

Glendale Community College

Fall 2009

ASM 104: Bones, Stones, and Human Evolution

Monday and Wednesday: 9:00 – 10:50

Friday: 9:00 – 9:50

Location: HU 101

Instructor: Alexandra Miller

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Office Hours: Tuesday and Thursday 4:30 – 5:30 or by appointment

Office Hours Location: 05-146

Course Description:

This course is an introduction to the origins of humans as understood through Biological Anthropology. Biological Anthropology addresses a diverse range of topics united by their use of evolutionary theory to study the biology of the order Primates (including prosimians, monkeys, apes and humans). Topics of interest to Biological Anthropologists include the origin and evolutionary history of both humans and nonhuman primates as well as the physical and behavioral differences among and between taxa. This course is meant to familiarize students with each of these specific topics and understand the place of humans within the context of the natural world. Through the semester, this course will consider the factors that unite us with other members of the animal kingdom as well as features that may make us unique.

Course Competencies:

By the end of the semester, students will be able to:

- Identify the major areas of anthropology
- Evaluate contrasting scientific viewpoints regarding the process of evolution
- Explain the basic terms and processes of Mendelian genetics
- Describe the structure of DNA and the process of mutation
- Identify and define the forces of evolution
- Describe one human physiologic variation as an adaptation to environmental factors
- Distinguish between the major biological categories of living primates and describe the anatomical differences between those categories
- Relate aspects of primate social behavior to group cohesion and/or environmental factors
- Identify major trends in early primate evolution
- Compare and contrast various early hominid fossils and sites
- Describe the skeletal characteristics and the culture of later hominids
- Evaluate different theories regarding the origins of anatomically modern humans

Textbook:

Essentials of Physical Anthropology, 7th Edition

Authors: R. Jurmain, L. Kilgore, and W. Trevathan

Blackboard:

All handouts for this course, including the syllabus and lab assignments, will be posted on Blackboard. Lab assignments should be printed ahead of time and brought

to class. **You are responsible for having your lab sheets with you in class each week.** Other useful information from class, including your grades, will be accessible through Blackboard. **You are responsible for routinely checking the Blackboard site for updates.**

Course Requirements:

Each student is responsible for the material covered in lecture, labs, and assigned readings. Readings come from the required textbook and are listed at the end of this syllabus. Readings should be completed **before** the class listed.

The lab component is an important part of this course. Each week a period of class time will be devoted to lab activity. The lab is a way to reinforce material from lecture and also introduce new material. You will gain hands-on experience and one-on-one instruction that will be useful to you in the exams. The completed labs are also part of your final grade. If you must miss a lab activity, please contact me immediately to make up the work if possible.

Lab assignments are typically due one week after the lab period. However, exceptions occur and it is your responsibility to check the due date listed on lab worksheets.

Grading:

Grades will be based on exams and labs. There will be four equally-weighted exams (listed on the class schedule). No exams are cumulative except for material that is relevant throughout the course. You will also receive a score for each lab. Your lowest lab score will be dropped before your average lab grade is determined. Each exam is worth 20% of your grade and your average lab grade is worth 20%.

The standard formula for determining final grades is as follows:

A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: Below 60%

Attendance and Participation:

Lab work is a vital part of class and portions of all labs must be done during class. The material covered in lecture is critical for exams. Thus, in order to succeed in this course, attendance and participation are necessary.

If you are absent more than twice during the first two weeks of class, you will be **DROPPED** from the class. This is largely for your benefit so you are not charged for courses you do not attend. Also, if you are absent more than three times prior to the 45th day of the semester, you will be **DROPPED** from the class.

While your enrollment in this course implies your commitment to attending all classes, it is understandable that unforeseen incidents can interfere with this. If you must miss class for legitimate reasons, please let me know as soon as possible and the absence will not count against you.

You are responsible for following GCC policies and deadlines for dropping or withdrawing from the course. If you simply stop attending and appear on my final roster you will receive either an "F" or a "W" for the course.

In-Class Behavior:

Please be considerate of your classmates and of me. Do not make comments or carry on private conversations during class time. No matter how quiet you think you can whisper, you will be disrupting the class for someone. You may ask me questions or make comments at any time so there is no need to have private conversations.

Please turn off or silence all electronic devices during class time. This includes,

but is not limited to, cell phones, pagers, PDAs, music players, and laptop computers. If you feel a computer is absolutely necessary for you to take notes during class, please discuss this with me. Also talk to me if there is any legitimate reason you feel that you need to violate the “electronic silence” rule (i.e. medical emergencies).

During class, please refrain from any non-class related activities.

Audio taping of lectures is permitted.

Special Accommodations:

I am committed to providing access to a quality education for all students, including those with documented disabilities. Please see me before or after class or during office hours to discuss any special needs you might have. If you have a disability and wish to have an accommodation for this course, it is your responsibility to notify the Disability Services and Resources office located in TDS 100 (623-845-3080). They will have you complete the appropriate paperwork to submit to me. You are encouraged to request accommodation early in the semester so that, once identified, reasonable accommodation can be implemented in a timely manner.

Academic Integrity:

All students are expected to act with civility and personal integrity. This includes respecting the dignity, rights, and property of other students and myself. Such behavior is critical for creating and maintaining an environment in which all students can succeed.

Academic integrity includes a commitment to not engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonest include cheating or copying, plagiarizing, submitting another persons' work as one's own, using any sources (including the Internet) without citation, fabricating data or citations, “ghosting” (having another student take an exam), stealing examinations, tampering with the academic work of another student, and facilitating other students' acts of academic dishonesty. Cheating in any form is **unacceptable**. If cheating is detected, all students involved will receive a zero for that exam or assignment and may be subject to disciplinary action as per GCC regulations. Please refer to the Catalog & Student Handbook (<http://www.gc.maricopa.edu/catalog>) regarding campus-wide policies relating to academic misconduct and disciplinary standards.

Schedule:

Week 1: What is Anthropology?

August 24: Introduction, What is Science?, What is Anthropology? (Chapter 1)

August 26: The History of Anthropology and Evolutionary Theory (Chapter 2)

August 28: Lab 1 – Natural Selection

Week 2: Cellular Biology

August 31: The Cell (Chapter 3: 38-46)

September 2: Mitosis, Meiosis, and Mutation (Chapter 3: 46-56)

September 4: Lab 2 – Cell Replication

Week 3: Genetics

September 7: NO CLASS – Labor Day

September 9: Mendelian Genetics (Chapter 4: 57-67)

September 11: Lab 3 – Mendelian Genetics

Week 4: Mechanisms of Evolution

September 14: Evolution and Natural Selection (Chapter 4: 67-76)

September 16: The Concept of Species (Chapter 5: 78-90)
September 18: Lab 4 – Evolutionary Mechanisms
Week 5: Exam and Osteology
September 21: **EXAM 1**
September 23: Osteology (Appendix A)
September 25: Lab 5 – Osteology
Week 6: Geology
September 28: Geology (Chapter 8: 170-173)
September 30: Dating Methods
October 2: Lab 6 – Geology and Dating
Week 7: Primate Biology and Evolution
October 5: Primate Diversity and Characteristics (Chapter 6)
October 7: Primate Origins and Systematics (Chapter 8: 158-163)
October 9: Lab 7 – Primate Classification and Systematics
Week 8: Primate Behavior
October 12: Primate Adaptations and Societies (Chapter 7: 132-142)
October 14: Primate Reproductive Strategies (Chapter 7: 142-147)
October 16: Lab 8 – Primate Adaptations
Week 9: Exam and Earliest Hominins
October 19: **EXAM 2**
October 21: Earliest Hominins (Chapter 8: 174-180)
October 23: Early Stone Tools
Week 10: Australopithecines
October 26: *Australopithecus afarensis* (Chapter 8: 180-183)
October 28: *A. africanus* (Chapter 8: 185-186)
October 30: Lab 9 – Bipedalism
Week 11: *Paranthropus* and Early *Homo*
November 2: *Paranthropus* (Chapter 8: 183-185)
November 4: *Homo habilis* (Chapter 8: 186-193)
November 6: Ecology of Early *Homo*
Week 12: *H. erectus* and Out of Africa I
November 9: *H. erectus* and Out of Africa I (Chapter 9)
November 11: NO CLASS – Veteran's Day
November 13: Lab 10 – Early *Homo*
Week 13: Exam and Late *Homo*
November 16: **EXAM 3**
November 18: Archaic Modern Humans (Chapter 10: 217-227)
November 20: Neandertals (Chapter 10: 227-243)
Week 14: Neandertals
November 23: Neandertals and the Middle Paleolithic
November 25: NO CLASS
November 27: NO CLASS – Thanksgiving Break
Week 15: Modern Human Origins and *H. sapiens*
November 30: Modern Human Origins (Chapter 11)
December 2: *H. sapiens* and the Upper Paleolithic
December 4: Lab 11 – Paleolithic Culture

Week 16: Recent Humans and Review

December 7: Human Variation (Chapter 12)

December 9: *H. floresiensis* and Lab 12 – Late *Homo*

December 11: Review and Evaluations

Week 17: Exam

December 16: Exam 9:00 – 10:50

Disclaimer:

This syllabus and course content is subject to change throughout the semester as needed. Continued enrollment in this course implies that you have read and agreed to the conditions listed in this syllabus.