



El Camino College
COURSE OUTLINE OF RECORD – Approved

I. GENERAL COURSE INFORMATION

Subject and Number: Anthropology 1
Descriptive Title: Introduction to Biological Anthropology
Course Disciplines: Anthropology
Division: Behavioral and Social Sciences

Catalog Description:

This course explores and emphasizes the evolution and biological diversity of the human species and our closest living relatives, the non-human primates. Topics include genetics, mechanisms of evolutionary change, primate behavior and ecology, human biological variation and human evolutionary history through examination of the fossil record.

Note: Students may take either Anthropology 1 or Anthropology 1H. Duplicate credit will not be awarded.

Conditions of Enrollment:

Recommended Preparation: English 1 or eligibility for English 1A or qualification by appropriate assessment.

Course Length:	X Full Term	Other (Specify number of weeks):
Hours Lecture:	3.00 hours per week	TBA
Hours Laboratory:	0 hours per week	TBA
Course Units:	3.00	

Grading Method: Letter
Credit Status: Associate Degree Credit

Transfer CSU: X Effective Date: Prior to July 1992
Transfer UC: X Effective Date: Prior to July 1992

General Education:

El Camino College:
1 – Natural Sciences

Term: Other:

CSU GE:
B2 - Life Science

Term: Other: Approved

IGETC:
5B - Biological Science without a Lab

Term: Fall 1991 Other:

II. OUTCOMES AND OBJECTIVES

A. COURSE STUDENT LEARNING OUTCOMES (The course student learning outcomes are listed below, along with a representative assessment method for each. Student learning outcomes are not subject to review, revision or approval by the College Curriculum Committee)

SLO #1 Natural Selection In a written assignment, students will explain how natural selection is related to environmental factors by using an example that identifies key processes of natural selection and illustrates how selective pressures can change.

SLO #2 Primate Arboreal Adaptation In an in-class assignment or objective exam question, students will demonstrate an understanding of primate adaptation by describing the major anatomical characteristics of primates associated with movement and the senses, and identifying how they evolved as adaptations to arboreal environments. (Active)

SLO #3 Human Evolution In a written assignment or objective exam question(s), students will demonstrate an understanding of human evolution by comparing and contrasting the anatomical and behavioral features of modern Homo sapiens with various extinct species of the Genus Homo (e.g. Neanderthals, H. erectus, H. habilis). (Active)

The above SLOs were the most recent available SLOs at the time of course review. For the most current SLO statements, visit the El Camino College SLO webpage at <http://www.elcamino.edu/academics/slo/>.

B. Course Student Learning Objectives (The major learning objective for students enrolled in this course are listed below, along with a representative assessment method for each)

1. Demonstrate an understanding of the concept of the scientific method and its significance to science.
 - Objective Exams
2. Describe and evaluate the major ideas that preceded and led to the development of evolutionary theory and analyze modern theories of Darwinian evolution through natural selection.
 - Essay exams
3. Identify and describe the processes by which genetic information is transmitted from one generation to the next.
 - Objective Exams
4. Identify and discuss the various components of the DNA molecule and the process of protein synthesis.
 - Objective Exams
5. Explain and assess the mechanisms of evolutionary change and explain how each one contributes to the evolutionary process.
 - Essay exams
6. Contrast point and chromosomal mutations and discuss the significance of point mutations to evolution.
 - Objective Exams
7. List the major anatomical characteristics of primates associated with movement and the senses, and explain how they evolved as adaptations to an arboreal environment.
 - Objective Exams
8. Contrast the major forms of primate social structure and describe their relationship to the primate species' ecology.
 - Essay exams
9. Evaluate the benefits of bipedalism in reference to the particular environment in which most hominin evolution occurred.
 - Essay exams

10. Compare and contrast the skull characteristics of *Australopithecus africanus*, *Australopithecus* (or *Paranthropus*) *boisei*, and *Homo habilis* in relation to the particular diet of each.
 - Essay exams
11. Contrast the anatomical characteristics of *Homo habilis* and *Homo erectus*, and analyze those contrasts in reference to their respective environments and subsistence strategies.
 - Objective Exams
12. Analyze the characteristics of *Homo neanderthalensis* in reference to the environment in which this hominin lived.
 - Objective Exams
13. Evaluate the models that account for the origin of *Homo sapiens*, outlining the major criteria and evidence supporting each.
 - Objective Exams
14. Outline the cultural stages in the evolution of the genus *Homo*, making reference to the particular *Homo* species, tool industry, and environmental context associated with each stage.
 - Essay exams
15. Explain the difference between physiological adjustments and adaptations and explain skin color and body form as adaptations to particular environments.
 - Essay exams

III. OUTLINE OF SUBJECT MATTER (Topics are detailed enough to enable a qualified instructor to determine the major areas that should be covered as well as ensure consistency from instructor to instructor and semester to semester.)

Lecture or Lab	Approximate Hours	Topic Number	Major Topic
Lecture	3	I	Introduction to Biological Anthropology A. The Relationship of Biological Anthropology to Other Anthropological Fields 1. Archaeology 2. Cultural Anthropology 3. Linguistic Anthropology B. Biological Anthropology as a Science 1. The Anthropological Perspective 2. The Scientific Method
Lecture	3	II	History of the Development of Evolutionary Theory A. Pre-Darwinian Contributions to Evolutionary Thought B. The Discovery of Natural Selection C. Natural Selection in Action
Lecture	3	III	Introduction to Cell Biology A. Structure of the Eukaryotic Cell B. DNA Structure and Function C. Protein Synthesis D. Cell Division: Mitosis and Meiosis E. Chromosomal Mutations as a Result of Nondisjunction
Lecture	3	IV	Mendelian Genetics A. Mendel's Principles 1. Segregation 2. Independent Assortment B. Autosomal and Sex-Linked Inheritance C. Non-Mendelian Inheritance D. Population Genetics

Lecture	3	V	<p>Modern Evolutionary Theory</p> <p>A. Forces of Evolution</p> <ol style="list-style-type: none"> 1. Mutation 2. Natural Selection 3. Gene Flow 4. Genetic Drift <p>B. Macroevolution</p> <ol style="list-style-type: none"> 1. The Species Concept 2. Speciation 3. Adaptive Radiation 4. Gradualism Versus Punctuated Equilibrium Models
Lecture	6	VI	<p>Biological Classification and Vertebrate Evolutionary History</p> <p>A. Classification Approaches</p> <ol style="list-style-type: none"> 1. Evolutionary Systematics 2. Cladistic Analysis <p>B. Introduction to the Vertebrates</p> <p>C. The Class Mammalia</p>
Lecture	3	VII	<p>The Living Primates</p> <p>A. Distinguishing Characteristics of the Primate Order</p> <p>B. Arboreal Adaptations and Other Traits Unique to the Non-Human Primates</p> <ol style="list-style-type: none"> 1. Prosimians 2. New World Monkeys 3. Old World Monkeys 4. Apes <p>C. Primate Classification</p> <p>D. Endangered Primates</p>
Lecture	3	VIII	<p>Introduction to Primatology</p> <p>A. Behavioral Ecology</p> <p>B. Non-Human Primate Social Behavior</p> <ol style="list-style-type: none"> 1. Dominance 2. Affiliative Behaviors 3. Mating Systems 4. Parenting <p>C. Social Structure</p> <p>D. Reproduction</p> <ol style="list-style-type: none"> 1. Male and Female Reproductive Strategies 2. Sexual Selection <p>E. Cooperation, Altruism, Kin Selection and Group Selection</p>
Lecture	3	IX	<p>Non-Human Primate Models for Human Behavioral Evolution</p> <p>A. The Evolution of Human Language</p> <p>B. Language Capabilities in Non-Human Primates</p> <p>C. Cultural Behavior</p> <p>D. Violence and Aggression</p> <p>E. Capacity for Empathy, Deception, and Displacement</p>
Lecture	3	X	<p>Introduction to Paleoanthropology</p> <p>A. Fossils and Fossilization</p>

			<ol style="list-style-type: none"> 1. Factors that Contribute to Fossilization 2. Problems with Interpreting Data from Fossils <p>B. Dating Methods</p> <p>C. Definition of a Hominin</p> <p>D. Reconstruction of Early Hominin Environments and Behavior</p>
Lecture	3	XI	<p>The Fossil Primates</p> <ol style="list-style-type: none"> A. Paleocene Primate-Like Mammals B. The <i>True</i> Primates of the Eocene C. Oligocene Primates D. Miocene Hominoids E. Evolution of the Extant Hominoids
Lecture	3	XII	<p>Hominin Origins</p> <ol style="list-style-type: none"> A. The Bipedal Adaptation B. Early Hominins in Africa - Pre-Australopithecus C. Australopithecus/Paranthropus D. Evidence for Behavior
Lecture	3	XIII	<p>The Genus Homo</p> <ol style="list-style-type: none"> A. Homo Habilis <ol style="list-style-type: none"> 1. South African Specimens 2. East African Specimens B. Homo Rudolfensis from East Africa - Olduvai and East Turkana <ol style="list-style-type: none"> 1. Evidence for Behavior 2. Oldowan Tool Culture C. Homo Ergaster from East Africa <ol style="list-style-type: none"> 1. Evidence for Behavior 2. Acheulian Tool Culture 3. Skeletal Morphology D. Homo Erectus <ol style="list-style-type: none"> 1. Culture 2. Tool Technology 3. Javan Specimens 4. Chinese Specimens 5. European Specimens 6. Skeletal Morphology E. The Dmanisi Hominins
Lecture	3	XIV	<p>Archaic Homo Sapiens</p> <ol style="list-style-type: none"> A. The Pleistocene Environment B. Homo Heidelbergensis <ol style="list-style-type: none"> 1. African Specimens 2. European Specimens 3. Chinese Specimens C. Homo Antecessor from Spain D. Middle Pleistocene Technology E. Neanderthal Specimens <ol style="list-style-type: none"> 1. Western Europe 2. Central Europe 3, Western Asia 4, Central Asia

			F. Skeletal Morphology of the Neanderthals G. Culture of Neanderthals 1. Mousterian Stone Tool Technology 2. Subsistence Strategies 3. Archaeological Evidence for Symbolic Behavior 4. Skeletal and Genetic Evidence for Language Abilities
Lecture	3	XV	The Origin and Dispersal of Homo Sapiens A. Models for Understanding Modern Human Origins 1. Complete Replacement Model 2. Regional Continuity Model B. Morphological Features of Homo Sapiens C. Key Discoveries from Old World Sites D. Upper Paleolithic Culture E. Migration to the New World F. Homo Floresiensis Discovery
Lecture	6	XVI	Human Biological Variation and Adaptation A. Historical Views of Human Variation B. The Anthropological Concept of Race C. The Adaptive Significance of Human Variation 1. Skin Color 2. Body Form 3. Infectious Disease D. Human Biocultural Evolution E. Human Skeletal Variation 1. Techniques Used by Forensic Anthropologists 2. Data Used by Archaeologists
Total Lecture Hours		54	
Total Laboratory Hours		0	
Total Hours		54	

IV. PRIMARY METHOD OF EVALUATION AND SAMPLE ASSIGNMENTS

A. PRIMARY METHOD OF EVALUATION:

Substantial writing assignments

B. TYPICAL ASSIGNMENT USING PRIMARY METHOD OF EVALUATION:

In a written two- to three-page essay, assess and evaluate the argument made by Dr. Robert Kunzig in his article entitled *Learning to Love Neanderthals* which states that modern Homo sapiens and Neanderthals interbred.

C. COLLEGE-LEVEL CRITICAL THINKING ASSIGNMENTS:

1. Examine the sociopolitical events of 19th Century England to place Darwin's research within its historical context. In a two- to three-page essay, outline these events and assess their impact on Darwin, his research, and his publications.
2. Examine non-verbal communication in humans with an emphasis on those gestures and behaviors we share with non-human primates. In a two- to three-page essay, assess the evolutionary importance of these behaviors and address the role of culture in the evolution of human language and communication.

D. OTHER TYPICAL ASSESSMENT AND EVALUATION METHODS:

- Essay exams
- Objective Exams
- Reading reports
- Written homework
- Term or other papers
- Multiple Choice
- Completion
- Matching Items
- True/False

V. INSTRUCTIONAL METHODS

- Lecture
- Multimedia presentations

Note: In compliance with Board Policies 1600 and 3410, Title 5 California Code of Regulations, the Rehabilitation Act of 1973, and Sections 504 and 508 of the Americans with Disabilities Act, instruction delivery shall provide access, full inclusion, and effective communication for students with disabilities.

VI. WORK OUTSIDE OF CLASS

- Study
- Answer questions
- Required reading
- Written work

Estimated Independent Study Hours per Week: 6

VII. TEXTS AND MATERIALS

A. UP-TO-DATE REPRESENTATIVE TEXTBOOKS

Clark Spencer Larsen. Essentials of Biological Anthropology. W. W. Norton and Company, 2019.

B. ALTERNATIVE TEXTBOOKS

C. REQUIRED SUPPLEMENTARY READINGS

D. OTHER REQUIRED MATERIALS

VIII. CONDITIONS OF ENROLLMENT

A. Requisites (Course and Non-Course Prerequisites and Corequisites)

Requisites	Category and Justification
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B. Requisite Skills

Requisite Skills

C. Recommended Preparations (Course and Non-Course)

Recommended Preparation	Category and Justification
English 1	<p>Category: Course</p> <p>Justification: This course involves reading college level textbooks, developing written projects, and answering essay questions. A student's success in this class will be enhanced if they have these skills.</p>
Eligibility for English 1A or qualification by appropriate assessment	<p>Category: Non-Course</p> <p>Justification: This course involves reading college level textbooks, developing written projects, and answering essay questions. A student's success in this class will be enhanced if they have these skills.</p>

D. Recommended Skills

Recommended Skills
<p>Students need well-developed reading skills in order to understand and interpret information in their textbooks and writing skills to develop essays and projects.</p> <p>ENGL 1 – Summarize, analyze, evaluate, and synthesize college-level texts.</p> <p>ENGL 1 – Write a well-reasoned, well-supported expository essay that demonstrates application of the academic writing process.</p>

E. Enrollment Limitations

Enrollment Limitations and Category	Enrollment Limitations Impact

Course created by R. T. Davison and W. P. Foster on 11/16/1988.

BOARD APPROVAL DATE:

LAST BOARD APPROVAL DATE: 11/18/2019

Last Reviewed and/or Revised by: Marianne Waters
18043

Date: September 25, 2019