This course is an introduction to the study of the human skeleton (human osteology) and some of the methods used by skeletal biologists in the identification and study of human skeletons. The information presented in this course can be applied to the study of human skeletons from archaeological sites (modern and prehistoric), legal contexts (forensic osteology), and/or palaeontological contexts.

The topics to be addressed in the lecture portion of this course include the excavation and treatment of human remains, bone and cartilage histology, bone growth and development, the methods for determining age-at-death, sex, stature, and ancestry from human skeletons, dental anthropology, metric and non-metric skeletal variation, palaeodemography, paleopathology, forensic anthropology, biodistance studies, and specialized methods (e.g., isotope analysis, DNA from bone etc.) of skeletal research.

Using anatomical study specimens provided in the lab, students are expected to acquire a basic understanding of human skeletal anatomy (human osteology), including the names and morphological features of bones and teeth. This information will be examined on the first written and lab practical exams. The remaining labs will focus on the methods used in skeletal biology. The laboratory assignments include: histological structure of bone and cartilage; determining age, sex and ancestry; recording of metric and non-metric variation; palaeodemography; data analysis; and paleopathology. The lab assignments will be graded. A final written and lab practical exam will be given at the end of the semester. In addition to completing the laboratory assignments, students are expected to log a total of 5 hours of work assisting with on-going research and other activities related to skeletal biology.

Pre-requisites: Anth 215, 215L, or consent of Instructor; Concurrent enrollment in Anth 384L is required.

UHM Diversification Requirement Designations: Biological Science Diversification Requirement (DB) & Laboratory Science Diversification Requirement (DY)

Laboratory supervisor and teaching assistant: Adam Lauer. Email: alauer@hawaii.edu

Exams and Grade Computation: Written Mid-term Exam = 10%; Mid-term Lab Practical Exam = 20%; Final Written Exam = 15%; Final Lab Practical Exam = 15%; Laboratory Assignments = 40%.

Required Texts: Reading will be assigned from the two required texts and other sources throughout the semester. A reading list will be issued on the first day of class.

Required Texts:

Optional Texts:


Disability Statement: If you feel you need reasonable accommodations because of the impact of a disability, please 1) contact the KOKUA Program (V/T) at 956-7511 or 956-7612 in Room 013 of the QLCS; 2) speak with me privately to discuss your specific needs. I will be happy to work with you and the KOKUA Program to meet your access needs related to your documented disability.
Jan. 14  Lecture: Introduction, organization, field procedures, recovery of skeletal remains, and postmortem changes
Reading: White et al.\(^1\) Ch. 1, 15 & 20; Standards\(^2\) Ch. 9

Jan 16  Lecture: Analysis of skeletal remains; bioarchaeology; anatomical terminology
Reading: White et al.\(^1\) Ch. 2 & 16; Standards\(^2\) Ch. 12

Jan 21  Lectures: Bone biology and bone growth
Reading: White et al.\(^1\) Ch. 3

Jan 23  Lecture: Skull
Lab: Skull
Reading: White et al.\(^1\) Ch. 4

Jan 28  Lab: Skull-continued
PRACTICE QUIZ: Skull

Jan 30  Lecture: Teeth
Lab: Skull and teeth
Reading: White et al.\(^1\) Ch. 5; Standards\(^2\) Ch. 6
PRACTICE QUIZ: Teeth

Feb. 4  Lecture: Hyoid, vertebrae, sternum, ribs
Lab: Hyoid, vertebrae, sternum, ribs
Reading: White et al.\(^1\) Ch. 6 & 7
PRACTICE QUIZ: Hyoid, vertebrae, sternum, ribs

Feb. 6  Lecture: Upper Limb
Lab: Upper Limb
Reading: White et al.\(^1\) Ch. 8-10
PRACTICE QUIZ: Upper limb

Feb. 11 Lecture: Lower Limb
Lab: Lower Limb
Reading: White et al.\(^1\) Ch. 11-13
PRACTICE QUIZ: Lower limb

Feb. 13  Review for lab practical

Feb. 18  Review for lab practical

Feb. 20  WRITTEN EXAM-I / FIRST LAB PRACTICAL

Feb. 25  Lab 1: Bone biology/growth

Feb. 27  Lecture: Age determination: subadults
Lab 2: Subadult age
Reading: White et al.\(^1\) Ch. 18: 379-386; 391-393; Standards\(^2\) Ch. 4: 39-46; Ch. 5: 50-51; Byers\(^3\) Ch. 9: 174-190.

Mar. 4  Lecture: Age determination: adults
Lab 3: Adult age
Reading: White et al.\(^1\) Ch. 18: 387-391, 394-408; Standards\(^2\) Ch. 3: 21-38
LAB 1 DUE
Mar. 6   Lab: Complete Labs 2 & 3

Mar. 11 Lecture: Sex determination
Lab 4: Sex determination
Reading: White et al.¹: 96-98, 408-418; Standards² Ch. 3: 15-21; Byers³ Ch. 8
LABS 2 & 3 DUE

Mar. 13 Lecture: Metric and non-metric variation
Lab 5: Cranial variation
Reading: White et al.¹: 96-98, 476-480, and appropriate sections of Ch. 8, 9, & 12; Standards² Ch. 8
LAB 4 DUE

Mar. 18 Lab: Complete Lab 5

Mar. 20 Lecture: Stature
Lab. 6: Infracranial variation
Reading: White et al.¹: Ch. 18: 418-421; Byers³ Ch. 10
LAB 5 DUE

March 24-28 SPRING BREAK

Apr. 1 Lecture: Biodistance studies
Lab: Complete Lab 6
Reading: White et al.¹: Ch. 21: 480-482


Apr. 3 Lecture: Dental anthropology
Lab 7: Dental anthropology
Reading: Standards² Ch. 5: 47-49, 53-56


LAB 6 DUE

Apr. 8 Lecture: Paleopathology
Lab: Complete Lab 7
Reading: White et al.¹: Ch. 19; Standards² Ch. 10

Apr.10 Lab 8: Paleopathology
LAB 7 DUE

Apr. 15 Lecture: Indicators of stress
Reading

Douglas, M.T. and M. Pietrusewsky 2007 Biological consequences of sedentism and agricultural intensification
Anthropology 384/384L: Skeletal Biology

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Apr. 17 Lecture: Ancestry
Lab 9: Ancestry
LAB 8 DUE
Reading: White et al.¹:421-424; Byers² Ch. 7

Apr. 22 Lecture: Forensic anthropology
Lab: Complete Lab 9
Reading: Byers² (2008:1-10)

Apr. 24 Lecture: Paleodemography
Reading: White et al.¹:485-488; Ubelaker⁴: 135-141
LAB 9 DUE/ Lab 10: Paleodemography

Apr. 29 Lecture: Ethics, repatriation
Reading:
LAB 10 DUE/ Review for lab practical

May 1 Review for lab practical

May 6 FINAL LAB PRACTICAL: 9-11 AM

May 15 FINAL WRITTEN 9:45-11:45 AM

References:


