

OXFORD COLLEGE  
Fall Semester 2014

## ANTHROPOLOGY 201Q

### Concepts and Methods in Biological Anthropology

(Class # 8912 & 8913 ANTH\_OX 201Q.01J & 02A1 SNT with Lab)

TuTh 1:40 pm – 3:00 pm Lang 101

MoWe 2:30 pm – 3:50 pm Lang 201

Labs in Pierce 109

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Office Hours: by appointment (PLEASE DON'T BE SHY – includes office times Mo-Th and Skype times Fr)

### *Biological Anthropology – Human Diversity and Identity in Evolutionary Perspective*

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

- i. **What is biological evolution? Why is it not at all just survival of the fittest?**
- 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, speciation, extinction, and deep ecosystem structure)?**
- iv. **What is an adaptation, and how do adaptations evolve?**
- v. **What is a species, how do species evolve and—eventually—go extinct?**

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):** *Introduction to Physical Anthropology, 2013-2014 Edition.*  
By Robert Jurmain, Lynn Kilgore, Wenda Trevathan, and Russell L. Ciochan (2013).  
Belmont, CA: Wadsworth, Cengage Learning. ISBN: 9781285061979.

Additional REQUIRED Readings will be posted on Anthro 201Q'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:

**Lecture/Discussion Attendance:** 25 points (21 lecture meetings, you start with 5 points, so there's 1 unexcused absence ... no extra points for perfect attendance beyond 25)

**Lab Attendance & Lab Exercise Completion:** 10 points (9 lecture meetings, you start with 2 points, so there's 1 unexcused absence ... no extra points for perfect participation/completion beyond 10)

**Lab Reports:** 25 points (5 lab reports at 5 points each, graded on an A[5], B[4], C/D[3], F[2], 0 scale)

**Three Exams:** 30 points (5-10-15% sliding scale, where the best raw score is weighted out of 15 points, and the worst raw score is weighted to 5 points; each exam consists of two essays, graded on a 50 point rubric, so the exam raw score = 100)

**INQ Essays 1 & 2:** 10 points (each essay is graded on the 50 point essay scale)

**NOTE:** Your grade will thus consist of 35% participation and completion of reading, discussion, and lab exercises during the lecture and lab sections. Your grade will consist of 65% achievement, based on essay rubrics you will receive, for your lab reports, INQ essays, and essay exams. In order to achieve an A- or higher in the course, you need to have at least a B+ grade average on the essays, reports, and exams, and near-perfect attendance and participation in lecture and labs. The total minimum for an A- is 92 points, and the total minimum for an A is 94 points.

**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.

#### **LABS:**

Labs will meet in Pierce 109. The Tuesday and Thursday morning lab slots meet between 9:45 am and 12:45 pm. Lab activities will begin promptly at the beginning of the meeting time. Because those activities involve group work and discussion, being late will be disruptive for your classmates. Please be on time.

Lab attendance is required. There will be a total of 9 lab meetings over the semester, and you are allowed only one unexcused absence. After this one absence, only documented family emergencies and illnesses will excuse an absence, and you will be encouraged to make up the exercises. You will be responsible for any material that you missed in lab on lab reports, exams, and INQ essays.

Lab activities are designed to help you learn about key concepts and phenomena in human and primate biology and evolution, as you develop the tools to inquire into questions about what evolutionary forces shape human variation.

#### **KEY DATES TO REMEMBER**

INQ Essay #1 -	On SafeAssign, Mon September 8 by 9 am
Exam I -	In class, Wed/Thu September 24-25
Exam II -	In class, Wed/Thu October 29-30
Exam III-	In class, Wed/Thu November 19-20
INQ Essay #2 -	On SafeAssign, Mon December 15 by 9 am

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

## Anthropology 201Q w/Lab Syllabus

**ALL LABS MEET THE TUESDAY OR THURSDAY THEY ARE LISTED ON  
THE SYLLABUS**

### Week 1 Introduction

Wed/Thu Aug 27-28 - *Human Diversity in Evolutionary Perspective*

### Week 2 Darwin's Impact on How We Investigate Nature

Tue/Wed Sep 2-3 - *What's the Big Deal with Darwin?*

E-COURSEPACK: 1-Weiner - Beak of the Finch Chs. 1  
2-Weiner - Beak of the Finch Ch. 2

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

Text: Jurmain et al. - Chapter 1

Text: Jurmain et al. - Chapter 2

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

**LAB INQUIRY: WHY DO HUMANS VARY ANATOMICALLY?**

**LAB DISCUSSION: THE CONTROVERSY ABOUT TEACHING EVOLUTION**

**NOTE: No lecture meetings Monday or Thursday due to Labor Day Holiday**

### Week 3      Biomolecular Genesis: The Genetics of Life ... Including Us

**MON – DUE ON SAFEASSIGN at 9 am: INQ Reflective Essay #1**

Mon/Tue Sep 8-9 – *What's the Difference between Genetics and Genomics?*

Text:                      Jurmain et al. – Chapter 3

BLACKBOARD Lecture – Genes, Genetics, Genomes

Text:                      Jurmain et al. – Chapter 4

Wed/Thu Sep 10/11 – *Reading Exercise – What is Ken Weiss saying?*

[E-COURSEPACK](#):    6-Weiss – Good Vibrations

**LAB INQUIRY:      WHAT IS GENETIC INHERITANCE, AND WHAT DO OUR GENOMES HAVE TO SAY ABOUT US?**

**LAB DISCUSSION: HOW MUCH OF OUR GENOMIC INFORMATION SHOULD BE PRIVATE? WHAT DOES GENOMIC KNOWLEDGE TEACH US ABOUT BEING HUMAN?**

### Week 4      Evolutionary Theory – From Micro to Macro

BLACKBOARD Lecture – *The Modern Synthesis*

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

BLACKBOARD Lecture – *Microevolution*

Text:                      Jurmain et al. – Chapter 15 (review Chapter 4)

BLACKBOARD Lecture – *Macroevolution*

Text:                      Jurmain et al. – Chapter 5

Mon/Tue September 15-16 – *Microevolution in Human Populations*

[E-COURSEPACK](#):    8-Livingstone – Anthropological Implications of the Sickle-Cell Gene

9-Piel et al – Global Evidence for the Malaria Hypothesis

Wed/Thu September 17-18 – *Speciation in human evolution*

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

**LAB INQUIRY:      HOW DOES MICROEVOLUTION LEAD TO SPECIATION? HOW DOES MICROEVOLUTION SHAPE PHENOTYPIC TRAITS OVER THE GENERATIONS? WHY DO SPECIES GO EXTINCT?**

**Week 5      EXAM I**

**MON – DUE ON SAFEASSIGN at 9 am: 1<sup>st</sup> Lab Report**

Mon/Tue September 22-23 – *Review*

Wed/Thu September 24-25 – *EXAM I – ESSAY EXAM IN CLASS*

***NO LAB THIS WEEK***

**Week 6      Primatology – Inquiry into Adaptation and Speciation**

BLACKBOARD Lecture – *Meet the Primates*

Text:                      Jurmain et al. – Chapter 6

BLACKBOARD Lecture – *Variation in Primate Adaptation*

Text:                      Jurmain et al. – Chapter 7

Mon/Tue Sep 29-30 – *Reading Reznick and Ghalambor –  
Investigating Adaptation*

[E-COURSEPACK](#): 11-Reznick & Ghalambor – Observing Rapid  
Adaptation

Wed/Thu Oct 1-2 – *Reading Milton and DeWaal – Studying  
Foraging and Social Behavior*

[E-COURSEPACK](#): 12-Milton – Primate Diets  
13-DeWaal et al – Overcrowding and Social  
Behavior

***LAB INQUIRY:      PRIMATE EVOLUTIONARY ANATOMY AND BEHAVIORAL  
ECOLOGY***

## Week 7      Studying Hominin Evolutionary Emergence

BLACKBOARD Lecture - *Human Evolution as Primate Evolution*

Text:                      Jurmain et al. - Chapter 8

Mon/Tue Oct 6-7 -      *Reading Washburn - What is Physical /  
Biological Anthropology ... and When do Humans  
Evolve?*

[E-COURSEPACK](#):      14-Washburn - The New Physical Anthropology  
15-Washburn - Primate Evolution and Human  
Origins

BLACKBOARD Lecture - *The Great Apes in Comparative Perspective*

[E-COURSEPACK](#):      16-DeWaal - Bonobo Societies  
17-Whiten & Boesch - Chimpanzee Cultures

BLACKBOARD Lecture - *The Great Apes in Comparative Perspective*

[E-COURSEPACK](#):      18-Leonard - Food for Thought

Wed/Thu Oct 8-9 -      *Reading Lovejoy - The big deal with Ardi*

[E-COURSEPACK](#):      19-Lovejoy - Understanding Ardi's Evolution

**LAB INQUIRY:      HOW DID SPECIATION AND ADAPTATION LEAD TO  
THE EVOLUTIONARY DIVERGENCE BETWEEN HUMANS  
AND CHIMPS?**

**FRI - DUE ON SAFEASSIGN at 9 am: 2<sup>nd</sup> Lab Report**

## Week 8      Ardipithecines and Australopithecines

BLACKBOARD Lecture - *The Origin of the Hominins*

Text:                      Jurmain et al. - Chapter 10

Wed/Thu Oct 15-16 -      *Reading Coppers, Leakey & Walker - What  
happened with the transition from  
Ardipithecines to Australopithecines?*

[E-COURSEPACK](#):      20-Coppers - East Side Story  
21-Leakey & Walker - Australopiths

**NOTE: No lecture meetings Monday or Tuesday and no lab meetings Tuesday or  
Thursday due to Fall Break**

## 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

Mon/Tue Oct 20-21 - *Reading Ackermann & Smith - What did speciation have to do with adaptation in early human evolution?*

[E-COURSEPACK](#): 24-Ackermann & Smith - Hominin Speciosity

BLACKBOARD Lecture - From Australopithecines to the genus *Homo*  
Text: Jurmain et al. - Chapter 11

Wed/Thu Oct 22-23 - *Reading Schick & Toth - Making Silent Stones Speak*

[E-COURSEPACK](#): 25-Schick & Toth - Ch. 3  
26-Schick & Toth - Ch. 4

**LAB INQUIRY:**      ***HOW DID SPECIATION AND ADAPTATION SHAPE THE  
EARLY EVOLUTION OF THE HOMININS, ca. 7-2  
mya?***

**FRI - DUE ON SAFEASSIGN at 9 am: 3<sup>rd</sup> Lab Report**

## Week 10      Exam II

Mon/Tue Oct 27-28 - *Review*

Wed/Thu Oct 29-30 - *EXAM II - ESSAY EXAM IN CLASS*

***NO LAB THIS WEEK***



## Week 11      The Evolution of the Genus Homo

BLACKBOARD Lecture - *Out of Africa, Episode I*

[E-COURSEPACK](#): 27-Wong - Stranger in a New Land

Mon/Tue Nov 3-4 - *Reading Jablonksi - What does bipedalism have to do with our misperceptions of racial difference?*

[E-COURSEPACK](#): 28-Jablonski - The Evolution of Hairlessness

BLACKBOARD Lecture - *Neandertals and Other Regional Populations*

Text: Jurmain et al. - Chapter 12

BLACKBOARD Lecture - *Investigating Neandertal Origins*

Text: Jurmain et al. - Chapter 12

Wed/Thu November 5-6 - *Reading Wong - Were the Neandertals Really so Different?*

[E-COURSEPACK](#): 29-Wong - Who Were the Neandertals?

[BIOCULTURAL BLOG](#): Stutz - Who's a Freak?

**LAB INQUIRY:      WHY DID THE GENUS Homo SPREAD THROUGHOUT THE "OLD WORLD" ... AND WHAT CAUSED THEIR EVOLUTION?**

## Week 12      The Great Debate – Who's Who in the Genus *Homo*?

BLACKBOARD Lecture – *The Origins of Anatomically Modern Humans*

Text:                      Jurmain et al. – Chapter 13

[E-COURSEPACK](#):

Mon/Tue Nov 10-11 – *Reading about Human Origins – Recent African Origins or Multiregional Evolution?*

[E-COURSEPACK](#):    30-Bar-Yosef & Vandermeersch – Moderns and Neandertals in the Levant  
                             31-Wong – The Modern Mind  
                             32-Tattersall – We Were Not Alone  
                             33-Thorne & Wolpoff – Multiregional Evolution

BLACKBOARD Lecture – *DNA Analysis, Neandertals, and Denisovans ... And Who are the Denisovans Anyway?*

[Online Resource](#): Yong – Surprise! 20 Percent of Neanderthal Genome Lives On in Modern Humans, Scientists Find

Wed/Thu Nov 12-13 – *Reading about Neandertal Extinction*

[E-COURSEPACK](#):    34-Wong – Twilight of the Neandertals  
                             35-Gibbons – Close Encounters

**LAB INQUIRY:      WHAT EVOLUTIONARY FORCES AND ECOLOGICAL FACTORS CAUSED THE EMERGENCE OF NEANDERTALS AND ANATOMICALLY MODERN HUMANS?**

**FRI – DUE ON SAFEASSIGN at 9 am: 4<sup>th</sup> Lab Report**

### Week 13 EXAM III

BLACKBOARD Lecture - *The Hobbit and the Genus Homo*

E-Reserves: 36-Wong-The Littlest Human  
37-Wong-Hobbit Hullabaloo  
38-Wong-New Views on the Hobbit

Mon/Tue Nov 17-18 - *Reading About the Hobbit and Review*

Wed/Thu Nov 19-20 - *EXAM III - ESSAY EXAM IN CLASS*

**NO LAB THIS WEEK**

### Week 14 THANKSGIVING BREAK

NO CLASSES - THANKSGIVING HOLIDAY

### Week 15 *Homo sapiens* as a Global, Genetically Interconnected Species

BLACKBOARD Lecture - *The Lemba*

Text: Jurmain et al. - Chapter 14

Mon/Tue Dec 1-2 - *Reading Relethford - The Scientific Myth of Race*

E-Reserves: 39-Relethford - Admixture

BLACKBOARD Lecture - *Genetics and Genealogical Relatedness*

E-Reserves: 40-Relethford - Palimpsests of the Past

Wed/Thu Dec 3-4 - *Clines!*

Text: Review Jurmain et al. - Chapter 14

**LAB INQUIRY: IF RACE DOESN'T DESCRIBE MAJOR GEOGRAPHIC PATTERNS OF HUMAN VARIATION, THEN HOW DO WE ACTUALLY VARY BIOLOGICALLY ... AND WHY?**

## **Week 15      Natural Selection and Adaptation in Human Populations**

**MON – DUE ON SAFEASSIGN at 9 am: 5<sup>th</sup> Lab Report**

BLACKBOARD Lecture – *Adaptation and Natural Selection Today*

Text:                      Jurmain et al – Chapter 15

BLACKBOARD Lecture – *The Human Life History Strategy*

Text:                      Jurmain et al – Chapter 16

Mon/Tue Dec 8-9 –      *Discussion: Biocultural Evolution ... For Good and Bad*

Text:                      Jurmain et al – Chapter 17

**Mon Dec 15 – DUE ON SAFEASSIGN at 9 am: INQ Reflective Essay #2  
THIS IS YOUR FINAL ASSIGNMENT FOR THE COURSE. PLEASE TURN IT IN  
PROMPTLY!!! Grades will be posted by Thu Dec 18**