Common Course Outline for: ANTH 1211: Methods, Observations, and Practices in Human Evolution: Human Evolution Lab Experience

A. Course Description

1. Number of credits: 1
2. Lecture hours per week: 1
3. Lab hours per week: None
4. Prerequisites: None
5. Co-Requisites: None

6. Catalog Description:

This 1-credit laboratory experience course is built to provide hands-on and more detailed exposure to the concepts outlined in ANTH 1210 (Human Evolution – An Introduction to Bio-Anthropology) through the collection and analysis of observational data – one 50 minute lab session per week and pre-lab exercises prepared outside of class

B. Date last revised: N/A

C. Outline of Major Content Areas

1. The Scientific Method, evolutionary theory as science, evolution and human ancestry
2. Basics of cell biology – cells and organelles, cell division and chromosomes
3. Molecular genetics – DNA and RNA – bases, replication, synthesis, mutations
4. Mendelian genetics – the study of inheritance
5. Evolutionary forces – natural selection, mutation, genetic drift, gene flow, population genetics
6. Human osteology – functions of the skeleton, bipedal adaptation, what bones reveal
7. Introduction to non-human primates
8. Early hominids and hominins – australopithecines and pre-australopithecines
9. The genus Homo, including Neanderthals, Cro-Magnons, Homo erectus, moderns humans

D. Course Learning Outcomes

Upon successful completion of the course, the student will be able to:

1. Apply the scientific method to empirical data and evaluate hypotheses
2. Evaluate contrasting scientific viewpoints regarding the process of evolution.
3. Explain the basic terms and processes of Mendelian genetics.
4. Describe the structure of DNA and the process of mutation.
5. Identify and define the forces of evolution.
6. Describe at least one human biological variation that represents an adaptation to environmental factors.
7. Compare and contrast various Australopithecine and early Homo fossils and sites.

8. Describe the skeletal characteristics and culture of Homo erectus.
9. Compare early Homo sapiens, skeletally and culturally, to both Homo erectus and later Homo sapiens.
10. Evaluate different theories, based on both skeletal and genetic evidence, regarding the origins of anatomically modern humans.
11. Identify and describe physical similarities and differences between nonhuman primates, hominins, and modern Homo sapiens using standard methodology.

E. Methods for Assessing Student Learning

Student learning can be assessed as individual instructors best see fit, using a combination of the following and other appropriate instruments:

1. Laboratory measurements
2. Laboratory workbook exercises
3. Observations
4 Discussions
5 Quizzes

In evaluating student learning, the following criteria are used:

1. Accuracy and completeness of workbook assignments and quizzes
2. Validity of formatting and reporting of laboratory observations
3. Ability to evaluate the successes and failures of hominin and human adaptations
3. Clarity of organization and development of discussions in human evolution studies

F. Special Information None