ANTH-222: INTRODUCTION TO FORENSIC ANTHROPOLOGY

Effective Term
Fall 2026

CC Approval
12/05/2025

AS Approval
12/11/2025

BOT Approval
12/18/2025

COCI Approval
02/19/2026

SECTION A - Course Data Elements

CB04 Credit Status
Credit - Degree Applicable

Discipline

Anthropology (Master's Degree)

Subject Code
ANTH - Anthropology
Course Number
222

Department
Anthropology

Division
Arts and Humanities (ARAH)

Full Course Title
Introduction to Forensic Anthropology

Short Title
Intro to Forensic Anthropology

CB03 TOP Code
2202.00 - Anthropology

CB08 Basic Skills Status
NBS - Not Basic Skills

CB09 SAM Code
E - Non-Occupational

Rationale
Updated requisite language due to common course numbering changes.

SECTION B - Course Description

Catalog Course Description
The application of biological anthropology to the medico-legal process. Students will explore basic cellular and evolutionary biology; genetics; osteology and odontology; anthropometry; trauma analysis; pathology; trace analysis; animal scavenging; and related identification procedures. Students will critique the wide range of forensic anthropological applications both locally and globally.

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 a course taught at or above the level of intermediate algebra or appropriate placement.

SECTION D - Course Standards

Is this course variable unit?
No

Units
4.00

Lecture Hours
54

Lab Hours
54

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.	Apply the theories and methods of biological anthropology to define, explore, and assess the human forensic context.
2.	Use the scientific method to determine how laboratory conclusions may be utilized in courtroom proceedings and criminal investigations.

3.	Utilize the metric system of measurement and the osteometric board to determine anthropometric data and analysis of trauma and pathology.
4.	Distinguish among ante-, peri-, and post-mortem trauma.
5.	Contrast forensic anthropology, forensic science, and bioarcheology.
6.	Discuss the globalized role of forensic anthropologists in the contexts of major disasters, health crises, and recovery efforts.
7.	Discuss the humanitarian role of forensic anthropologists in contexts of oppression, crimes against humanity, war, and genocide/ethnocide.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1.	Discuss the emergence and trajectory of anthropology as a scientific discipline.
2.	Evaluate the strength of scientific evidence using standard tests of reliability and validity.
3.	Understand the relationship between forensic science, anthropology, and the medico-legal system.
4.	Apply concepts of natural selection and human evolution to the study of osteology
5.	Identify key features of cellular biology to explain bone formation.
6.	Relate the application of DNA and other human material to criminal investigations, identification, and genetics.
7.	Identify the 208 bones of an adult human body.
8.	Appreciate key anatomical differences between infant, adolescent, adult, and other age-and sex-related progressions of the human body that are relevant to identification.
9.	Identify the methods for preparation, reconstruction, and disposal of remains in the laboratory.
10.	Determine cause and manner of death by assessing ante-, peri-, and post-mortem changes to bone, including pathology, trauma, and natural anomalies.
11.	Determine possible age, sex, stature, handedness, and similar anthropometric data using human skeletal remains.
12.	Appreciate the importance of taphonomic processes, archaeological protocols, and federal law regarding human remains, discovery, and research involving human subjects (NAGPRA, etc.)
13.	Differentiate among human and animal skeletal remains.
14.	Link forensic anthropology to related fields such as forensic toxicology, forensic entomology, computer forensics, etc.
15.	Analyze the basic form, function, and importance of medico-legal death investigations.
16.	Practice evidence presentation and expert testimony in a mock-judicial setting.
17.	Appreciate the value forensic anthropologists and other forensic scientists contribute toward defining, assessing, and potentially solving local and global problems such as human rights abuses, mass graves, disaster recovery, etc.
18.	Assess the available methods for human trauma identification and crime scene analysis (fingerprints, bloodstain patterns, autopsy, toxicology, etc.)
19.	Identify the types of materials, tools, methods, and data used in investigations of fire, arson, and explosive contexts.
20.	Find, identify, and confirm biological material using standard laboratory testing protocols.
21.	Appreciate the various evidence that can be collected during forensic investigations (firearms and tool marks, tread patterns, trace, questioned documents, etc.)

Course Content

1. Introduction to Anthropology
    a. Anthropology and Science
        i. Qualitative, Quantitative, and Experimental research
            1. The nature of "claims" and "evidence"
            2. Relationship to other behavioral sciences
        ii. The Scientific Method
            1. Bias in science
            2. "Junk-science" and pseudoscience
    b. Applied Anthropology and concepts of Justice
        i. Criminal justice
        ii. Social justice
        iii. Global justice
    c. Biological Anthropology
    d. Archaeology

    e. The socio-cultural context of Forensic Anthropology
    f. The linguistic context of Forensic Anthropology
2. Introduction to Forensic Anthropology
    a. Theories and methods of analysis/interpretation
    b. Educational background
    c. Ethical responsibilities
    d. Expert witness testimony
    e. Standardization
        i. Federal Protocols
        ii. State Protocols
        iii. United Nations Protocols
        iv. Professional associations
    f. Trends and career outlook
3. Cell biology and protein synthesis
4. DNA and genetics
5. Human osteology and odontology
    a. The anatomical planes
    b. The appendicular skeleton
    c. The axial skeleton
    d. The cranial bones
    e. Human dentition
6. Human and non-human differentiation
7. Morphological age-related differentiation (subadults)
8. Antemortem skeletal conditions
    a. Nutritional status
    b. Developmental pathologies
    c. Genetifc anomalies
    d. Occupational stress
    e. Healed bones and injuries
    f. Instruments and medical interventions
        i. Replacements (joints, limbs, etc.)
        ii. Surgical material (pacemakers, plates, screws, etc.)
9. Trauma
    a. Characteristics of force
        i. Direction of force
        ii. Speed of force
        iii. Focus of force
    b. Types of trauma
        i. Blunt force
        ii. Sharp force
            1. Puncture/Stabbing
            2. Chopping/Hacking/Saw trauma
        iii. Projectile/ High-velocity trauma
        iv. Ballistic trauma
        v. Sexual trauma in bone
        vi. Types of bone fractures
        vii. Evidence of healed trauma
    c. Timing of trauma
    d. Instruments/Weapons of trauma
    e. Skeletal effects
    f. Wound analysis
10. "Race" and geographic ancestry
11. The biological profile
    a. Anthropometric measurements and analysis
        i. Age estimation
        ii. Sex determination
        iii. Stature and osteometry

iv. Disarticulation and reconstruction
v. Trauma identification

b. Individualization
i. Facial reproduction
ii. Handedness
iii. Body weight
iv. Co-mingling
v. Antemortem medical records
vi. Radiography
vii. microscopy
viii. Image superimposition
ix. Forensic odontology

12. Death, decomposition, and taphonomic processes
a. What is death?
b. Major anthropological works on death and dying
c. Spiritual and religious contexts of death
d. The medico-legal context of death
i. Clinical death
ii. Biological death
1. Cardiopulmonary death
2. Brain death
iii. Types of remains
e. Decomposition and the Nutrient Cycle
i. Chemical decomposition
1. Autolysis and putrefaction
ii. The stages of organic decomposition/ the "Fresh" mortices
1. Algor mortis
2. Rigor mortis
3. Livor mortis
a. Bloat
b. Active decay
c. Diagenesis (bone death)
iii. Determining ante-, peri-, and post-mortem contexts
1. The post-mortem interval (PMI)
2. Forensic entomology
3. Vitreous analysis
4. Gases and chemical analysis
5. Infrared spectroscopy
f. Taphonomic contexts
i. Criminal context
1. Determination of a crime scenes
2. Types of forensic crime scenes
a. Fire/Arson
b. Missing persons/Kidnapping
c. Air and sea accidents
d. Crimes against humanity
e. Genocide and torture
ii. Environmental context
1. Climate
2. Geology
3. Geography
4. Terrain
5. Natural disaster
6. Human error
iii. Archaeological context
1. Finding remains
2. Mapping and site preparation
3. Preliminary excavation
4. NAGPRA and related laws

    iv. Political/Ethical context
    v. Spiritual context (ancestral remains, etc.)
  g. Taphonomic conditions of remains
    i. Dismemberments
    ii. Scavenging
      1. Carnivores
      2. Rodents
    iii. Burial context
    iv. Fire damage
    v. Weathering
    vi. Water damage
    vii. in situ documentation
      1. Photography
      2. Reporting
    viii. Excavation
    ix. Inventory and classification
    x. in sillico documentation
      1. models and simulations
13. Trace Evidence
  a. What is trace evidence?
  b. Types of trace
    i. Glass
    ii. Fibers
    iii. Paint
    iv. Soils
    v. Gunshot residue
  c. Methods for excavating trace from remains
14. Medico-legal forensic death investigations
  a. Working with law enforcement
    i. Concepts of power and authority
    ii. The role of police officers in death investigations
    iii. The role of crime scene technicians
    iv. The importance of the Chain of Custody
    v. The role of the courts
  b. Working with health and safety professionals
    i. The role of the Medical Examiner (ME)
    ii. Autopsies and Toxicology/Pathology
  c. Working with other professionals
    i. Humanitarian organizations
    ii. International courts
    iii. Non-governmental organizations
    iv. Governmental organizations
  d. Working with families, volunteers, and communities
    i. Victims and their families
    ii. Search and rescue volunteers/military
    iii. Native and Indigenous communities
    iv. Jurors
  e. Types of consultation work (depening on credentials)
    i. Non-human evidence collection
      1. Firearms and tools
      2. Tread impressions
      3. Footwear impressions
      4. DNA and/or fingerprint analysis
        a. Genealogical DNA advances
      5. Questioned documents analysis
      6. Handwriting analysis
      7. Accident reconstruction
      8. Bloodstain and bloodpattern analysis
15. Case Studies in Forensic Anthropology

a. Assassination of John F. Kennedy
b. The World Trade Center Attacks (9/11)
c. Hurricane Katrina
d. The Romanov royal family
e. The Caylee Anthony case

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Activity	An activity that measures the correlation between two anatomical variables.
Critique	A written critique of the National Geographic documentary, "The Body Farm."
Discussion	A discussion about the humanitarian crisis in Darfur/Sudan and how forensic anthropologists are providing assistance in the field for refugees in Chad.
Experiments	A laboratory experiment that analyzes the injury pattern of specific tools by making imprints in clay.
Field Experience	A field experience to an autopsy or post in conjunction with local law enforcement/ Coroner's Office.
Field Trips	A virtual or actual field trip to the Tech Museum in San Jose, CA.
Lab	A forensic lab session designed to practice lifting fingerprints and analyzing biological evidence.
Lecture	A lecture on the history of the Glessner Crime Houses of the FBI Behavioral Sciences Unit.
Observation and Demonstration	A lab activity where students observe a specific blood pattern and demonstrate how to replicate the pattern based on their observations.
Service Learning	Service-learning opportunities may include partnering with a non-profit organization or civic organization involved with healthcare, criminal justice, social justice, military, etc.
Visiting Lecturers	A visiting lecture from Dr. Jennifer Raff, an anthropologist and geneticist, about new interventions for Sickle Cell Anemia.
Other	Projects: Example: A team-building class project that develops an Anatomy Cookbook with recipes that use anatomical and forensic terminology (ex: Darwin Bites, Clavicoolers, etc.)

Online Adaptation

Types	Examples of learning activities
Activity	
Directed Study	
Discussion	
Group Work	
Individualized Instruction	
Journal	
Lecture	

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
Exams/Tests	Exams/Tests -- Example: A 100-question Midterm Exam focused on human anatomy terminology and bone identification. Final Exam -- Example: A take-home essay final discussing the humanitarian role that forensic anthropologists assume when performing recovery and investigative work. Mid Term -- Example: A midterm of 50-100 questions related to trauma and pathology of bone.
Quizzes	Example: A ten-question "low-stakes" self-quiz at the end of each learning module/unit.
Projects	Research Projects -- Example: An annotated bibliography of at least five resources relevant to the topic using American Psychological Association (APA) conventions. Projects -- Example: A group project that explores the mission and goals of the POW-MIA JPAC forensic unit in Pearl Harbor, Hawaii. Group Projects -- Example: Forensic anthropologists always work in teams. Students may participate in team-building activities such as Escape Rooms, "Solve a Crime" type game nights, etc.
Portfolios	Students who have interests in anatomical drawing or photography may wish to keep a portfolio of sketches or ideas.
Essays/Papers	A one-page response to the TED Video "Skin Color is an Illusion" by Prof. Dr. Nina Jablonski. What does she mean when she says we are "wearing the skin of our ancestors from a millennia ago."
Oral Presentations	A group presentation that analyzes a courtroom "high profile" criminal case (cases assigned by instructor) in terms of the forensic evidence presented, the expert testimony given, and the impact of the forensic evidence on a potential verdict.
Simulation	Students may view a virtual dissection / virtual autopsy simulation.
Class Participation	Students participate in laboratory assignments as partners and submit one, peer-reviewed lab report for each.
Work Assessments	Discuss the difference between "in situ" analysis and "post" analysis in forensic contexts.
Homework	Read Chapters 1-3 in "Dead Men Do Tell Tales."
Lab Activities	Observing the difference between the overall and bicondylar lengths of the human femur for assessing stature. Student satisfaction with their educational experience -- Example: An anonymous, 10-question Student Satisfaction Survey submitted online.
Other	Field Trips -- Example: A field trip to the forensic anthropology labs at CSU Chico.

Assignments

Reading Assignments
1. Chapters from the textbook(s).
2. A forensic anthropological ethnography such as "Dead Men Do Tell Tales" or "The Bone Woman."
3. Case studies in forensic anthropology.

Writing Assignments
1. Laboratory reports.
2. Analysis of an episode of the television show "Bones."
3. Field reports based on mock crime scenes.
4. Reflection journals.

Outside-of-Class Assignments
Per the expertise of the faculty.

SECTION F - Textbooks and Instructional Materials

Material Type
Textbook

Author
Garvin, H.M., Langley, N.R.

Title
Case Studies in Forensic Anthropology: Bonified Skeletons

Edition/Version
1st

Publisher
CRC Press

Year
2019

Material Type
Textbook

Author
Byers, S.N.

Title
Forensic Anthropology Laboratory Manual

Edition/Version
4th

Publisher
CRC Press

Year
2016

Material Type
Textbook

Author
Langley, N.R., Tersigni-Tarrant, M.A.

Title
Forensic Anthropology: A Comprehensive Introduction

Edition/Version
2nd

Publisher
CRC Press

Year
2017

Material Type
Other required materials/supplies

Description
Laboratory equipment and instructional supplies as requested through the college's budget and planning processes.

SECTION G - Diversity, Equity and Inclusivity

How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?
Needs DEI Statement

Course Codes (Admin Only)

Local GE Approval Dates

Local GE Area A: Natural Science	Fall 2022

CB00 State ID
CCC000639339

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