GROSSMONT COLLEGE

COURSE OUTLINE OF RECORD

Curriculum Committee Approval: 11/30/2021

GCCCD Governing Board Approval: 12/14/2021

ANTHROPOLOGY 131- BIOLOGICAL ANTHROPOLOGY LABORATORY

1. Course Number Course Title Semester Units

ANTH 131 Biological Anthropology Laboratory 1

Semester Hours

3 hours laboratory: 48-54 hours 48-54 total hours

2. Course Prerequisites

None

Corequisites

A “C” grade or higher or “Pass” or concurrent enrollment in Anthropology 130 or equivalent.

Recommended Preparation

None

3. Catalog Description

A laboratory experience designed to reinforce and expand ideas introduced in Anthropology 130. Students will use biological anthropological methods and tools to solve problems in the areas of genetics, human variation, human osteology, primate biology and behavior, and human evolution.

4. Course Objectives

The student will:

1. Explain the major rules of biological classification and differentiate between evolutionary and cladistic classification systems.
2. Examine the fundamental principles of molecular and Mendelian genetics and the mechanisms of evolution.
3. Describe and collect field data on primate morphological and behavioral characteristics based on first-hand observation.
4. Identify major features of the human skeleton and estimate simple sex and age determinations based on skeletal morphology.
5. Compare and contrast cranial and dental features of various species of living primates, fossil hominins and modern humans.
6. Apply established scientific protocol in conducting lab and field observations.

5. Instructional Facilities

1. Standard laboratory classroom facility with lab tables and chairs
2. Computer and data projector
3. Casts of fossil hominin, human, and primate skeletal material

6. Special Materials Required of Student

None

7. Course Content

1. Biologicalanthropological goals and methods
2. Genetics

1) DNA structure and functions

2) principles of heredity

3) population genetics and the forces of evolution

c. Human skeleton

* + - 1. Sex and age estimation
      2. Forensic anthropology and paleopathology

d. Nonhuman Primates

* + - 1. Classification
      2. Skeletal anatomy
      3. Observation of primate behavior
      4. Primate evolution

e. Hominin evolution

* + - 1. The hominin fossil record, including dating techniques
      2. Early hominin species
      3. Early *Homo*
      4. Neandertals and modern *Homo sapiens*

f**.** Modern human variation

8. Method of Instruction

a. Laboratory exercises. Example: Examine and measure replicas of fossil hominin skulls in order to identify key skeletal features and reconstruct evolutionary relationships.

b. Lecture.

c. Demonstration.

d. Small group discussion.

9. Methods of Evaluating Student Performance

a. Laboratory exercises. Example: Use magnetic models of human chromosomes to correctly construct a human karyotype and determine the individual’s chromosome number, sex and presence of chromosomal anomalies. Explain how individual chromosomes can be distinguished under magnification, and how errors in chromosome number result from nondisjunction during meiosis.

b. Written examinations (including final) will include both essay and objective questions.

c. Field studies project.

10. Outside Class Assignments

a. Reading assignments from the text and online sources.

b. Field Projects. Example: Collect data on captive primates at the San Diego Zoo using standardized data collection methods, including ad libitum, focal and scan sampling techniques.

11. Representative Texts

a. Representative Texts:

1) Soluri, K. Elizabeth and Sabrina C. Agarwal. *Laboratory Manual and Workbook for Biological Anthropology*. 2nd ed. New York: W.W. Norton, 2019.

2). Walker-Pacheco, S.E. *Exploring Physical Anthropology: A Lab Manual and Workbook*. 3rd ed. Englewood, Colorado: Morton Publishing Company, 2017.

b. Supplementary texts and workbooks:

None.

Addendum: Student Learning Outcomes

Upon completion of this course, students will be able to do the following:

a. Employing a comparative perspective, analyze cranial and dental features of various species of living primates, fossil hominins and modern humans

b. Make anthropological laboratory and field observations and measurements in accordance with

established scientific protocol.