

**ARKY 555 (LEC01)
Human Osteology
GFC Hours 3-2
Winter 2024**

Prerequisite(s): ANTH 309, ANTH 350, or ARKY 417.

COURSE DESCRIPTION

Identification and interpretation of human skeletal and dental remains. Emphasis is on functional anatomy and reconstruction of prehistoric lifeways.

LEARNING OUTCOMES:

The Department of Anthropology and Archaeology is committed to student knowledge and skill development.

Upon completion of this course, students should be able to:

- List the main ethical responsibilities of those who study and curate human remains
- Correctly identify the elements of the human skeleton and their associated landmarks on anatomical models, on bone or teeth, and/or in illustrations
- Correctly distinguish between the elements from juvenile and adult skeletons
- Describe the structure and function of bone as a living tissue
- Describe the main processes involved with the growth and development of bone and the dentition
- Correctly apply and interpret standard techniques for estimating age, sex, and stature
- Distinguish between expected skeletal variation and common disease, traumatic, or taphonomic processes that affect bone
- Describe the basic applications of current bioarchaeological research (including, but not limited to, paleodemographic analyses, biological distance, and dietary reconstruction)

READINGS AND TEXTBOOKS:

- **Required.** The Human Bone Manual (2005). Tim. D. White and Pieter A. Folkens. Academic Press.
- Additional **required** and recommended readings as indicated in the Schedule below. Links will be provided on D2L.

REQUIRED TECHNOLOGY and EQUIPMENT:

Students will need a computer or similar device to access D2L and the course materials online.

COURSE REQUIREMENTS AND ASSESSMENT

Component	Weight	Due Date
Lab Practical #1	12%	Jan. 31, 2024
Midterm Exam	20%	Feb. 14, 2024
Lab Practical #2	12%	Mar. 4, 2024
Osteobiography Lab Report	20%	April 12, 2024
Final Exam	36%	TBA (Registrar scheduled)

EXAMS**1) Lab Practical Quizzes**

- These will be held during regular scheduled class times. Practicals consist of bell-ringer questions held at a number of stations in the room. You will have a short amount of time (usually 60-90 seconds) to identify the bone and answer any other questions at that particular station before moving to the next.
- These lab practicals are closed book.

2) Midterm Exam

- The ARKY 555 midterm will consist of multiple choice, diagram labeling, and short answer questions.
- The exam will cover material from the first class up until and including the Feb 12th class, including assigned readings.
- The midterm is closed book.

3) Final Exam

- The final exam will have a similar format to the midterm exam (multiple choice, short answer, and labeling diagram questions).
- Content will be cumulative for the entire course.
- The final exam is closed book.

ASSIGNMENT

Osteobiography Lab Report

- a. This written report contains your assessments and interpretations of skeletal remains from the teaching collection, using the techniques we've covered in class.
- b. Access to materials will occur beginning March 4th and extend until April 11th.
- c. Specific grading expectations and criteria are posted on D2L and will be discussed further in class.
- d. The lab report is to be handed in via the D2L Dropbox.
- e. Late submissions will not be accepted without prior instructor approval.

Missed examinations/tests cannot be made up without the approval of the instructor. Exams may only be deferred in the case of serious illness or medical emergency, religious observance, or domestic affliction (see: <https://www.ucalgary.ca/registrar/exams/deferred-final-exams>).

Students who miss a test/exam have up to **48 hours from the scheduled start of the exam** to contact the instructor to ask for a makeup test/exam. Students who do not schedule a makeup test/exam with the instructor within this 48-hour period forfeit the right to a makeup test/exam and will receive a mark of zero on the exam or assignment.

Makeup tests/exams may differ significantly (in form and/or content) from the regularly scheduled test/exam. For ARKY 555, this may involve long-answer or essay-style questions rather than multiple choice. Once approved by the instructor, a makeup test/exam must be written within **two weeks** of the missed test/exam on a day/time scheduled by the instructor.

Students may be asked to provide supporting documentation for an exemption/special request. This may include, but is not limited to, a prolonged absence from a course where participation is required, a missed course assessment, a deferred examination, or an appeal. Students are encouraged to submit documentation that will support their situation. Supporting documentation may be dependent on the reason noted in their personal statement/explanation provided to explain their situation. This could be medical certificate/documentation, references, police reports, invitation letter, or a statutory declaration, etc. The decision to provide supporting documentation that best suits the situation is at the discretion of the student. Students cannot be required to provide specific supporting documentation, such as a medical note. Falsification of any supporting documentation will be taken very seriously and may result in disciplinary action through the Academic Discipline regulations or the Student Non-Academic Misconduct policy.

Deferral of the registrar-scheduled final exam requires Registrar approval

<https://www.ucalgary.ca/registrar/exams/deferred-final-exams>.

Reappraisal of Graded Term Work: <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Reappraisal of Final Grade: <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

Department of Anthropology and Archaeology Grading Scheme:

A+	95 – 100%	B+	80 – 84.9%	C+	67 – 70.9%	D+	55 – 58.9%
A	90 – 94.9%	B	75 – 79.9%	C	63 – 66.9%	D	50 – 54.9%
A-	85 – 89.9%	B-	71 – 74.9%	C-	59 – 62.9%	F	< 50%

*****Please note that no extra credit or 'make up' work is available in this class*****
You do not need to pass each course component to earn a passing grade in the class.

Land Acknowledgement

The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations). The City of Calgary is also home to the Métis Nation of Alberta (Districts 5 and 6).

Acknowledgment and Respect for Diversity

The Department of Anthropology and Archaeology views diversity of identity as a strength and resource. Your experiences and different perspectives are encouraged and add to a rich learning environment that fosters critical thought through respectful discussion and inclusion.

COURSE POLICIES

- Please keep food and drinks outside the lab (ES 743) to prevent spills and messes.
- Photography or video recording of the lab materials, even if intended for personal use in studying, is not permitted.
- Lectures and labs are my own intellectual properties. Audio or video recording is prohibited unless specifically requested through a letter from Student Academic Services (SAS).
- You are welcome to bring your cell phone, tablet, laptop, or other device to class. However, complaints or concerns about distractions in class may result in this policy being revoked for everyone.
- Outside of class, email is the best way to contact me (my address is found at the top of this outline). Although I am usually able to respond quickly, there may be times where I am not able to answer you right away. Please give me at least 24 hours before trying to email me again.

UNIVERSITY POLICIES

ACADEMIC ACCOMMODATIONS

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit <https://live-ucalgary.ucalgary.ca/student-services/access>. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their instructor or the Department Head. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

ACADEMIC INTEGRITY POLICY

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: www.ucalgary.ca/pubs/calendar/current/k.html.

ACADEMIC MISCONDUCT

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are **strongly advised** to read the Student Misconduct section in the University Calendar at: www.ucalgary.ca/pubs/calendar/current/k-3.html. Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>

For students wishing to know more about what constitutes plagiarism and how to properly cite the work of others, the Department of Geography recommends that they attend Academic Integrity workshops offered through the Student Success Centre: <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>

INSTRUCTOR INTELLECTUAL PROPERTY

Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing. Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures/intellectual-property-policy>

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

COPYRIGHT LEGISLATION

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy>) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success Centre
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk

TENTATIVE CLASS SCHEDULE

Topics and Readings are subject to change

Date	Lecture Topic	Lab Topic	Readings
M Jan 8	Course introduction	#1 Lab etiquette and safety; Basic anatomical terms; Introduction to the skeleton	Required: Course syllabus; Stojanowski et al. (2014) Recommended: Ch. 6 in The Human Bone Manual; JoVE Core Anatomy and Physiology video clips
W Jan 10	Bone structure and function		Required: Lynnerup and Klaus (2019) pp: 35-42
M Jan 15	Bone growth and remodelling	#2 Basic parts of the bone; Bone histology	Required: Lynnerup and Klaus (2019): pp: 43-52 Recommended: Scheuer and Black (2004:23-45); JoVE videos 10.11, 10.12, 20.4
W Jan 17	The Teeth		Required: White & Folkens Ch. 8- Dentition; Boissoneault (2018). Recommended: Hassett et al. (2020)
M Jan 22	The Skull	#3 Skull and Dentition	Required: White & Folkens Ch. 7; The Disappearing Spoon podcast "When a hole in the head is a good thing"
W Jan 24	The Skull continued; Juvenile development		Required: Torres-Rouff (2020)
M Jan 29	The Spine and Thorax	#4 Hyoid, Sternum, Ribs, and Vertebrae	Required: White & Folkens Ch 9 & 10
W Jan 31	Lab practical quiz #1- Skull and dentition		
M Feb 5	The Shoulder & Upper Limb	#5 Scapula, Clavicle, Humerus, Radius, Ulna, Carpals, Metacarpals, and Hand Phalanges	Required: White & Folkens Ch. 11, 12, 13
W Feb 7	The Shoulder & Upper Limb continued; juvenile development		Required: Meyer et al. (2011)

Date	Lecture Topic	Lab Topic	Readings
			Recommended: Ubelaker and Zarenko (2012)
M Feb 12	The Lower Limb	#6 Femur, Patella, Tibia, Fibula, Tarsals, Metatarsals, and Pedal Phalanges	Required: White & Folkens Ch. 15 & 16; Ostendorf Smith and Woollen (2020)
W Feb 14	IN-CLASS MIDTERM EXAM		
Feb 18-24 Reading Break. No Classes.			
M Feb 26	The Pelvis; Parturition	#7 Os coxae, sacrum, coccyx	Required: White & Folkens Ch. 14; Waltenberger et al. (2022)
W Feb 28	Taphonomy and Commingled Remains		Required: Lara et al. (2017) Recommended: Pokines and Baker (2022)
M Mar 4	Lab Practical #2- Postcranial skeleton	#8 The osteobiography: Inventorying skeletal remains	Required: Robb et al. (2019)
W Mar 6	The field of bioarchaeology and ethical issues		Required: Lambert and Walker (2018); Alex (2023)
M Mar 11	Sex-related variation in the human skeleton	#9 Osteo reports	Required: Hedenstierna-Jonson et al. (2017); Kralick (2018)
W Mar 13	Age-related variation in the human skeleton		Required: Agarwal (2021); Marquez Grant (2015)
M Mar 18	Paleopathology	#10 Osteo reports	Required: McKenna (2023); Mitchell (2017) Optional, but highly recommended: Lukacs (2017)

Date	Lecture Topic	Lab Topic	Readings
W Mar 20	Forensic Anthropology; Guest Lecture TBD		Required: Passalacqua et al. (2021) Recommended: Skinner and Bowie (2016)
M Mar 25	Ancestry and Biological Distance	#11 Osteo reports	Required: DiGangi and Bethard (2021); Ragsdale and Edgar (2015) Recommended: Larson (2015)- Ch. 9; White & Folkens Ch. 19
W Mar 27	Paleodemography		Required: DeWitte (2010) and TedEd video "The past, present, and future of the bubonic plague" (2014)
M Apr 1	No class		
W Apr 3	TBD: Guest Lecture; Advanced techniques in human skeletal biology	#12 Field trip or osteo reports	Gregoricka (2021); McCullough French et al. (2022); McConnan Borstad et al. (2018)
M Apr 8	Last Class: Course Review	#12 Field trip or osteo reports	
April 12-23 Final Exam Week ARKY 555 Final Exam TBA			

IMPORTANT DATES

M Jan 8	Start of Classes
R Jan 18	Last day to drop a class without a financial penalty
F Jan 19	Last day to add or swap a course
F Jan 26	Fee payment deadline for Fall Term full and half courses.
M Feb 19	Alberta Family Day No Classes.
Feb 18-24	Reading Break. No classes.
F Mar 29	Good Friday no classes
M Apr 1	Easter Monday no classes
T Apr 9	End of classes Last day to withdraw from half courses.
Apr 12-23	Fall Final Exam Period.
May 20-25	Exam period for Registrar deferred final exams

<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html#fall2017>