

ANTHROPOLOGY 130: INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY

FALL 2016 (3 CREDITS)

INSTRUCTOR: Dr. Britney Kyle
EMAIL: Britney.kyle@unco.edu
PHONE: 970-351-1745

OFFICE: Candelaria 2056
OFFICE HOURS: TR 12:30-3pm and by appointment

CLASS TIME AND LOCATION: TR 9:30-10:45am, Candelaria 2220

REQUIRED TEXT: *Essentials of Physical Anthropology 2nd Edition*, by Clark Larsen. 2013. W.W. Norton and Company, Inc. ISBN 978-0-393-91938-7

ADDITIONAL READINGS, POSTED ON BLACKBOARD:

- Harrell E (2009a) Darwin Lives! Modern Humans Are Still Evolving. Time Magazine.
- Balter M (2005) Are Humans Still Evolving? Science 309:234-237.
- Harrell E (2009b) CSI Stone Age: Did Humans Kill Neanderthals? Time Magazine Science.
- The Smithsonian Institute (2016) What does it mean to be human? Ancient DNA and Neanderthals
- Smedley A & Smedley BD (2005) Race as Biology is Fiction, Racism as a Social Problem is Real: Anthropological and Historical Perspectives on the Social Construction of Race. American Psychologist 60:16-26.

COURSE DESCRIPTION:

This course explores human and nonhuman primate variation within an evolutionary framework and covers the topics of human evolution and modern human variation, focusing on humanity's biological roots and modern appearance. This is a science course, based on evolutionary biology, so we will begin with a discussion of the biological basis of life and evolutionary theory. We will then use this evolutionary knowledge to reconstruct human evolutionary roots by utilizing data from the primate fossil record, as well as comparative evidence from modern monkeys and apes. As part of this class, we will do several lab activities that will allow you to see evolution in action. These labs will also give you a better understanding of how scientists conduct research by teaching you to critically evaluate evidence using the scientific method. This will allow you to assess the validity of specific arguments related to human origins and modern human variation. By the end of the class you should have a better understanding of where humans fit into the animal kingdom, as well as how characteristics that make humans unique may have evolved. We will also address questions including: What is the basis for evolution? How have humans evolved? What does it mean to be human? How are humans unique? And why do we look and behave the way we do?

COURSE LEARNING OBJECTIVES:

- Students will understand essential facts, theories, and methods of biological anthropology including the four forces of evolution, the development of evolutionary theory, the biological basis for life, adaptation, primate anatomy and behavior, hominid origins, and the adaptive significance of human variation. Competence will be demonstrated on exams and quizzes.
- Students will be able to describe and evaluate the importance of key events within physical anthropology, especially pertaining to the development of evolutionary theory, the modern synthesis, and the major milestones of human evolution, as assessed in class discussions.
- Students will test anthropological hypotheses by applying the scientific method to critically evaluate material, genetic, and geophysical evidence, in labs and assignments conducted in class.
- Students will calculate genotype and phenotype ratios, expected genotype frequencies in the next generation, and intermembral indices, in labs and assignments. Student will use these quantitative data to determine whether allele frequencies are changing (i.e., evolution is occurring), and to compare and contrast human and non-human primate populations using metric data.
- Students will identify technological trends in biological anthropology and the contributions of new technology to our increasing knowledge of human origins and evolution, in class assignments.
- Students will be able to make connections between class material and other academic disciplines, including chemistry, biology, and geology, and to relate course content to their own lives. This will be demonstrated in class discussions and on course evaluations.

DEPARTMENTAL LEARNING OUTCOMES:

This course addresses several of our department learning goals, including: knowledge of advancements in physical anthropologists' understanding of human biological evolution, skill at using the scientific method in addressing problems of human evolution, and skill at critical thinking about issues in human evolution.

INSTRUCTOR-STUDENT COMMUNICATION:

Students should not hesitate to contact the instructor with any questions, comments, or concerns. The instructor may be reached at the email address and office above. If the instructor's office hours conflict with your schedule then you should contact the instructor to schedule a special appointment.

CLASS NEWS AND CANCELLATION:

In case of unexpected instructor absences, the information will be posted on the **Blackboard website**. This site should be consulted in the event of inclement weather to check for possible class cancellations or delays. Changes or cancellation of office hours will also be posted on Blackboard.

STUDENTS WITH DISABILITIES:

Any student requesting disability accommodation for this class must inform the instructor by giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

ACADEMIC MISCONDUCT:

All members of the University of Northern Colorado community are entrusted with the responsibility to uphold and promote five fundamental values: Honesty, Trust, Respect, Fairness, and Responsibility. These core elements foster an atmosphere, inside and outside of the classroom, which serves as a foundation and guides the UNC community's academic, professional, and personal growth. Endorsement of these core elements by students, faculty, administration, and trustees strengthens the integrity and value of our academic climate.

Cheating, plagiarism, forgery, and all other forms of academic misconduct are unacceptable in this course, and at UNC. UNC's policies and recommendations for academic misconduct will be followed. For additional information, please see the Dean of Student's website, Student Handbook link <http://www.unco.edu/dos/handbook/index.html>. Lack of knowledge of these requirements will not be viewed as an excuse for noncompliance. Cheating, plagiarism, and forgery will result in a zero for that assignment and may result in a failing grade for the course.

COURSE REQUIREMENTS:

Exams: There are three exams. The third of these is the final, and will be given **Tuesday, December 6th from 8-10:30 A.M.** Exams are **not** cumulative. The exams cover material from the lectures, videos, readings and discussions. Make-up exams will be given at the instructor's discretion. Exam format includes a combination of multiple-choice, fill-in-the-blank, short answer, and essay questions. If a test is missed due to unforeseen circumstances such as illness or family emergency, arrangements will be made so no penalty is imposed, but **only if the legitimacy of the absence is adequately documented** (doctor's excuse, accident report, etc.) **AND the instructor is contacted within 24 hours of the examination date.** All make-up exams must be taken within one week after the exam. Otherwise, the student will receive a "0" for that exam. Anyone arriving late to an examination (after the first person has finished) is required to produce adequate documentation explaining their tardiness before admittance will be granted. Refer to the course outline for exam dates. **If you have a conflict with an exam date, see the instructor immediately.**

In-Class Quizzes: There will be three in-class quizzes/practice exams throughout the semester. These quizzes will follow the same format as exams and will give students a chance to gauge their progress and the success of their study strategies prior to exams. **Make-up quizzes will only be given due to legitimately documented unforeseen circumstances (see above).** Those arriving late to class will not be allotted extra time to complete the quiz (i.e. don't be late to class).

Reading Quizzes: Twelve reading quizzes will be posted on Blackboard throughout the semester (as indicated in the schedule) and are **due on Sundays at 11:59pm**. The chapters that each quiz covers are listed on the schedule below. Reading quizzes cannot be made-up for any reason. Computer issues are not a valid excuse for missing a quiz. **DON'T WAIT UNTIL FRIDAY AT 11:50pm TO TAKE YOUR QUIZ!** At the conclusion of the quarter, your lowest two quiz scores will be dropped. Reading quizzes will help you do well on exams. The reading quiz schedule is set and will not change if we get behind in lecture material.

Labs and Assignments: Several assignments and labs will be given throughout the course. Much of the work for these assignments will be done during class. However, written analyses of the results will be completed on your own time. Tentative due dates for all assignments are given on the schedule below.

Attendance and Participation: It is important to attend class regularly in order to do well in this course. Lectures will undoubtedly cover material that is not found in the texts. If you miss a lecture for whatever reason, lecture notes will not be provided. All absences must be officially documented with a doctor's excuse, accident report, etc. In the event that you cannot provide such documentation, the absence will be considered unexcused and will affect your participation score. In-class assignments cannot be "made-up" if the absence is unexcused. If you need to leave a lecture early, it is essential that you discuss this with the instructor **BEFORE** class begins. Attendance may be taken at the **beginning or end** of each lecture.

One of the best ways to retain information is by articulating your thoughts on new or complex material; therefore participation is required to attain the full credit for this portion of your grade. Please remain on topic when asking/answering questions. This is a class of mutual respect, and if this respect is violated, the instructor reserves the right to deduct participation points (see clause below for expectations of respect).

GRADING PROCEDURES:

Late assignments will be **docked by 10% for every calendar day** that they are late, ie. one day, 10%, two days 20%. No extra credit will be offered.

Grade Breakdown for Course Requirements

| Assessment | % Final grade |
|---|----------------------|
| Exams (15% each) | 45 |
| In-Class Quizzes/Practice Exams (5% each) | 15 |
| Weekly Reading Quizzes (on Blackboard) | 15 |
| Labs and Assignments | 20 |
| Attendance and Participation | 5 |

GRADING SCALE

| <u>Percentage</u> | <u>Letter Grade</u> | <u>Quality Points</u> |
|-------------------|---------------------|-----------------------|
| 93-100 | A | 4.000 |
| 90-92 | A- | 3.667 |
| 88-89 | B+ | 3.334 |
| 83-87 | B | 3.000 |
| 80-82 | B- | 2.667 |
| 78-79 | C+ | 2.334 |
| 73-77 | C | 2.000 |
| 70-72 | C- | 1.667 |
| 68-69 | D+ | 1.334 |
| 63-67 | D | 1.000 |
| 60-62 | D- | 0.667 |
| 0-59 | F | 0.000 |

PHILOSOPHY OF GRADING:

I do not give grades; students earn their grades. Your final grade is your responsibility. The only legitimate reason to change a grade is if there was a mistake in grading. Any questions about grading must be discussed with the instructor within the first week following the exam/assignment.

The following is a schedule of the major topics that will be covered in this class. It should be considered tentative and may be modified during the course of the quarter as determined by factors such as student progress and amount of class discussion.

| Week | | Topics Covered | Readings |
|------|---------|---|--------------------------------------|
| 1 | T 8/23 | <i>Intro to Anthropology / Course Mechanics</i> | Ch. 1 |
| | R 8/25 | <i>The Scientific Method / The Development of Evolutionary Thought</i> · Creating a Falsifiable Hypothesis Group Activity | Ch. 2 |
| | S 8/28 | Reading Quiz 1 Due at 11:59pm on Blackboard: Covers Ch. 1 in the textbook | |
| 2 | T 8/30 | <i>Darwin and Natural Selection</i> Evolutionary Thought/Types of Selection Worksheet | Harrell, 2009a |
| | R 9/1 | <i>Cells and DNA replication</i> | Ch. 3 |
| | S 9/4 | Reading Quiz 2 Due at 11:59pm on Blackboard: Covers Ch. 2 | |
| 3 | T 9/6 | <i>Mitosis and Meiosis</i> · Mitosis and Meiosis Exercise | |
| | R 9/8 | <i>Mendelian Inheritance</i> · DNA Assignment / Mendelian Trait Activity | |
| | S 9/11 | Reading Quiz 3 Due at 11:59pm on Blackboard: Covers Ch. 3 | |
| 4 | T 9/13 | <i>Punnett Squares</i> · Dihybrid Cross Exercise | |
| | R 9/15 | <i>The Modern Synthesis / Hardy-Weinberg Equilibrium</i> In-class Quiz/ Practice Exam 1 – Covers material from weeks 1-4 | Ch. 4 |
| | S 9/18 | No reading quiz this week | |
| 5 | T 9/20 | <i>Hardy-Weinberg Equilibrium continued / The Four Forces of Evolution</i> · Hardy-Weinberg Assignment | |
| | R 9/22 | <i>The Four Forces of Evolution / Reexamining Hardy-Weinberg</i> · Genetic Drift Demo | |
| | S 9/25 | Reading Quiz 4 Due at 11:59pm on Blackboard: Covers Ch. 4 | |
| 6 | T 9/27 | Exam 1 - During Regular Class Time Covers the book Introduction, Chapters 1-4, readings on Blackboard, and all lecture material covered to this point | |
| | R 9/29 | <i>Speciation / Taxonomy</i> · In-Class Classification Activity | |
| 7 | T 10/4 | <i>The History of the Race Concept / Does Biological Race Exist?</i> · In-Class Classification Activity | Ch. 5; Smedley & Smedley, 2005 |
| | R 10/6 | <i>Adaptation vs. Adaptability</i> | |
| | S 10/9 | Reading Quiz 5 Due at 11:59pm on Blackboard: Covers Ch. 5 | |
| 8 | T 10/11 | <i>Adaptive Human Variation</i> | |
| | R 10/13 | <i>Intro to Non-Human Primates</i> | Ch. 6 |
| | S 10/16 | Reading Quiz 6 Due at 11:59pm on Blackboard: Covers Ch. 6 | |
| 9 | T 10/18 | <i>Primate Behavior</i> | Ch. 7 |
| | R 10/20 | <i>Primate Behavior continued</i> In-class Quiz/ Practice Exam 2 – Covers material from Weeks 7-9 | |
| | S 10/23 | Reading Quiz 7 Due at 11:59pm on Blackboard: Covers Ch. 7 | |
| 10 | T 10/25 | Primate Classification Lab / Primate Dental Adaptations Lab · Lost Primate Flyer | |

| Week | | Topics Covered | Readings |
|------|----------------|--|---|
| | R 10/27 | <i>Finish primate behavior</i> · Primate Behavior Observation | |
| | S 10/30 | No reading quiz | |
| | T 11/1 | Exam 2 - During Regular Class Time Covers Chapters 5-7 in the book, readings on Blackboard, and all lecture material covered since Exam 1 | |
| 11 | R 11/3 | <i>Fossilization and Dating Methods / Primate Origins and Evolution</i> · Dating Methods Exercise | Chs. 8 & 9 |
| | S 11/6 | Reading Quiz 8 Due at 11:59pm on Blackboard: Covers Chs. 8 and 9 | |
| | T 11/8 | <i>The First Hominids / Bipedalism / The Australopithecines</i> | Ch. 10 |
| 12 | R 11/10 | Guest lecture: Hannah Morris – The Rising Star Excavations | |
| | S 11/13 | Reading Quiz 9 Due at 11:59pm on Blackboard: Covers Ch. 10 | |
| | T 11/15 | Bipedalism Lab In-class Quiz/ Practice Exam 3 – Covers material from Weeks 11-13 | |
| 13 | R 11/17 | <i>The Evolution of the Genus Homo / The Evolution of the Human Brain / Homo erectus and the Neandertals</i> | Ch. 11 |
| | S 11/20 | Reading Quiz 10 Due at 11:59pm on Blackboard: Covers Ch. 11 | |
| | T 11/22 | <i>Where did the Neandertals go? / Origins of Anatomically Modern Humans</i> | Ch. 12; Harrell, 2009b; Smithsonian |
| 14 | R 11/24 | No Class – Happy Thanksgiving! | |
| | S 11/27 | Reading Quiz 11 Due at 11:59pm on Blackboard: Covers Ch. 12 | |
| | T 11/29 | Hominin Lab | |
| 15 | R 12/1 | <i>Humans into the Holocene / Are we still evolving?</i> | Ch. 13; Balter, 2005 |
| | S 12/4 | Reading Quiz 12 Due at 11:59pm on Blackboard: Covers Ch. 13 | |
| 16 | T 12/6 | Exam 3 – Tuesday, December 6th – 8-10:30am Covers Chapters 8-13 in the book, readings on Blackboard, and all lecture material covered since Exam 2 | |

Respect: In this class the expectation is of mutual respect. The instructor will show respect for students. Students will show respect for the instructor, any guests and one another. Some examples of respect include (but are not limited to):

- Listening when others talk.
- Not having conversations with others while someone is talking.
- Not browsing the internet, chatting online or texting during class.
- Limiting interruptions. This means turning off your cell phone when you come to class or putting it on the silent mode.
- Entering the room quietly when you are late.

Take time to record the name, email address, and/or phone number of at least 2 students in the class that you can contact regarding missed notes and class information.