ANTHR101 : Physical Anthropology with Lab

General Information

Author:	• Michelle Stonis • Fonarow, Wendy
Course Code (CB01) :	ANTHR101
Course Title (CB02) :	Physical Anthropology with Lab
Department:	ANTHR
Proposal Start:	Fall 2024
TOP Code (CB03) :	(2202.00) Anthropology
CIP Code:	(45.0201) Anthropology, General.
SAM Code (CB09) :	Non-Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000618040
Curriculum Committee Approval Date:	04/10/2024
Board of Trustees Approval Date:	Pending
Last Cyclical Review Date:	02/01/2020
Course Description and Course Note:	ANTHR 101 introduces the concepts, methods of inquiry, and scientific explanations for biological evolution and its application to the human species while exploring them in a laboratory setting. Issues and topics will include genetics, evolutionary theory, human variation and biocultural adaptations, comparative primate anatomy and behavior, forensic anthropology, human osteology, and the fossil evidence for human evolution. The scientific method serves as foundation of the course.
Justification:	Content Change
Academic Career:	• Credit

Academic Senate Discipline

Primary Discipline:	• Anthropology
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

• Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

Transferability & Gen. Ed. Options

General Education Status (CB25)

Not Applicable

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

IGETC Area	Area	Status	Approval Date	Comparable Course
5B-Biological Science	Biological Science	Approved	09/09/1991	No Comparable Course defined.
5C-Science Laboratory	Science Laboratory	Approved	08/30/2021	

CSU GE-Breadth Area	Area	Status	Approval Date	Comparable Course
B2-Life Science	Life Science	Approved	No value	No Comparable Course defined.
B3-Laboratory Activity	Laboratory Activity	Approved	08/30/2021	

C-ID	Area	Status	Approval Date	Comparable Course
ANTH	Anthropology	Approved	09/03/2013	ANTH 110 - Introduction to Biological Anthropology

Units and Hours

Summary

Minimum Credit Units (CB07)	4
Maximum Credit Units (CB06)	4
Total Course In-Class (Contact) Hours	108
Total Course Out-of-Class Hours	108
Total Student Learning Hours	216

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

Weekly Student Hours

Course Student Hours

	In Class	Out of Class
Lecture Hours	3	6
Laboratory Hours	3	0
Studio Hours	0	0

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	54
Laboratory	54
Studio	0
Total	108
Course Out-of-Class Hours	
Lecture	108
Laboratory	0
Studio	0
Total	108

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ENGL101 - Introduction to College Reading and Composition

Objectives

- Read, analyze, and evaluate a variety of primarily non-fiction readings for content, context, and rhetorical merit with consideration of tone, audience, and purpose.
- Apply a variety of rhetorical strategies in writing unified, well-organized essays directed by a well-reasoned thesis statement with persuasive support.
- Develop varied and flexible strategies for generating, drafting, and revising essays.
- Analyze stylistic choices in their own writing and the writing of others.
- Write timed, in-class essays exhibiting acceptable college-level control of mechanics, organization, development, and coherence.
- Integrate the ideas of others through paraphrasing, summarizing, and quoting without plagiarism.
- Find, evaluate, analyze, and interpret primary and secondary sources, incorporating them into written essays using appropriate documentation format.
- Proofread and edit essays for presentation so they exhibit no disruptive errors in English grammar, usage, or punctuation.

OR

Advisory

ESL151 - Reading And Composition V

Objectives

- Read and critically analyze various academic readings.
- Summarize readings.
- Organize fully-developed essays in both expository and argumentative modes.
- Compose a 500 to 550-word essay that summarizes and cites appropriately a reading passage; includes a clear thesis statement; uses evidence to support the thesis; and shows clear organization into an introduction, body, and conclusion.

- Revise writing to eliminate errors in syntax, and grammatical constructions;
- Employ basic library research techniques.
- Compose one research paper (1,000 words) or two short research papers (500-700 words each) with citations.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction	Lecture
Methods of Instruction	Laboratory
Methods of Instruction	Discussion
Methods of Instruction	Multimedia
Methods of Instruction	Independent Study
Methods of Instruction	Collaborative Learning
Methods of Instruction	Demonstrations
Methods of Instruction	Field Activites (Trips)

Methods of Instruction	Guest Speakers
Methods of Instruction	Presentations

Out of Class Assignments

- Written assignments (e.g., short paper about cell biology)
- Out-of-class visits and field trips (e.g., attending primate lectures at the SCPRF)
- Group projects (e.g., a primate research project based on empirical observations of primates at the zoo)

Methods of Evaluation	Rationale
Other	Lab exercises
Exam/Quiz/Test	Quizzes
In-Class Activity (answering journal prompt, group activity)	Essays and other written in-class assignments
Exam/Quiz/Test	Midterm examination
Exam/Quiz/Test	Cumulative final examination (e.g., multiple choice, true/false, and matching format)

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
No Value	No Value	No Value	No Value	No Value

Other Instructional Materials (i.e. OER, handouts)

Description	Explorations: An Open Invitation to Biological Anthropology Second Edition (American Anthropological Association, 2023) (CC BY-NC) A comprehensive, peer-reviewed, multi-authored OER for introductory biological anthropology courses. This book's chapters explore evolutionary theory, genetics, nonhuman primates' origin/evolution, hominin origin/evolution, human adaptation, and other topics. Provides ancillaries, including lecture slides, guided reading notes, and testbank.
Author	Shook, Beth et al.
Citation	978-1-931303-82-8
Online Resource(s)	

Materials Fee

A material/lab fee may be required for this course.

Learning Outcomes and Objectives

Course Objectives

Describe the scientific process as a methodology for understanding the natural world.

Define the scope of anthropology and discuss the role of biological anthropology within the discipline.

Identify the main contributors to the development of evolutionary theory.

Explain the basic principles of Mendelian, molecular and population genetics.

Evaluate how the forces of evolution produce genetic and phenotypic change over time, including mutational errors and natural selection.

Demonstrate an understanding of classification, morphology and behavior of living primates, and primate identification.

Summarize methods used in interpreting the fossil record, including dating techniques and biasing agents.

Recognize the major groups of hominin fossils and describe alternate phylogenies for human evolution.

Identify the biological and cultural factors responsible for human variation.

Describe the ways human variation has been examined and critique both how the scientific and social communities have used data.

SLOs

Summarize the scope of physical anthropology, including evolution, genetics, and the principles of cell biology.

Expected Outcome Performance: 70.0

ILOs Core ILOs	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.
SOC S Social Sciences	Demonstrate critical thinking skills and a basic understanding of the complex interrelationships between human kind and the biophysical environment
	Developed a broad and critical understanding of the complex interconnections between the human and environmental forces in their world

Discuss hominid and non-human primate anatomy and behavior and make inferences about behavior from morphological characteristics of skeletons.

Expected Outcome Performance: 70.0

ANTHR Anthropology - AA-T	Analyze and describe how culture acts as our primary adaptive response
ILOs Core ILOs	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication.

SOC S Social Sciences	Demonstrate critical thinking skills and a basic understanding of the complex interrelationships between human kind and the biophysical environment
	Developed a broad and critical understanding of the complex interconnections between the human and environmental forces in their world
ILOs General Education	analyze, interpret, and present research evidence
	apply reasoning to evaluate hypotheses and theories
	examine causality or associations between or among variables of the natural world

Analyze the record of fossil forms leading to the characteristic structure of modern Homo sapiens, identifying human variation at the individual and group levels.

Expected Outcome Performance: 70.0

ILOs Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
ILOs General Education	analyze, interpret, and present research evidence
	apply reasoning to evaluate hypotheses and theories
	examine causality or associations between or among variables of the natural world

Critique the evolutionary aspects of human health and disease and interpret the implications of current and future forces of change.

Expected Outcome Performance: 70.0

ANTHR Anthropology - AA-T	Analyze and describe how culture acts as our primary adaptive response
ILOs Core ILOs	Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.
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Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Physical Anthropology (4 hours)

- Definition of anthropology
- Sub-disciplines of anthropology, with an emphasis on physical anthropology
- Scientific method, natural selection, and basic evolution
    - What the scientific method is and how it works
    - The nature and function of natural selection
    - Evolution, evolutionary theory, forerunners to evolutionary thought

Genetics and Genetic Mechanisms of Evolution (6 hours)

- Cell biology/eukaryotic cell and organelles
- DNA molecule/DNA synthesis/protein synthesis
- Cell division: mitosis and meiosis
- Chromosomal types
- Structural and regulatory genes
- Genotypes and phenotypes
- Mechanisms of mendelian genetics
- Genetic stability and variability

Genetics of Populations (6 hours)

- Population genetics/concepts of gene frequency and gene pool
- The hardy-weinberg theorem
- Microevolutionary forces
- Mutation and genetic recombination, natural selection, gene flow, random genetic drift
- Balanced polymorphism
- Macroevolution: modes and tempos of speciation

Order Primates (7 hours)

- Taxonomy and classification of humans and non-human primates
- Five categories of primates
- Non-human primate distribution/habitats/locomotion/dental formulas, different teeth and functions
- Ancestral and derived traits
- Prosimians, old world monkeys and new world monkeys
- Basic skeletal anatomy and taxonomy
- Sexual dimorphism

Our Closest Living Relatives: The Apes (9 hours)

- The lesser apes: gibbons and siamangs
- The great apes: orangutans, gorillas, chimpanzees and bonobos
- Conservation status, methods and concerns Significance of primate behavior studies and early hominid evolution
- Primate behavior and adaptations: mating, reproductive, communication strategies
- Conduct and biases of behavior studies
- Observations of living primates (fieldwork)
- Interpretations of living primate data

Early Hominid Evolution (6 hours)

- Cenozoic era and adaptive radiation of non-human primates and hominids
- Bipedalism and changes to the skeleton
- Fossilization and dating techniques
- Early hominids and australopithecines
- The origin of the genus Homo
- Archaeological methods and dating techniques

Adaptive Radiation of the Genus Homo (7 hours)

- Genus Homo and species
- Significance archaeological sites, skeletal remains and cultural artifacts
- Behavioral firsts and paleolithic, mesolithic and neolithic tool industries
- Migrations of the genus homo
- The neanderthals
- The origin of Homo sapiens
- Dental morphology and diet

Human Variation and Biological Adaptations (6 hours)

- The concept of race: past and present perspectives
- Analyzing human variation
- Adaptive significance of human phenotypes
- Body size, pigmentation, resistance to disease, and other adaptive mechanisms
- Biological and cultural strategies to heat, cold and altitude stress
- Bone anthropometry and dermatoglyphics

Evolution: Today and Tomorrow (3 hours)

- The forces of change

Total Hours: 54

Laboratory/Studio Content

Physical Anthropology (3 hours)

- Definition of anthropology
- Sub-disciplines of anthropology, with an emphasis on physical anthropology
- Scientific method, natural selection, and basic evolution
    - What the scientific method is and how it works
    - The nature and function of natural selection
    - Evolution, evolutionary theory, forerunners to evolutionary thought

Genetics and Genetic Mechanisms of Evolution (12 hours)

- Cell biology/eukaryotic cell and organelles
- DNA molecule/DNA synthesis/protein synthesis
- Cell division: mitosis and meiosis
- Chromosomal types
- Structural and regulatory genes
- Genotypes and phenotypes
- Mechanisms of mendelian genetics
- Genetic stability and variability

Genetics of Populations (4 hours)

- Population genetics/concepts of gene frequency and gene pool
- The hardy-weinberg theorem
- Microevolutionary forces
- Mutation and genetic recombination, natural selection, gene flow, random genetic drift
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- The hardy-weinberg theorem
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- Balanced polymorphism
- Macroevolution: modes and tempos of speciation

Order Primates (8 hours)

- Taxonomy and classification of humans and non-human primates
- Five categories of primates
- Non-human primate distribution/habitats/locomotion/dental formulas, different teeth and functions
- Ancestral and derived traits
- Prosimians, old world monkeys and new world monkeys
- Basic skeletal anatomy and taxonomy
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- Bone anthropometry and dermatoglyphics

Forensic Anthropology/Osteology (6 hours)

- Bone trauma
- Bone pathology
- Determination of age, sex, and cause of death

Total Hours 54

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

Natural Sciences

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liason?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value