

# ANTH 1L: BIOLOGICAL ANTHROPOLOGY LABORATORY

## Foothill College Course Outline of Record

| Heading                 | Value   |
|-------------------------|---|
| Effective Term:         | Summer 2025   |
| Units:                  | 1   |
| Hours:                  | 3 laboratory per week (36 total per quarter)            |
| Corequisite:            | Completion of or concurrent enrollment in ANTH 1 or 1H. |
| Advisory:               | Not open to students with credit in ANTH 1HL.           |
| Degree & Credit Status: | Degree-Applicable Credit Course                         |
| Foothill GE:            | Area 5: Natural Sciences w/ Lab                         |
| Transferable:           | CSU/UC  |
| Grade Type:             | Letter Grade (Request for Pass/No Pass)                 |
| Repeatability:          | Not Repeatable  |

## Student Learning Outcomes

- Analyze how past environmental conditions have driven human evolution and how humans continue to influence those environments over time.
- Apply evolutionary theory using a scientific framework for understanding biological change over time.
- Critically analyze physical anthropological data using laboratory methods and scientific reasoning.
- Interpret ancient and modern human variation using both biological and cultural perspectives.

## Description

Introductory laboratory course focusing on scientific methodology to explore/experiment with topics from anthropology lecture sections. Topics include Mendelian genetics, population genetics, human variability, forensics, medical anthropology, epidemiology, hominin dietary patterns, non-human primates, primate dental and skeletal anatomy, fossil hominins, chronometric dating, environmental challenges to hominins, environmental impact of hominin behavior, general methodologies utilized in physical anthropological research, and the general study of hominins as bio-culturally adapting animals.

## Course Objectives

The student will be able to:

- Distinguish scientific methodology from other methods of evaluation or thinking.
- Explain a variety of primate and/or hominin evolutionary patterns over time.
- Assemble or organize specimens and/or models used in physical anthropology (skeletal, dental, genetic, geological).
- Employ basic forensic field methods for analyzing and interpreting human remains.

- Research an anthropological topic and prepare the results for public and/or classroom presentation.
- Evaluate and debate social, cultural, environmental, or other influences on hominin adaptation and survival over time.

## Course Content

Laboratory projects based on 2-5 of expanded description of course content for ANTH 1. Projects cover methods, techniques, and procedures used in biological/physical anthropology research. Emphasis on skill demonstrations and problem solving.

- Students will demonstrate knowledge in the following areas:
  - Mendelian genetics
  - Population genetics
  - Human variability
  - Forensics
  - Medical anthropology
  - Epidemiology
  - Hominin dietary patterns
  - Non-human primates
    - Primate dental and skeletal anatomy
    - Fossil hominins
  - Chronometric dating
    - Environmental challenges to hominins
  - Environmental impact of hominin behavior
  - General methodologies utilized in physical anthropological research
    - The general study of hominins as bio-culturally adapting animals
- Students conducting laboratory research will gain proficiency in the following areas:
  - Instrumentation such as microscopes and centrifuges
  - The appropriate handling of human remains
  - Crime scene investigation techniques
  - Data gathering and analysis using current statistical and mapping programs
  - Graphing and interpretation of data using scientific methodology

## Lab Content

Lab content may include but is not limited to:

- Scientific Method exercises
  - Field study using Method
  - Microscope training
- Darwin's Natural Selection
  - Examples from nature
  - Cellular transformation
- Genetics
  - Field study of phenotypic traits
- Biological classifications
  - Taxonomy
- Primate osteology
  - Lab training with primate skeletons
- Human osteology
  - Skeletal anatomy
- Primate behavior
  - Field project on human primates

8. Early primates and hominins
  - a. Fossil collection study
9. The Genus Homo
  - a. Anthropometrics
10. Forensics and variation (Metric/Non-Metric)
  - a. Craniometric and osteometric studies
  - b. Blood group work
  - c. Finger prints
11. Forensics and skeletal abnormalities
  - a. Gun shot wounds
  - b. Trephination
  - c. Antemortem, perimortem, and postmortem analysis
12. Sociobiology and human bio-cultural adaptations
13. Our past 10,000 years: agriculture, population and biology
14. Race as a cultural construct, usage institutionally, to include law enforcement, forensic studies, and educational frameworks

## Special Facilities and/or Equipment

1. Anthropology laboratory equipped with appropriate materials to instruct the lab sections.
2. Internet connection required to conduct enhanced learning assignments.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

In-class projects

Lab reports submitted the following week

Quizzes and exams

Skill demonstrations or problem solving

1. Class performances

2. Field work

3. Performance exams

Group project scientific research and presentations

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture

Discussion

Cooperative learning exercises

Field work

Oral presentations

Laboratory methods and exercises

Multimedia presentations

Demonstrations

## Representative Text(s) and Other Materials

Soluri, E. Elizabeth, and Sabrina Agarwal. Laboratory Manual and Workbook for Biological Anthropology: Engaging with Human Evolution, 2nd ed. 2019.

France, Diane. Laboratory Manual and Workbook for Physical Anthropology, 6th ed. 2007.

Walker, Suzanne. Exploring Physical Anthropology: A Lab Manual and Workbook. 2007.

Whitehead, Paul, William Sacco, and Susan Hochgraf. A Photographic Atlas for Physical Anthropology. 2005.

Although these texts are older than the suggested "5 years or newer" standard, they are still appropriate for undergraduate coursework in this area of study.

## Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Required readings from the lab textbook or academic journals.
2. Completion of exercises in the workbook.
3. Lab report write-ups.
4. Collection and analysis of laboratory data.
5. Practical exams with osteological samples.
6. Computational analysis.

## Discipline(s)

Anthropology