

I. Description of Proposed Change

The purpose of this change is to reinstate AN 210 Physical Anthropology as fulfilling a Natural Science requirement at USA, which better reflects course content. The status of AN210 was changed with the state curriculum modifications. Paperwork is concurrently being filed to make this change at the state level. Also, a change is proposed to extend the lab from 1.25 hours to 2 hours to allow for adequate coverage of material.

II. Course Outline

See attached syllabus.

III. Rationale for Proposed Change

Anthropology is traditionally divided into four major subfields: Cultural Anthropology, Archaeology, Physical Anthropology, and Linguistics. The many definitions for Physical Anthropology range from the relatively broad (such as “the study of the biological aspects of humans”) to the specific (“the study of human biology within the framework of evolution, with an emphasis on the interaction between biology and culture”). However, in all cases it is clear that Physical Anthropology emphasizes natural science methods and theories. The American Association of Physical Anthropology, the world’s leading professional organization for physical anthropologists, goes so far as to state that “Physical Anthropology is a *biological science* [emphasis added] that deals with the adaptations, variability, and evolution of human beings and their living and fossil relatives” ([www.physanth.org](http://www.physanth.org)).

Physical Anthropology incorporates many Natural Science disciplines, such as biology, chemistry, physics, geology, and math/statistics. The basis for the study of human biology is evolutionary theory and physical anthropology applies the forces of evolution (mutation, gene flow, genetic drift, and natural selection) to understand humans. An understanding of genes and genetic principles are basic to physical anthropology. Today, with the current debates concerning human cloning and stem cell research, a fuller understanding of human biology and the implications of this research are critical for everyone. Yet, most students lack even a basic understanding of human biology and evolution.

Many sciences find application in Physical Anthropology. The study of primates and primate biology is closely related to human biology, as is the study of human and primate evolution, both of which are specializations within Physical Anthropology. A key difference between humans and primates is locomotion and the study of bipedalism draws heavily on physics. Physics and chemistry both play roles in the dating of ancient human sites through such methods as potassium-argon dating, radiocarbon dating, fluorine analysis, electron spin resonance, and paleomagnetism, as well as the basic geological concept of the law of superposition. Math and statistics are central to examinations of human variation and population genetics. The Hardy-Weinberg principle of genetic

equilibrium provides a means to examine the occurrence of evolution in a population.

Due to its affiliation with the Natural Sciences, the placement of Physical Anthropology in traditional Anthropology departments has been questioned for some time and recent changes in some departments reflect this. In 1998-1999 Stanford University divided its traditional Anthropology Department into two separate entities: a Department of Anthropological Sciences and a Department of Cultural and Social Anthropology. The Department of Anthropological Sciences at Stanford “takes as its subject matter the nature and evolution of our species. The department offers students training in evolutionary theory, paleoanthropology, archaeology, genetics, ecology and environmental anthropology, demography, political economy, linguistic anthropology, primatology, medical anthropology, and general cultural and social anthropology” ([www.stanford.edu/dept/anthsci/](http://www.stanford.edu/dept/anthsci/)). For years, Duke University has separated the Department of Biological Anthropology and Anatomy from the Department of Anthropology. These examples reflect a growing trend in the discipline.

A key component of AN 210 at USA is a lab course and it provides hands on experiences for students. Modern human skeletons, fossils casts, and forensic skeletons are just some of the specimens available for study in the lab. Labs range from identifying skeletal elements to analyzing genetic data and from comparing primate and human skeletons to recording a variety of anthropomorphic data.

Reinstating AN 210 Physical Anthropology as fulfilling a Natural Science requirement better reflects the content of the course and the current state of the discipline, and provides students with the appropriate science credit for their studies.

IV. Course Format

The course will have a traditional classroom format with a 2-hour lab.

V. Impact of the Proposed Change

AN 210 Physical Anthropology is currently offered once in the Spring semester. This change is not expected to affect the course load of existing faculty or increase the number of times it is offered. Natural Science courses that fulfill the basic core requirement are generally filled and this course is anticipated to have a 60-student maximum. A positive impact will be to provide students with more options and opportunities for fulfilling their Natural Science core requirements.

VI. Resources Available to Support the Proposed Change

The Physical Anthropology Lab is located in the Humanities Building and has space for 15 students. The lab houses the human skeletal collection, which includes modern human casts, fossil casts, and forensic cases (human skeletal material), as well as primate skeletons and a variety of equipment. The USA

Primate Research Lab is used to provide students with the opportunity to collect data on living primates and this is a key component of the course and lab. The Sociology and Anthropology Department Computer lab is available to students to use the CD-Rom "Virtual Physical Anthropology Lab," which is a supplement to their lab text.

# ANTHROPOLOGY 210

## Physical Anthropology and Laboratory

### Meeting Times and Place

MWF: 10:10-11:00 Humanities Building (HUMB) 148

W: 1:25 - 3:25 Humanities Building (HUMB) 15

### Instructor

Dr. Philip Carr

Office: Humanities (HUMB) Sociology/Anthropology Dept. 13

Office Hours: M 9-10, 1:15-3:15; W 8-10, 2:40-3:40

Office Phone: 460-6907      E-mail: pcarr@jaguar1.usouthal.edu

### Course Materials

- \* *Essentials of Physical Anthropology, 4<sup>th</sup> edition*, - Jurmain, Nelson, Kilgore, & Trevathan
- \* *Lab manual and Workbook for Physical Anthropology, 4th edition* -France
- \* *Virtual Laboratories for Physical Anthropology, 2nd edition*, CD-ROM - Kappelman
- \* Calculator
- \* Access to a computer

### Course Description

Anthropology 210 examines humans as biological organisms with an emphasis on the interaction of biology and culture. Topics discussed include evolutionary theory, primates, human evolution, modern human variation and adaptation, and forensic anthropology. The lab is designed to provide an in-depth understanding of physical anthropology through a variety of exercises, including hands-on learning opportunities.

### Goals

The goals of this course are to provide students with an understanding of the methods and theories of physical anthropology, evolutionary theory, modern and fossil primates, paleoanthropology and human evolution, modern human variation, and forensics.

### Specific Objectives

- Physical Anthropology: Relation to other subfields of anthropology, Biocultural evolution, Scientific Method
- Evolutionary Theory: Development, Biological basis for life (cells & genes), Heredity and the forces of evolution
- Primates: Overview of living primates, Fundamentals of Primate Behavior, Relation of humans and primates
- Paleoanthropology: Macroevolution, Hominid origins and development, Reconstructing hominid behavior
- Modern Human Variation: Microevolution, Race and human variation, Human adaptation and human life course
- Forensics: Determining sex, age, and ethnicity from skeletal remains, Dermatoglyphics, Crime scene investigation

### Requirements

All students are required to attend lectures and labs, complete required readings, view films, write two short research papers, complete assignments, take a number of quizzes and four exams. You are required to bring your lab workbook and CD-ROM to each lab period. Not having these materials could result in the assignment of a zero for that lab. Often you will work with a partner in lab to complete exercises. However, ***EACH*** student is required to turn in a separate lab assignment.

Questions on exams and quizzes are drawn approximately equally from required readings and lectures/films. Lectures and readings will not always overlap or will approach a topic from different perspectives with different examples. Regular class and lab attendance is *critical*. Students should **expect** several pop quizzes in class and a quiz at the beginning of each lab period.

## Grading

Your final course grade is 75% of your class percentage plus 25% of your lab percentage. For the class, four exams will be administered over the course of the semester. All exams will consist of both objective and essay questions. Each exam is worth 14% for a total of 56% of the final grade. Pop quizzes in class and short assignments in class account for 10% and each research paper is worth 12% (24% of total). For the lab, quizzes will account for 50% of the total grade. Lab assignments will account for 40% of the total grade and the remaining 10% is based on attendance and participation. Labs will generally be due on Friday, and a 20% penalty is assessed for each day your lab assignment is late.

If you miss an exam with a legitimate excuse (see student handbook), you may take an essay make-up exam. There will be no chance to make up quizzes, short assignments, or labs. If you miss one of these and have a legitimate excuse, it will not be factored into your grade. If you miss without a legitimate excuse, zero points will be assigned. If you miss more than 2 excused labs, a special make-up assignment must be completed (see instructor). Outside lab work turned in late will lose 10 points per day.

### Grading Scale:

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

## Disabled Student Services

If a student has a disability and needs accommodation, please contact the instructor as soon as possible. The Disabled Student Services Office coordinates services for students with disabilities and the student is encouraged to register with that office.

## Changes in Course Requirements

The instructor may need to modify the class requirements or their timing as circumstances dictate. Students will be given advanced notification of any such changes in writing.

## GENERAL COURSE OUTLINE

### I. Introduction to Physical Anthropology & Evolutionary Theory

Jan 10: Course Introduction  
17: Evolutionary Theory  
24: Genetics  
31: Modern Synthesis

### II. Primates

Feb 7: Primates  
14: Primates  
21: Primates

### III. Hominid Evolution

28: Hominids  
Mar 7: Hominids  
14: Spring Break  
21: Hominids  
28: Hominids

### IV. Human Variation

Apr 4: Human Variation  
11: Human Variation  
18: Forensic Anthropology  
25: Forensic Anthropology