

ANT 270: Introduction to Biological Anthropology
Spring 2012
Lecture: Wednesday/Friday, 10-10:50am, 119 ten Hoor
Lab: Monday (time and location vary by section)

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TAs:

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Course Description

This course provides an introduction to the current scientific consensus about human biological variation and evolution with an emphasis on the interaction of social behavior and biological change. The first section of the course begins with a review of the scientific method, then presents evolutionary theory and the underlying genetic and biological principles. The second section of the course is a brief survey about what we know regarding the behavior and evolution of the non-human primates. Learning about primates, which are our closest mammalian relatives, can help us understand human evolution and behavior. The third section of the course explores the evolution of hominids, the human ancestors and their close relatives, through the emergence of modern humans. Finally, we address modern human biological variation from the perspective of biocultural adaptation and culture change in living populations. The objective of the course is to give the student an appreciation for the place of humans in nature from a biocultural and evolutionary perspective, and to provide the background necessary to critically evaluate statements about human biology.

Objectives

Course Objectives and Student Learning Outcomes:

At the end of this course students should be able to:

1. Develop a hypothesis in response to a scientific observation, question, or problem, collaboratively plan experiments or series of observations to test it, and evaluate the results.
2. Working with real biological data, develop reasoned scientific opinions through experimentation or observation, and effectively articulate these opinions to an audience of peers.
3. Explain and quantitatively apply the respective roles of selection, random forces, and equilibrium in population genetics and human evolution.
4. Identify major distinguishing morphological characteristics of hominid paleospecies, modern humans, and living primates, and describe their functional significance.
5. Apply biocultural, evolutionary and adaptive critical thought processes to new problems in human biology, especially those encountered among global modern human populations.

Outline of Topics Covered During the Semester

Date	Topics	Readings
January 11	Orientation; Biological Anthropology and Evolution	Relethford 1
January 13	Essential Principles of Evolutionary Theory	Relethford 1
<i>January 16</i>	<i>NO CLASS – MLK HOLIDAY</i>	
January 18	Human Genetics: Molecular Genetics	Relethford 2
January 20	Human Genetics: Mendelian Genetics and Mutations	Relethford 2
January 23	LAB: The Scientific Method	Hens 1
January 25	Microevolution: Population Genetics	Relethford 3
January 27	Microevolution: The Evolutionary Forces	Relethford 3
January 30	LAB: Cell Biology and DNA	Hens 2
February 1	Evolution and the Classification of Species	Relethford 4
February 3	Introduction to the Primates: Primate Characteristics	Relethford 5
February 6	LAB: Principles of Inheritance	Hens 3
February 8	Introduction to the Primates: Primate Diversity	Relethford 5
February 10	Primate Diversity: Prosimians and Monkeys	Relethford 6
February 13	LAB: Hardy Weinberg	Hens 5
February 15	EXAM 1: Genetics, Principles of Evolution (1/11-2/13; Relethford Ch 1-4, Hens 1-3,5)	
February 17	Primate Diversity: Apes	Relethford 6
February 20	LAB: Primate Classification	Hens 10
February 22	The Human Species: General Characteristics	Relethford 7
February 24	The Human Species: Life Cycle	Relethford 7
February 27	LAB: Comparative Primate Anatomy	Hens 11
February 29	Paleoanthropology	Relethford 8
March 2	Primate Origins and Evolution: Early Primate Evolution	Relethford 9
March 5	LAB: Primate Behavior	Hens 12
March 7	Primate Origins and Evolution: Miocene Hominoids	Relethford 9
March 9	Early Human Evolution: Overview	Relethford 10
<i>March 12</i>	<i>NO CLASS – SPRING BREAK</i>	
<i>March 14</i>		
<i>March 16</i>		
March 19	LAB: Introduction to the Human Skeleton	Hens 6
March 21	EXAM 2: Primates, Primate Evol (2/3-3/7; Relethford 5-9, Hens 10-12)	
March 23	Early Human Evolution: Australopithecines and Other Genera	Relethford 10
March 26	LAB: The Appendicular Skeleton	Hens 7
March 28	Genus <i>Homo</i> : Early Species (<i>habilis</i> , <i>rudolfensis</i> , <i>erectus</i> , etc.)	Relethford 11
March 30	Genus <i>Homo</i> : Later Species (<i>heidelbergensis</i> , <i>neandertalensis</i> , etc.)	Relethford 12
April 2	LAB: The Axial Skeleton	Hens 8
April 4	Origin of Modern Humans: Anatomical and Cultural Features	Relethford 13
<i>April 6</i>	<i>NO CLASS – HONORS DAY</i>	
April 9	LAB: The Bipedal Adaptation and Our Earliest Ancestors	Hens 13
April 11	Origin of Modern Humans: Origins Debate	Relethford 13
April 13	Human Variation: History and Flaws of the Race Concept	Relethford 14
April 16	LAB: The Rise of the Genus Homo	Hens 14
April 18	Natural Selection in Human Populations	Relethford 15
April 20	Human Adaptation	Relethford 16
April 23	LAB: Later Homo and Modern Human Origins	Hens 15
April 25	Human Biology and Culture Change	Relethford 17
April 27	Catching up and wrapping up	—
May 1	COMPREHENSIVE FINAL EXAM, 11:30 - 2:00 – Special Emphasis on Skeleton, Human Evolution, Variation, Adaptation, and Biology (3/9-4/27; Relethford 10-17, Hens 6-8,13-15)	

Lab sessions are listed in **bold**, lecture sessions in regular type.

Required Course Material

There are two required textbooks:

Relethford, John. 2010. *The Human Species: An Introduction to Biological Anthropology*, 8th Edition. McGraw Hill.

Hens, Samantha M. 2008. *Method and Practice in Biological Anthropology*. Prentice Hall.

Note: While you are always welcome to purchase and use a clean used copy, do NOT use a copy of this book with the exercises already worked. The exercises are assignments that you will turn in and that contribute toward your grade. Using a textbook where they have been completed or partially completed by someone else is an act of academic dishonesty and will be treated accordingly.

You also are required to have a TurningPoint (Turning Technologies) ResponseCard XR (a “clicker”), which is available at the bookstore. If you purchase your clicker online or from another student, make sure you buy the XR model. Used XR clickers will work fine. These “clickers” are remote radio transmitters that interface with a receiver located in the podium at the front of class. I’ll use the clicker system for attendance each day, and for in class quizzes.

The course has an eLearning site that you can access through mybama under the “Academics” tag, or by going directly to <http://elearning.ua.edu>. The eLearning site will feature links to course-related content including PDFs of PowerPoint presentations, a tool where you can check your grades, and announcements. You will need to visit eLearning at the beginning of the semester to register your clicker (there is a link for this on the front page of the eLearning site for this course). Let Dr. DeCaro know if you have any difficulty accessing eLearning at the start of the course.

Number & Timing of Graded Assignments

1. Exam 1. The first exam will cover course material on genetics and principles of evolution. Any material from Relethford chapters 1-4, Hens chapters 1, 2, 3, and 5, or any of the lectures or labs from 1/11-2/13 may be covered. The first exam is worth 20% of your grade for the course. The exam is a combination of multiple choice and short essay questions.
2. Exam 2. The second exam will cover course material on primates, the human species, and primate evolution including the introduction to paleoanthropology. Any material from Relethford chapters 5-9, Hens chapters 10-12, or any of the lectures or labs from 2/3-3/7 (***or later if we are running behind and still discussing these topics after 3/7***) may be covered. The second exam is worth 20% of your grade for the course. The exam is a combination of multiple choice and short essay questions. While this is not a comprehensive exam, you will still need to understand the material from the first month of the course well enough to work with concepts that come later. For example, understanding and explaining primate evolution naturally depends on remembering basic principles of evolutionary theory. However, you will not be asked questions specific to the sections on genetics or principles of evolution covered in Exam 1.
3. Final Exam. The final exam is comprehensive – any material from any part of the course can be tested. However, the final exam will place special emphasis on the part of the course not covered in Exams 1 or 2. This includes the skeleton, human evolution, variation, natural selection, adaptation, and biology, as covered in Relethford chapters 10-17, Hens chapters 6-8 & 13-15, and the lectures or labs from 3/9 onward. This is a written exam only – you will NOT be asked to handle or identify any casts or skeletal material. However, the knowledge you gained during the labs may be tested in

written form. The final is worth 30% of your grade for the course. The exam is a combination of multiple choice and short essay questions.

4. Lab Participation and Post-Lab Questions. For each of the 13 lab sessions, the class will be split into sections of roughly 10 students. When you registered for the class you selected a lab section; check your schedule for the correct time and place. Read the introductory text from the appropriate Hens workbook chapter before you arrive. Then, there will be several exercises to be completed during the lab. Some are book work, others are group exercises, and still others are hands-on work (individual or collaborative) using materials such as skeletal casts. You will never do all of the exercises in the Hens lab workbook for any chapter (there isn't enough time) – at the beginning of each lab we'll announce which exercises will be used for that day, and guide you through them. You will not usually have to turn them in – instead, your lab session instructor will monitor full participation and grant credit based on what you do in class. *Post-lab questions* are found at the end of each lab workbook chapter. These are due at the very beginning of the next regular class session after the lab (i.e., usually Wednesday at 10am – or Friday, when we have an exam). You may type your answers and e-mail them to your lab instructor, or you may pull the pages out of your book and hand them in at the beginning of the next class. Late labs can receive half credit if they're turned within 1 week of the date the lab. Late labs receive no credit after that. Your TA is *not* authorized to waive this policy, so please do not ask her. Lab participation and your post-lab questions together are worth 20% of your grade.

**** NOTE **** You receive participation credit only if you show up on time for the correct lab section, which is the one you're officially registered to attend. If you're scheduled for a morning lab and miss it, you *cannot* come to an afternoon lab instead without explicit permission.

5. Classroom attendance and clicker quiz participation. At some point during each lecture, there will be a very brief (3-4 question) multiple choice quiz using the Turning Technologies "clicker" system. The quiz is ungraded. However, clicker quizzes are the sole means of taking attendance, and therefore will figure into your grade. Some of these quizzes will evaluate comprehension of material discussed in recent classes or labs, and others will be oriented toward monitoring the accumulation of knowledge. Announcing yourself as present to Dr. DeCaro or the TA will not substitute for having participated in the clicker quiz (if you miss the clicker quiz because you arrived late or left early, you are counted as absent).

Policy on Attendance and Lab Participation

Attendance is required, and will be checked during each lecture using the TurningPoint "clicker" system. Your attendance is worth 10% of your grade. You have two "free" absences for which no excuse is required. After that, you lose points for each absence, late arrival, or early departure, unless excused by Dr. DeCaro.

Separate from attendance, 20% of your overall grade for the course is based on your participation during the labs (including both in-class participation and adequately completing post-lab questions). There are no "free misses" for this part of your grade. You lose points for each absence, including the first, unless excused. Please DO NOT ask your TA for permission to miss a lab – she is not allowed to grant it. Only Dr. DeCaro can excuse missed labs.

Grading Policy

Exam 1	20%
Exam 2	20%
Final Exam	30%
Lab Participation/Post-Lab Questions	20%
Lecture Attendance and Clicker quizzes	10%

Policy for Making-Up Missed Course Work

1. For exams 1 or 2, make-ups will be offered only in the case of a legitimate and serious emergency. Unless you encounter such an immediate emergency that there is no way to do this, I ***strongly*** recommend getting in touch by e-mail (jdecaro@as.ua.edu) or phone (348-9061) at least 24 hrs before the exam time to confirm that a make-up will be permitted. I will not guarantee a make-up exam to anyone who has not received prior approval, so it is to your benefit to check first and not assume. Regardless of the reason and whether you have prior approval, you must provide acceptable documentation showing that there is no way you could have taken the exam at the scheduled date and time.
2. Final exams *must* be taken at the officially scheduled date and time.
3. There is no way to make up for a missed class or lab session. You get two “free” absences from classes (not labs), but after that each absence must be excused by Dr. DeCaro for good cause (for example, significant illness that requires a doctor’s visit). There is no guarantee an absence will be excused until you have asked Dr. DeCaro and received a response. Therefore, unless you encounter a true emergency where advance notice is not possible, you are strongly encouraged to contact Dr. DeCaro *at least* 24 hours before the absence.
4. Post-lab questions receive only half credit if turned in any time after the very beginning of the next class. Labs receive no credit if turned in more than 1 week after the lab session. This policy is waived only under exceptional circumstances where there is clearly no reasonable way you could have completed the questions in the time allotted.

Academic Dishonesty Policy

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations, and abetting of any of the above. The Academic Misconduct Disciplinary Policy will be followed in the event that academic misconduct occurs. Students should refer to the Student Affairs Handbook, which can be obtained in the Office of Student Life and Services in the Ferguson Center.

Disability Policy

If you are registered with the Office of Disability Services, please make an appointment with me as soon as possible to discuss any course accommodations that may be necessary. If you have a disability but have not contacted the Office of Disability Services, please call 354-5175 or visit Osband Hall to register for services.