ANTH-120: BIOLOGICAL ANTHROPOLOGY WITH LAB

Effective Term
Fall 2025

CC Approval
01/21/2025

AS Approval
02/13/2025

BOT Approval
02/20/2025

COCI Approval
04/16/2025

SECTION A - Course Data Elements

CB04 Credit Status
Credit - Degree Applicable

Discipline

Minimum Qualifications	And/Or
Anthropology (Master's Degree)	

Subject Code
ANTH - Anthropology
Course Number
120

Department
Anthropology (ANTH)

Division
Arts and Humanities (ARAH)

Full Course Title
Biological Anthropology with Lab

Short Title
Biological Anthropology

CB03 TOP Code
2202.00 - Anthropology

CB08 Basic Skills Status
NBS - Not Basic Skills

CB09 SAM Code
E - Non-Occupational

Rationale
Adding "with Lab" to course title to match the Common Course Numbering convention.

SECTION B - Course Description

Catalog Course Description
This course introduces students to the theories, methods, and applications of biological anthropology. Topics include the scientific method, principles of evolution and adaptation, human genetics, human osteology, hominin species and the fossil record, and the anatomy and behavior of living non-human primates. Lab is included in this course.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit
No

Repeatability
Not Repeatable

Grading Options
Letter Grade or Pass/No Pass

Allow Audit
Yes

Requisites

Advisory Prerequisite(s)
Completion of ENGL-C1000 or equivalent with a minimum grade of C. Completion of Elementary Algebra level content or equivalent or appropriate placement.

SECTION D - Course Standards

Is this course variable unit?
No

Units
4.00

Lecture Hours
54.00

Lab Hours
54.00

Outside of Class Hours
108

Total Contact Hours
108

Total Student Hours
216

Distance Education Approval

Is this course offered through Distance Education?
Yes

Online Delivery Methods

DE Modalities	Permanent or Emergency Only?
Hybrid	Permanent
Entirely Online	Permanent
Online with Proctored Exams	Permanent

SECTION E - Course Content

Student Learning Outcomes

	Upon satisfactory completion of the course, students will be able to:
1.	Define the scope of anthropology and discuss the role of biological anthropology within the discipline.
2.	Articulate the general principles of biology and scientific inquiry as related to biological anthropology.

3.	Understand the historical trajectory of human evolution based on genetic evidence, the fossil record, and advances in current biological anthropological research.
4.	Identify the main contributors to the development of evolutionary theory.
5.	Demonstrate basic knowledge of the principles of molecular, Mendelian, and population genetics, including the role of evolutionary forces in producing genetic and phenotypic change over time.
6.	Classify humans and non-human primates according to taxonomic relationships, evolutionary origins, and shared behaviors.
7.	Appreciate the environmental, biological, and cultural factors responsible for human variation.
8.	Evaluate the impacts of anthropogenic activity on the natural world, and how those activities both ensure and challenge the survival of humankind.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1.	Apply the scientific method to current debates in biological anthropology.
2.	Describe the principles of evolution, inheritance, and population genetics as they relate to human evolution and adaptation.
3.	Identify the bones of the human skeleton in terms of location, major anatomical functions, and adaptive significance.
4.	Describe the structure and function of DNA and RNA.
5.	Demonstrate appropriate anthropometric techniques in the measurement and assessment of human skeletal materials.
6.	Perform genetic problems including Punnett Squares, dihybrid crosses, and pedigree charts.
7.	Assess human skeletal materials in terms of age, sex, stature, health status, and individual variation.
8.	Summarize the principal State and Federal laws that apply to human remains in archaeological discoveries.
9.	Classify non-human primate specimens in appropriate taxonomic categories.
10.	Assess non-human primate anatomy and behavior.
11.	Evaluate observational data gathering techniques related to nonhuman primates.
12.	Evaluate the anatomical, evolutionary, and adaptive significance of various hominin species.
13.	Assess the links between prehistoric stone tool industries and the biocultural evolution of the genus Homo.
14.	Describe bioarcheology and forensic anthropology as subfields of biological anthropology.
15.	Identify the main contributors to the development of evolutionary theory.
16.	Evaluate alternate phylogenies for human evolution.

Course Content

1. LECTURE COURSE CONTENT:
    a. Scientific method and the biocultural perspective
        i. Fact, hypothesis, theory
        ii. Inductive and deductive approaches
        iii. Data gathering, hypothesis formation, experimentation, replicability
    b. Review of basic principles of cell biology
        i. Cell biology
        ii. DNA structure
        iii. DNA replication
        iv. Protein synthesis
        v. Mitosis and meiosis
        vi. Chromosomal and genetic mutation
    c. Principles of genetic inheritance
        i. Mendelian inheritance in humans
        ii. Simple traits
        iii. Co-dominant traits
        iv. Sex-linked traits
        v. Punnett's square
        vi. Population genetics
    d. Principles of evolution and adaptation
        i. Microevolution and macroevolution
        ii. Mechanisms/forces of evolution

e. Human osteology
    i. Anatomical terms of location in humans (directional terms, planes, lines, etc.)
    ii. Cranial material
    iii. Postcranial material
f. Human variation
    i. Patterns and causes of human variation
    ii. Principles of anthropometrics
    iii. Forensic anthropology
    iv. Human remains in archaeological discoveries
        1. NAGPRA
        2. AB 978 (CAL NAGPRA)
        3. Sections of the Health and Safety and Public Resources Codes in California
g. Non-human primates
    i. Taxonomy of primates
    ii. Anatomy of non-human primates and patterns of locomotion
    iii. Behavior of non-human primates
    iv. Observational techniques for behavior of non-human primates
h. Hominins and the fossil record
    i. Processes of preservation
    ii. Dating techniques
    iii. Morphological and cultural evolutionary trends of hominins
    iv. Morphology, culture and location of various hominin fossils including:
        1. Sahelanthropus
        2. Orrorin
        3. Ardipithecus
        4. gracile and robust Australopithecines
        5. Paranthropus
        6. Kenyanthropus
        7. Neanderthalensis and early Homo
    v. Stone tool industries and techniques (Oldowan, Acheulian, Lavallois, etc.)

2. LABORATORY COURSE CONTENT:
a. Genetics and Evolution
    i. The Scientific Method
    ii. Cell Biology and DNA
    iii. Principles of Inheritance
    iv. Human Variation
    v. Hardy-Weinberg: Population Genetics
    vi. Performing metric conversions, genotype/phenotype ratios
b. The Human Skeleton
    i. Introduction to the Human Skeleton
    ii. The Appendicular Skeleton
    iii. The Axial Skeleton
    iv. Human Variation, Anthropometry, and Forensic Anthropology
c. The Non-Human Primates
    i. Primate Classification
    ii. Comparative Primate Anatomy
    iii. Primate Behavior
d. Human Ancestors
    i. The Bipedal Adaptation and Our Earliest Ancestors
    ii. The Rise of the Genus Homo
    iii. Later Homo and Modern Human Origins
    iv. Stone Tool Technologies

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Activity	Using integrated or embedded Canvas tools such as Canvas Studio, Wordwall, or similar to review important concepts from the textbook.
Discussion	Discuss the challenges of bipedalism, using Canvas discussion fora.
Experiments	A PTC tasting strip experiment to illustrate Mendelian traits.
Group Work	Students work in groups to build the complete human skeleton.
Individualized Instruction	A scheduled "1-on-1" Zoom meeting with the instructor as a required piece of a larger project.
Lab	Completion of a Lab Manual or completing lab exercises using MyAnthroLab or similar technology.
Lecture	The lecture content may be delivered through Canvas using the E-book or textbook, lecture slides, recorded video, online charts, graphs, and maps.
Observation and Demonstration	Students will demonstrate correct use of anthropometric tools.
Other	Supplemental Instruction (SI) and Peer Tutoring opportunities.

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
Chat Rooms
Discussion Boards
E-mail Communication
Telephone Conversations
Video or Teleconferencing

Student-Initiated Online Contact Types

Chat Rooms
Discussions
Group Work

Course design is accessible

Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Essays/Papers	Short essay questions as part of a larger Lab Report.
Exams/Tests	A multiple-choice and short answer final exam that includes embedded questions to improve future testing efforts.
Homework	Watching a class video at home and submitting a Film Viewing Guide.
Lab Activities	A lab exercise where students make their own DNA visible.
Quizzes	A team-based, multiple choice vocabulary quiz designed in Quizlet.
Other	Other methods of evaluation as determined by the instructor.

Assignments

Reading Assignments

Reading assignments may include case studies, textbook readings and additional relevant supplementary materials (for example: peer-reviewed articles, websites, newspaper articles, etc.)

For example:

1. Read the "In Focus" section of Chapter Three, which discusses Darwin's Voyage of the *Beagle*.

2. Read pages 136-149 of Chapter Nine, paying specific attention to the geographic locations of major australopithecine fossil sites.

3. Read the *Code of Ethics* of the American Association of Biological Anthropologists, paying special attention to the ethical dilemmas unique to this field.

Writing Assignments

Writing assignments may include case study analysis, research reports on ethical issues in biological anthropology, and written exercises in the Lab Manual.

For example:

1. Compare and contrast at least two different attempts to classify humans using skin color. What criteria did you use to classify the different colors? How can clinal analyses of skin color help mitigate the difficulties?
2. Explain the role of mitochondrial DNA (mtDNA) in research on human migration, human ancestry, and the peopling of the Earth.
3. Discuss in a short essay the major anatomical shifts that enabled bipedalism among early modern humans.

Other Assignments

Faculty may elect to supplement classroom activities with field observation projects, class trips and/or guest speakers.

For example:

1. Campus presentation by primatologists, coupled with excerpts from *Gorillas in the Mist*, an account of the life of Dian Fossey, a primatologist from the Bay area.
2. Field trip to a primatology exhibit, such as the Exploratorium in San Francisco or the Family Lemur Forest exhibit at the San Francisco Zoo.

SECTION F - Textbooks and Instructional Materials

Material Type

Textbook

Author

Stanford, C., Allen, J.S., Anton, S.C.

Title

Biological Anthropology: The Natural History of Humankind

Edition/Version

4

Publisher

Pearson Higher Education

Year

2019

ISBN #

9780134005690

Material Type

Manual

Author

Soluri, K., Agarwal, S

Title

Laboratory Manual and Workbook for Biological Anthropology

Publisher

W.W. Norton and Company, Inc. (ISBN 9780393697476)

Year

2019

Material Type

Open Educational Resource (OER)

Author
Shook, B., Braff, L., Nelson, K., Aguilera, K., Eds.

Title
Explorations: An Open Invitation to Biological Anthropology

Edition/Version
2

Publisher
American Anthropological Association

Year
2023

ISBN #
http://explorations.americananthro.org

Material Type
Textbook

Author
Fuentes, A.

Title
Biological Anthropology: Concepts and Connections

Edition/Version
3

Publisher
McGraw Hill Higher Education

Year
2019

ISBN #
9780077861513

Material Type
Textbook

Author
Larsen, C.S.

Title
Essentials of Biological Anthropology

Edition/Version
6

Publisher
W.W. Norton

Year
2025

ISBN #
9781324084082 (ebook) / 9781324084013 (pbk)

Course Codes (Admin Only)

ASSIST Update
No

CB00 State ID
CCC000604711

CB10 Cooperative Work Experience Status
N - Is Not Part of a Cooperative Work Experience Education Program

CB11 Course Classification Status
Y - Credit Course

CB13 Special Class Status
N - The Course is Not an Approved Special Class

CB23 Funding Agency Category
Y - Not Applicable (Funding Not Used)

CB24 Program Course Status
Program Applicable

Allow Pass/No Pass
Yes

Only Pass/No Pass
No