Number: ANTH G185L     TITLE: Physical Anthropology Lab

ORIGINAL: Leah Walden-Hurtgen     EFF TERM: Fall 2015
FORMERLY KNOWN AS: Formerly ANTH G121     DATE OF
Degree Audit
CROSS LISTED COURSE:

SEMESTER UNITS: 1.0
HRS LEC: 0.0     HRS LAB: 54.0     HRS OTHER: 0.0
CONTACT HRS TOTAL: 54.0
STUDY NON-CONTACT HRS RECOMMENDED: 0.0

CATALOG DESCRIPTION:
Formerly known as ANTH G121. This laboratory course covers cellular biology; evolutionary principals; human genetics and heredity; human, hominin and non-human primate anatomy; primate fossil records; forensic anthropology; and modern human biological variation. Pre-requistie or co-requisite: ANTH G185 (Physical Anthropology).

JUSTIFICATION FOR COURSE:

PREREQUISITES:
• ANTH G185: Physical Anthropology with a minimum grade of C or better
  or
• ANTH A185: Physical Anthropology with a minimum grade of C or better
  or

COREQUISITES:
• ANTH G185: Physical Anthropology
  or
• ANTH A185: Physical Anthropology
  or

ADVISORIES:

ASSIGNED DISCIPLINES:
Anthropology

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00
CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X] Credit - Not Degree Applicable [ ]
GRADING POLICY: Pass/No Pass [X] Standard Letter [X] Not Graded [ ] Satisfactory Progress [ ]
OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]
TRANSFER STATUS: CSU Transferable[ ] UC/CSU Transferable[X] Not Transferable[ ]

BASIC SKILLS STATUS: Yes [ ] No [X] LEVELS BELOW TRANSFER: Not Applicable
CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable
NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: E

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [ ] NUMBER REPEATS:
REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]

GWC AA Degree
CSU Breadth
IGETC

Anthropology (Associate in Arts for Transfer)

GE AND TRANSFER REQUIREMENTS MET:
IGETC Area 5: Physical and Biological Sciences
  5C: Laboratory Activity
CSU GE Area B: Scientific Inquiry and Quantitative Reasoning
  B3 - Laboratory Sciences
GWC AA - Area B Physical Universe and Its Life Forms
  Group 1 Physical Universe

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. Broad knowledge - explain the basic principles, processes, and characteristics of cellular biology, DNA replication, human anatomy, and human behavioral impacts on past and modern biological variation (i.e., biocultural evolution).
2. Analytic skills - integrate course information using critical thinking and problem solving skills.
3. Communication skills - work effectively and professionally with a laboratory partner.
4. Applied learning - explain how physical anthropology knowledge can be applied towards the professions of crimonology, primatology, and paleoanthropology.
5. Specialized subject knowledge - identify and explain topics unique to physical anthropology.

COURSE OBJECTIVES:
1. Explain the genetic principles involved in heredity and human evolution.
2. Explain basic cellular structure, functions, and reproduction.
3. Compare and contrast the morphological features of modern humans, ancestral hominins, and non-human primates.
4. Relate the behaviors and physical characteristics of living non-human primates to modern humans.
5. Explain how biocultural interactions between the environment and human behavior affected human evolution as well as modern biological variations.

COURSE CONTENT:

LECTURE CONTENT:

See Lab content

LABORATORY CONTENT:

A. Physical Anthropology as a Science
  1. Scientific Method
  2. Process of Evolution
  3. Evolutionary Theory as a Science
  4. Measuring Evolutionary Success
  5. Evolution and Human Ancestry
B. The Organism and the Cell
  1. Basic Body Plan
  2. Cells
3. Chromosomes
4. Organism, Cells, and Chromosomes

C. The Double Helix
   1. Genetic Material
   2. Protein Synthesis
   3. Mutations

D. How Cells are Made
   1. Cell Division
   2. Chromosomal Aberrations

E. Inheritance
   1. Gregor Mendel
   2. Autosomal Traits
   3. Blood Typing
   4. Sex-Linked Traits
   5. Pedigrees
   6. Genetics Recap

F. Major Forces of Evolution
   1. Natural Selection
   2. Mutation
   3. Migration (Gene Flow)
   4. Random Genetic Drift

G. The Bones Within Us
   1. Functions of the Skeleton
   2. What Can We Tell from Bone?
   3. Classification, Development, and Anatomy of Bone
   4. Anatomical Terminology
   5. Features of Bone
   6. Axial Skeleton
      a. The Skull
      b. Vertebral Column
      c. Thorax
   7. Appendicular Skeleton

H. Forensic Anthropology
   1. Measuring Human Biological Variation
   2. Anthropometric Techniques
   3. Male or Female?
   4. How Old Were They?
   5. Determining Ancestry
   6. How Tall Were They?

I. Comparative Osteology
   1. Evidence from the Teeth and Skull
   2. Evidence from the Postcranial Skeleton

J. Biological Classification and the living Primates
   1. Establishing Evolutionary Relationships
   2. Biological Classification
   3. Alternative Classification Schemes
   4. The Order Primates

K. Observing the Behavior of Living Primates
   1. Captive Primates
   2. Preparation
   3. Primate Behavioral Observations
   4. Focal Animal Instantaneous Sampling
   5. Scan Sampling

L. Early Primates from the Paleocene through the Miocene
   1. Geological Time Scale
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2. Plate Techtonics
3. Primate Beginnings (66 to 56 mya)
4. "True" Primates of the Eocene (56 to 34 mya)
5. Other Eocene Primates from Africa, Asia, and Europe
6. Oligocene Primates (34 to 24 mya)
7. Miocene Honidoids (53 to 23 mya)

M. Who's in Our Family?
1. The Comparative Basis
2. Bipedalism
3. Ape-Human Anatomical Comparisons
4. Cranial and Dental Differences between Humans and Apes
5. Early Members of the Human Line

N. The Genus Homo
1. Early Homo
2. Later ("Archaic") Homo
3. Neanderthals
4. Anatomically Modern Humans

O. Modern Human Biological Variation
1. Intergroup Variation: Race and Ancestry
2. Intragroup Variation: Differences among Individuals

METHODS OF INSTRUCTION:

A. Lab:
B. Field Experience:
C. Independent Study:

INSTRUCTIONAL TECHNIQUES:

Laboratory activities with supportive brief lectures or explanatory media.

COURSE ASSIGNMENTS:

Out-of-class Assignments

Assigned reading, "One Step Further" exercises from the textbook

Writing Assignments

Students participate in group discussions while working on lab exercises. Laboratory assignments will be turned in at the end of each lab session. Students will maintain a journal and/or take midterm and final exams that include responses to objective questions, essay questions, and critical thinking problems.

Reading Assignments

Textbook, Websites, Handouts

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Short Quizzes
Written Assignments
Essay Examinations
Objective Examinations
Report
Projects (ind/group)
Problem Solving Exercises
Oral Presentations
Skills Demonstration
Demonstration of Critical Thinking:
Explanation and application of anthropological concepts in essay form or classroom activities.
Maintenence of a weekly critical thinking reflection log.

Required Writing, Problem Solving, Skills Demonstration:
Students participate in group discussions while working on lab exercises. Laboratory assignments will be turned in at the end of each lab session. Students will maintain a weekly critical thinking journal that allows them to reflect upon the topics covered in the lab. Students will also take a midterm and final that will include responses to objective questions, essay questions, and/or critical thinking problems.

TEXTS, READINGS, AND RESOURCES:
Manuals:

LIBRARY:
Adequate library resources include: Non-Print Materials
Comments:

Attachments:
Attached Files