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Course Outline for ANTH 13

INTRO TO FORENSIC ANTHROPOLOGY

Effective: Fall 2006

I. CATALOG DESCRIPTION:
ANTH 13 — INTRO TO FORENSIC ANTHROPOLOGY — 3.00 units

Introductory course in the application of physical anthropology to the medico-legal process with an emphasis on the identification of human skeletal remains. Includes basic human osteoology and odontology, assessment of age at time of death, sex, ancestry, trauma analysis, pathology, and general physical characteristics including height and weight based upon minimal skeletal remains. Estimation of time since death, crime scene analysis, animal scavenging, and identification procedures. 3 hours.

3.00 Units Lecture

Grading Methods:
Optional

Discipline:

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT:

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

1. distinguish human skeletal remains from animal skeletal remains
2. identify aspects of crime scene investigation imperative to analysis by forensic anthropologists and pathologists
3. assist forensic scientists in both laboratory and field settings

V. CONTENT:

A. Introduction to forensic anthropology
   1. Historical background and methodology
      a. Data gathering and analysis
B. Basics of human osteology and odontology
   1. Overview of the human skeleton
      a. Cranial and postprandial skeleton
      b. Bone anatomy and growth
      c. Human dentition
      d. Human and non-human skeletal distinctions
         1. Morphological differences
         2. State of preservation
C. Recovery scene
   1. Locating remains
   2. Site preparation and mapping
   3. Preliminary excavation
   4. Marking remains
   5. Evidentiary chain of custody
D. Time since death
   1. Estimating TSD of surface finds
   2. Estimating TSD of buried remains
   3. Effects of scavenging
   4. Using local flora and fauna and entomology to estimate TSD
   5. Decomposition of associated materials
E. Forensic anthropology laboratory
   1. Preparation of remains
   2. Reconstruction
   3. Inventorying of remains
F. Determining ancestry
   1. Cranial skeleton
   2. Postcranial skeleton
G. Determining sex

1. Pelvis
2. Skull
3. Various bones
4. Subadults

H. Age at death
1. Subadults
2. Adults

I. Determination of height
1. Basics
2. Full Skeleton
3. Partial skeleton
4. Adjustments
    a. Age
    b. Shrinkage

J. Death and trauma
1. Cause of death
2. Bone trauma basics
3. Characteristics of force
    a. Direction of force
    b. Speed of force
    c. Focus of force
4. Types of trauma
    a. Blunt force
    b. Sharp force
    c. Projectile
    d. Miscellaneous
5. Timing of injury
    a. Antemortem
    b. Perimortem
    c. Postmortem

K. Projectile trauma
1. Basics of ammunitions and firearms
2. Basics of bullet travel
3. Effects of bullets on bone
4. Bullet wound analysis
5. Pellet wound analysis
6. Miscellaneous projectiles

L. Blunt trauma
1. Types of instruments
2. Effects of blunt instruments on skeleton
3. Wound analysis

M. Sharp and miscellaneous trauma
1. Sharp instruments
    a. Effects
    b. Wound analysis
2. Strangulation
3. Chemical trauma

N. Antemortem skeletal conditions
1. Pathologies
2. Anomalies
3. Occupational stress markers

O. Postmortem changes to bone
1. Dismemberments
    a. Basics of saws and saw damage
    b. Analysis of saw marks
2. Animal scavenging
    a. Carnivores
    b. Rodents
3. Fire damage
4. Weathering
5. Burial damage
6. Water damage
7. Miscellaneous damage

P. Identification
1. Facial reconstruction
2. Determining handedness
3. Body weight
4. Antemortem identification
    a. Radiography
    b. Photographic superimposition
    c. Forensic odontology
    d. Miscellaneous techniques

Q. Conclusions
1. Ethics
2. Final report
3. Courtroom testimony

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. Reading of texts and other sources
C. **Discussion** -
D. **Lecture** -
E. **Projects** -
F. **Field Trips** -
G. **Lab** - Hands-on laboratory

VII. TYPICAL ASSIGNMENTS:
A. Lecture 1. Basics of human osteology B. Reading 1. Read the section of your text on basic cranial anatomy. C. Class discussion 1. What are the primary differences in adult and subadult cranial morphology? D. Laboratory 1. Identify the

primary areas of the postcranial skeleton most useful in determining age at time of death. E. Project 1. You are the first responder to a report of a body in a field. Utilizing SOAP (Subjective and Objective information, Assessment of findings, and Plan of action), survey, map and evaluate the scene, noting position of body and associated materials, weather, type of area (park, farm, etc.), and associated injuries to the body. Develop your plan of action for forensic evidence collection and site preservation. F. Field trip 1. Coroner's office

VIII. EVALUATION:

A. **Methods**

1. Exams/Tests
2. Quizzes
3. Projects

B. **Frequency**

1. Approximately three non-comprehensive exams
2. End of term evaluation of project
3. Comprehensive final exam

IX. TYPICAL TEXTS:

1. Byers, Steven H. *Introduction to Forensic Anthropology*. 1st ed., Allyn & Bacon, 2002.
2. Ubelaker, Douglas H. *Human Skeletal Remains*. 2nd ed., Taraxacum, 1998.

X. OTHER MATERIALS REQUIRED OF STUDENTS: