Department of Anthropology

Anthropology 3338F-001 - Human Skeletal Biology

COURSE OUTLINE

Fall 2023

Version date: September 6, 2023

Instructor and course information:

Dr. Andrea Waters-Rist
Email: awaters8@uwo.ca

Credit value: 0.5 credit
Antirequisites: None.
Prerequisites: Anthropology 2226A/B.

Mode of Delivery: This is an in-person synchronous course with a lab component:1 lecture hour and 2 laboratory hours.

All students must follow the guidelines issued by the Province and the University regarding vaccines and other precautions. The mode of delivery is subject to change in the event of a COVID-19 resurgence.

Course Description:

This course involves the in-depth study of human skeletal and dental remains. Human skeletal biology, or osteology, is essential for research in biological or forensic anthropology. This course will cover several topics including bone and tooth biology and histology, skeletal and dental growth and development, metrics and non-metric traits, estimation of core osteobiographical characteristics such as age-at-death, sex, and stature, data collection techniques and written reporting, taphonomy, and paleopathology, and ethical considerations. At the completion of this course students will be expected to have mastered techniques for conducting, interpreting, and reporting upon human osteological analyses.

A full course schedule including a week-by-week breakdown of topics and assigned readings is included in this course outline and as a separate document in the course's OWL site.

Learning Outcomes:

Upon successful completion of this course, students will be able to do the following.

1. Identify all bones, teeth, and major morphological features, of the human skeleton, in complete and fragmented conditions.
2. Recognize and describe the cellular properties and appearance of bone and teeth.

3. Distinguish non-adult from adult skeletal remains and describe the two types of bone growth.
4. Utilize a microscope, measurement instruments (e.g. calipers, osteometric board), and data recording forms and techniques.
5. Identify common non-metric traits to build towards an understanding of the range of normal human skeletal variation.
6. Estimate non-adult and adult age-at-death using dental and skeletal methods.
7. Estimate sex from adult cranial and post-cranial material.
8. Estimate stature and body size using anthropometric measurements.
9. Estimate biological ancestry (population affiliation) using common metric indices and morphological features.
10. Recognize commonly encountered pathological and traumatic lesions in bones and teeth as well as taphonomic conditions that can mimic pathological lesions.

Course Materials:

The following textbook is required: The Human Bone Manual by TD White and PA Folkens. 2005. Academic Press.

The textbook is available in the bookstore. Other required readings will be posted on OWL and accessible by the first day of class under the Course Readings feature.

Evaluation:

Your course grade will be based on seven items.

Assessment	Weight	Due (exact dates below)	Learning Outcomes Demonstrated by Completing Assessment
Lab #1	7.5%	Week 3	2, 4
Bone Bell-Ringer 1	20%	Week 4	1
Bone Bell-Ringer 2	20%	Week 6	1
Lab #2	10%	Week 9	1, 4, 6, 7
Lab #3	7.5%	Week 11	1, 4, 5, 8, 9
Lab #4	10%	Week 13	1, 3, 4, 6
Final Exam	25%	Final Exam Period	2, 3, 5, 6, 7, 8, 9, 10

Note, the evaluation methods described in this course outline are essential requirements for the course. Alternative assessments are **not** available. More information about the laboratory exercises and bell-ringer tests will be provided in class and on the course OWL site.

Laboratory Exercise number 1. This laboratory report is worth 7.5% of your final grade and is due by **11:55pm on Friday September 29th**. You can continue to submit until Sunday October 1st at 11:55pm. In the absence of accommodations, submissions received after the second deadline will receive a zero. An electronic copy must be submitted via OWL. This laboratory assignment involves examination of bone and tooth histology to understand their microscopic structure and how they function as living tissues during life.

Bone Bell-Ringer Test number 1. This test is worth 20% of your final grade and will **occur at the beginning of class on Wednesday October 4th**. The test will take about 1 hour. Students who arrive late will not be permitted to make-up the stations they missed. This test will examine your knowledge of the skull, dentition, and basic histology. Bell-ringer tests consist of timed stations at which students are asked to identify any of the following: bones and teeth, in complete or incomplete (fragmented) states; landmarks on bones and teeth; anatomical region/side of the body from which they derive; bone or tooth cells or zones of cellular activity; other relevant aspects of the remains taught in lecture. Use of electronic devices will not be allowed.

Bone Bell-Ringer Test number 2. This test is worth 20% of your final grade and will **occur at the beginning of class on Wednesday October 18th**. The test will take about 1 hour. Students who arrive late will not be permitted to make-up the stations they missed. This test will examine your knowledge of the post-cranial skeleton. Bell-ringer tests consist of timed stations at which students are asked to identify any of the following: bones, in complete or incomplete (fragmented) states; landmarks on bones; anatomical region/side of the body from which they derive; or other relevant aspects of the remains taught in lecture. Use of electronic devices will not be allowed.

Laboratory Exercise number 2. This laboratory report is worth 10% of your final grade and is due by **11:55pm on Friday November 10th**. You can continue to submit until Sunday November 12th at 11:55pm. In the absence of accommodations, submissions received after the second deadline will receive a zero. An electronic copy must be submitted via OWL. This laboratory assignment involves estimating the sex and age-at-death of adults using standard techniques.

Laboratory Exercise number 3. This laboratory report is worth 7.5% of your final grade and is due by **11:55pm on Friday November 24th**. You can continue to submit until Sunday November 26th at 11:55pm. In the absence of accommodations, submissions received after the second deadline will receive a zero. An electronic copy must be submitted via OWL. This laboratory assignment involves the estimation of stature and ancestry. In doing so, students will become familiar with common metric measurements and non-metric traits.

Laboratory Exercise number 4. This laboratory report is worth 10% of your final grade and is due by **11:55pm on Friday December 10th.** You can continue to submit until Sunday December 12th at 11:55pm. In the absence of accommodations, submissions received after the second deadline will receive a zero. An electronic copy must be submitted via OWL. This laboratory assignment involves identifying nonadult skeletal remains and estimating nonadult age-at-death using common methods.

In order to pass this essay course, the student must exhibit a minimal level of competence in writing and the appropriate level of knowledge of the content of the course. All laboratory reports may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system.

Final Exam. The final exam is worth 25% of your final grade. The final exam will take place during the Registrar's designated three-hour exam period for this course. The content of the final exam will be derived from lectures and mandatory course readings. The format of the exam will consist of short and long answer essay questions. Use of electronic devices will not be allowed.

Weekly Schedule:

Week	Date	Lecture Topic	Lab Tasks	Assignment & Due Date	Readings
1	Sept 13	Intro, Rules, Terms, Inventory, & Completeness	Lab Rules Study Bones	--	*W&F: Ch. 1 all; Ch. 4 p. 31-45 & 48-49; Ch. 6 all **B&U: Ch 2, p. 4-9
2	Sept 20	Skull, Histology	Study Skull Lab #1 (histology)	--	*W&F: Ch. 7 all
3	Sept 27	Teeth, Histology	Study Skull & Teeth Lab #1 (histology)	Lab #1 (7.5%) Via OWL: Fri SEPT 30, 11:55pm	*W&F: Ch. 8 all
4	Oct 4	Post-Cranium 1	None (lecture occurs in 2nd half of class)	Bone Bell-Ringer 1 (20%). In class: ~9:40-10:45	*W&F: Ch. 9 all, Ch. 10 all, Ch. 11 all, Ch. 12 all
5	Oct 11	Post-Cranium 2 (online)	Use entire class to study postcranial Skeleton	--	*W&F: Ch. 13 all, Ch. 14 all, Ch. 15 all, Ch. 16 all
6	Oct 18	Sex Estimation	None (lecture occurs in 2nd half of class)	Bone Bell-Ringer 2 (20%). In class: ~9:40-10:45	*W&F: Ch. 19 p. 385-397 **B&U: Ch 3 p. 15-20
7	Oct 25	Adult Age-at-Death Estimation (online)	No lab this week (online lecture)	--	*W&F: Ch. 19 p. 360-363 & 365-384 **B&U: Ch. 3, p. 21-38
8	Nov 1	Reading week – no class			
9	Nov 8	None (Use entire class for lab #2	Lab #2 (Adult Sex & Age estimation)	Lab #2 (10%) Via OWL: Fri NOV 10, 11:55pm	--
10	Nov 15	Stature, Metrics & Non-Metrics, Ancestry Estimation	Lab #3 (Stature, Ancestry estimation)		*W&F: Ch. 19 p. 398-411 ** B&U: Ch. 7 all, Ch. 8 all
11	Nov 22	Additional Osteobiography Information (preservation, diet, migration, physical activity, DNA)	Lab #3 (Stature, Ancestry estimation)	Lab #3 (7.5%) Via OWL: Fri NOV 24, 11:55pm	*W&F: Ch. 18 all, Ch. 19 p. 411-413 **B&U: Ch. 9 all
12	Nov 29	Growth & Development, Nonadult Osteology	Lab #4 (Nonadult osteology)		*W&F: Ch. 4 p. 46-47; Ch. 19 p. 364-365 & 373-374 **B&U: Ch. 4 all

13	Dec 6	Paleopathology	Lab #4 (Nonadult osteology)	Lab #4 (10%) Via OWL: Fri NOV 8, 11:55pm	* W&F: Ch. 19 p. 414-418 **B&U: Ch. 5 p. 47-57; Ch. 10 all
Final Exam Period	Dec 10-22	Time & Date of final exam (25%) to be scheduled by the registrar's office			

-NOTE: Bell-ringers will start 10 minutes after the beginning of normal class-time, so at 9:40pm sharp. Students who arrive late will not be permitted to make-up the stations they missed. Bell-ringers will be followed by a lecture.
*W&F=White and Folkens, The Human Bone Manual (your textbook); **B&U=Buikstra and Ubelaker, Standards for Data Collection from Human Skeletal Remains (these chapters posted on OWL)

Academic Statements and Policies

Statement on Seeking Accommodations:

No accommodations will be granted retroactively more than 5 days after an assignment due date or a missed test. If the assignment is worth less than 10% of the final grade, email your instructor right away with an explanation. Your instructor is not to receive medical or other documentation. If the assignment is worth 10% or more of your final grade please contact your academic counsellor immediately to seek accommodation based on medical or compassionate grounds.

Academic Consideration for Student Absence:

Assessments **worth less than 10%** of the overall course grade:

For work worth *less than 10%* of the total course grade, the instructor is empowered to grant academic considerations without referring the student to their academic counsellor. The instructor will determine if the circumstances of the absence merit academic consideration. They are not to receive documentation (medical or otherwise). Note that for assignments that are worth 10% or more documentation is required. Documentation can only be received by the Academic Counselling Office of your Faculty of Registration.

Assessments **worth 10% or more** of the overall course grade:

For work totaling 10% or more of the final course grade, students must provide valid medical or supporting documentation to the Academic Counselling Office of their Faculty of Registration. Students must be in touch with the Office within 5 days of the missed assessment. For further information, please consult the University's medical illness policy at about What is Academic Considerations.

Students who demonstrate a pattern of routinely missing coursework and therefore do not demonstrate mastery of the learning outcomes of the course will not receive credit for this course.

Accommodation Policies for Students with Disabilities:

Students with disabilities work with Accessible Education which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. Please see Accessible Education for more information.

Religious Accommodation:

If course requirements will be affected by a religious observance, students must give reasonable notice in writing, prior to the holiday, to the Instructor and Academic Counselling of their Home Registration. Additional information is given in the Western Multicultural Calendar.

Statement on Plagiarism:

Students must write their assignments in their own words. Whenever students take an idea from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing. Plagiarism is a major scholastic offence. It is also a scholastic offence to submit the same work for credit in more than one course.

Institutional Statements and Policies:

All students should familiarize themselves with Western's current Academic Rights and Responsibilities policies in the Academic Calendar. Such items include accommodations for students with disabilities, religious holidays, consideration for medical illness, academic appeals, plagiarism and scholastic offences, and code of student conduct.

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