth - Ch. 4

DUE: 4th Response Paper/Lab Exercise

Week 10 **The Evolution of the Genus Homo**

BLACKBOARD Lecture - *Out of Africa, Episode I*

Text: Fuentes - Chapter 8, pp. 237-255

E-COURSEPACK: 27-Wong - Stranger in a New Land
28-Jablonski - The Evolution of Hairlessness

Tue October 25 - *Neandertals and Other Regional Populations*

Text: Fuentes - Chapter 9, pp. 257-272

Thu October 27 - IN CLASS LAB - *Investigating Neandertal Origins*

E-COURSEPACK: 29-Wong - Who Were the Neandertals?

Week 11 The Great Debate – Who's Who in the Genus *Homo*?

BLACKBOARD Lecture – *The Origins of Anatomically Modern Humans*

Text: Fuentes – Chapter 9, pp. 272-283

E-COURSEPACK: 30-Bar-Yosef & Vandermeersch – Moderns and Neandertals in the Levant
31-Wong – The Modern Mind

Tue November 1 – IN CLASS LAB – *Recent African Origins or Multiregional Evolution?*

Text: Fuentes – Chapter 9, pp. 283-295

E-COURSEPACK: 32-Tattersall – We Were Not Alone
33-Thorne & Wolpoff – Multiregional Evolution

Thu November 3 – IN CLASS LAB – *DNA Analysis and Neandertals*

E-COURSEPACK: 34-Relethford – Neandertal Genes
35-Wong – Twilight of the Neandertals
36-Gibbons – Close Encounters

DUE: 5th Response Paper/Lab Exercise

Week 12 EXAM II

BLACKBOARD Lecture – *The Origins of Anatomically Modern Humans*

E-Reserves: 37-Wong-The Littlest Human
38-Wong-Hobbit Hullabaloo
39-Wong-New Views on the Hobbit

Tue November 8 – IN CLASS DISCUSSION – *Speciosity in the Genus Homo*

Thu November 10 – EXAM II – In Class

Week 13 *Homo sapiens* as a Global, Genetically Interconnected Species

BLACKBOARD Lecture – *The Lemba*

Tue November 15 – *The Scientific Myth of Race*

Text: Jurmain et al. Ch. 15

E-Reserves: 40-Relethford – Admixture

Thu November 17 – *Genetics and Genealogical Relatedness*

E-Reserves: 41-Relethford – Palimpsests of the Past

Week 14 THANKSGIVING BREAK

NO CLASSES - THANKSGIVING HOLIDAY

Week 15 Natural Selection and Adaptation in Human Populations

BLACKBOARD Lecture - *Clines!*

Tue November 29 - *Variation Within Humans*

Text: Fuentes - Chapter 10

Thu December 1 - GROUP ACTIVITY - *Race, Gene Flow, and
Adaptation*

COURSE EVALUATIONS

Fri Dec 2 - DUE: 6th Response Paper/Lab Exercise - by 4 pm in Lang102

Week 16 EXAM III

Tue December 6 - *EXAM III* - In Class

Exam III and the 6th Response Paper/Lab will be available for pickup in Language Hall prior to the scheduled Final Exam time: Tuesday December 13, 9 am to 4 pm. NOTE THAT THERE IS NO FINAL EXAM. On Tuesday December 13 you can find out how you did on the third exam and receive your final grade for the course.