



Department of Anthropology
Human Skeletal and Dental Biology
ANTH-4219
Winter 2024

CONTACT INFORMATION

Instructor: Dr. Whitaker
Email: kwhitake@lakeheadu.ca

Class times: Tues, Thurs 8:30 am – 9:50 am
Labs: Mon 2:30 pm - 5:20 pm

Class location: OA 2017
Lab Location: OA 3002

Office Hours: Desk 5, next to office 3008 Monday 2:00-2:25 pm or by appointment over zoom

Overview

Human osteology is an integral part to archaeological investigation. Beyond the associate evidence of the environment, structures and artefacts, human skeletons provide direct evidence of life in the past. Through the assessment of demographic profiles and paleopathology we are able to uncover information about the individual and a population in order to better inform us about continuation and change through both time and space.

Aims of the Course

Identify complete and fragmentary human bones and teeth.
Develop inferences about individuals and populations from skeletal remains.
Learn how human remains integrate with other aspects of archaeological inquiry.

Learning Objectives

Become proficient in several topics including bone biology, growth and development and functional morphology to enrich understanding of archaeologically derived osteological samples.
Be able to understand the complex inter-relationships between people and their wider environment.
Understand the strengths and weaknesses of osteological methods and practice.

Class Readings

The main text for this course will be:

White TD and PA Folkens. 2005. *The Human Bone Manual*. New York; Academic Press.

The majority of your readings that specifically apply to the labs will be derived from this text.

There will be additional readings from journal articles, as specified in the lecture outline in order to provide additional dimensions to the course. All of these readings are required, and you are expected to have completed them prior to the class in which they are discussed.

Assessments

Component	Value	Due Date
Attendance	5%	Ongoing
Bell-Ringers	30% (15% each)	#1 February 26 #2 March 25 Beginning of lab at 2:30 pm
Lab Book	25%	Ongoing, due at end of each lab by 5:20 pm
History Cold Case Report	20%	March 10
Final Take-Home Exam	20%	April Exam Period April 11-24

Attendance 5%

Attendance will be taken every class, considering that **lecture slides and notes will NOT be posted**, you are encouraged to attend and participate in order to get full marks. Attendance will be taken every class for 5% of your final mark. Marks will be based on the following criteria: attending 90% or more classes receive 5%, attending 70-89% of classes receive 3%, attend 50-69% of classes receive 1.5%, attend less than 50% and you will receive zero credit.

Bell-Ringers 15% Each, 30% Total

These will be approximately 1 (one) hour in length and will test your knowledge of the bones, landmarks and methods you have been learning throughout the course using timed stations. They will be cumulative, though they will mainly focus on the information learned since the last test. All possible landmark names are found in your lab book and the course textbook. The specific format for our bell-ringers will be discussed during our first class, and we will do mini practice bell ringers throughout the labs so you get used to the format leading up to each test.

Lab Book 25%

The lab book will be used throughout the course to guide you and provide the exercises you must complete. Make sure you read the relevant readings and sections before each lab and come prepared to complete your work while in lab. Each week's lab can be found under Content on our course

website. You will be submitting each weeks' pages at the end of each lab by email, **specifically due by 5:30 pm each Monday**. Alternatively, you are free to print off the pages and submit them in paper format.

BBC History Cold Case Report 20%

For this assignment you will watch an episode of BBC History Cold Case (episode titles you can choose from will be available February 2), which are available on YouTube, and provide a 5 (five) page summary and review of the case, the methods used, conclusions reached and your overall opinion on the information contained in the program. Please use a minimum of 5 (five) scholarly sources to back up your opinion on the methods used and the conclusions they reached based on those methods. Finally, your concluding paragraph should discuss the value of these types of programs for audiences. Your report package will include: a title page, your report, a reference list using the required referencing format (American Antiquity, see below and the Written Assessment Style Guide for more details), and a completed Report Checklist. The package is **due March 10 at 10:00 pm**. Your single WORD file must be named Your Last Name Report (ie. Whitaker Report) and must be submitted to the Assessments folder on our course site.

Final Exam 20%

The exam will consist of essay questions that require you to extrapolate data and think critically. As a result of the lectures, labs, and assigned readings, you will have developed these skills throughout the course and as long as you have reviewed all of these components (which will enable you to draw in examples and create a discussion), this should be straightforward. **No outside reading or research is allowed.** There will be a review during the last class, and you are free to discuss any concerns and questions you have with me. You will include a title page, a single Reference List, and a completed Final Exam Checklist, all in one file. **Please save your single Word file as Last Name Final Exam (ie. Whitaker Final Exam).** The take-home exam will take place **during the April exam schedule and will last 48 hours and be submitted to the appropriate Assessments folder on our course site.** This cannot be submitted late and there are no extensions.

Lecture Schedule

Date	Lecture Topic	Readings
January 9	Introduction	Course documents
January 11	Macro and Microscopic Structures	T: 1-6, 31-48
January 15	Lab 1: Introduction to the Skeleton	T: 67-74
January 16	The Skull	T: 75-86; Cockerill <i>et al.</i> 2021
January 18	The Mortuary Context	T: 7-20; Irish <i>et al.</i> 2005
January 22	Lab 2: The Skull	T: 87-126

January 23	The Axial Skeleton	Keenleyside 2015; Ardagna <i>et al.</i> 2005
January 25	The Osteological Paradox	Wood <i>et al.</i> 1992
January 29	Lab 3: The Axial Skeleton	T: 155-192
January 30	The Appendicular Skeleton	Patrick and Waldron 2003; Tihanyi <i>et al.</i> 2020
February 1	Methodology I	Chovalopoulou <i>et al.</i> 2017; Mays <i>et al.</i> 2004
February 5	Lab 4: The Appendicular Skeleton	T: 193-286
February 6	The Dentition	Domett <i>et al.</i> 2013
February 8	Methodology II	Odes <i>et al.</i> 2017; Carotenuto <i>et al.</i> 2019
February 12	Lab 5: The Dentition	T: 127-54
February 13	Sexing the Skeleton	Buonasera <i>et al.</i> 2020; Kuzminsky <i>et al.</i> 2020
February 15	Inter and Intra Observer Error	Heathcote 1981; Beckett 2017
February 19-23	Reading Week	
February 26	Lab 6: Bell Ringer #1 + Estimating Biological Sex	T: 385-97
February 27	Ageing the Subadult Skeleton	Beck and Smith 2019; Pany-Kucera <i>et al.</i> 2019
February 29	Diet and Quality of Life	T: 320-23; 411-14; Ortner and Mays 1998
March 4	Lab 7: Subadult Age Estimation	T: 359-366, 372-374
March 5	Ageing the Adult Skeleton	Falys and Lewis 2011; Simon and Hubbe 2021
March 7	Introduction to Paleopathology	T: 414-18; Miller <i>et al.</i> 1996
March 11	Lab 8: Adult Age Estimation	T: 365-71, 374-85
March 12	Paleodemography and the Demographic Profile	McFadden 2021
March 14	Dental and Degenerative Disease	T: 325-332; Jiménez-Brobeil <i>et al.</i> 2022; Waldron 1997
March 18	Lab 9: The Demographic Profile	T: 398-411
March 19	Infectious Disease	Perry and Gowland 2022; Woo <i>et al.</i> 2019
March 21	Introduction to Forensics	Brown 2019; Pinheiro <i>et al.</i> 2004;
March 25	Lab 10: Bell Ringer #2 and Paleopathology	T: 317-20
March 26	Trauma	T: 309-16; Fernández-Crespo <i>et al.</i> 2023
March 28	The Bioarchaeology of Care	Grauer and Roberts 1996; Stirland 1997
April 2	Ethics	T: 21-30; Snoddy <i>et al.</i> 2020

April 4	Wrap-up and Review	Mann <i>et al.</i> 2021
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Readings (in the required format, American Antiquity), in the order they appear in the schedule

Cockerill SJ, MA de la Rosa, EG Reimers

2021. The multi-ethnicity of the 18th-19th century Santa Cruz: A preliminary non-metric trait study on the church burials of La Concepción in Santa Cruz de Tenerife. *Canarias Arqueológica* 22: 287-99.

Irish JD, M Kobusiewicz, J Kabacinski and R Schild

2005. Short Communication: Two additional Egyptian Neolithic burials exhibiting unusual mortuary treatment of teeth. *International Journal of Osteoarchaeology* 15: 136-9.

Keenleyside A

2015. Sagittal clefting of the fifth lumbar vertebrae of a young adult female from Apollonia Pontica, Bulgaria. *International Journal of Osteoarchaeology* 25: 234-37.

Ardagna Y, A Richier, G Vernet and O Dutour

2005. A case of beheading dating from the Celtic Period (La Tène B, Sarliève-Grande Halle, France). *International Journal of Osteoarchaeology* 15: 73-76.

Wood JW, GR Milner, HC Harpending and KM Weiss

1992. The Osteological Paradox: Problems of inferring prehistoric health from skeletal samples. *Current Anthropology* 33: 343-70.

Patrick P and T Waldron

2003. Congenital absence of the patella in an Anglo-Saxon skeleton. *International Journal of Osteoarchaeology* 13: 147-9.

Tihanyi B, W Berthon, L Kis, OA Váradi, O Dutour, L Révész and G Pálfi

2020. "Brothers in arms": Activity-related skeletal changes observed on the humerus of individuals buried with and without weapons from the 10th-century CE Carpathian Basin. *International Journal of Osteoarchaeology* 30: 798-810.

Chovalopoulou M-E, A Bertatos and SK Manolis

2017. Mycenaean burial in Kastrouli-Desfina, Greece. *Mediterranean Archaeology and Archaeometry* 17: 265-9.

Mays S, M Brickley and N Dodwell

2004. *Human bones from archaeological sites: Guidelines for producing assessment documents and analytical reports*. Centre for Archaeology Guidelines: English Heritage.

- Domett KM, J Newton, DJW O'Reilly, N Tayles, L Sherwan and N Beavan
2013. Cultural modification of the dentition in prehistoric Cambodia. *International Journal of Osteoarchaeology* 23: 274-86.
- Odes EJ, AH Parkinson, PS Randolph-Quinney, B Zipfel, K Jakata, H Bonney and LR Berger
2017. Osteopathology and insect traces in the *Australopithecus africanus* skeleton StW 431. *South African Journal of Science* 113: 56-62.
- Carotenuto G, CW Schmidt, J Viciano and R D'Anastasio
2019. Pseudopathological vertebral changes in a young individual from Herculaneum (79 C.E.). *Anthropologischer Anzeiger* 76: 79-89.
- Buonasera T, J Eerkens, A de Flamingh, L Engbring, J Yip, H Li, R Haas, D DiGiuseppe, D Grant, M Salemi, C Nijmeh, M Arellano, A Leventhal, B Phinney, BF Byrd, RS Malhi and G Parker
2020. A comparison of proteomic, genomic, and osteological methods of archaeological sex estimation. *Nature Scientific Reports* 10: 1-15.
- Kuzminsky SC, TJ Snyder and TA Tung
2020. The limited efficacy of 3D models for teaching students sex estimations based on cranial traits: A case for investment in osteology teaching labs. *International Journal of Osteoarchaeology* 30: 275-80.
- Heathcote GM
1981. The magnitude and consequences of measurement error in human craniometry. *Canadian Review of Anthropology* 3: 18-40.
- Beckett RG
2017. Digital data recording and interpretational standards in mummy science. *International Journal of Paleopathology* 19: 135-41.
- Beck J and BH Smith
2019. Don't throw the baby teeth out with the bathwater: Estimating subadult age using tooth wear in commingled archaeological assemblages. *International Journal of Osteoarchaeology* 29: 831-42.
- Pany-Kucera D, A Kern and H Reschreiter
2019. Children in the mines? Tracing potential childhood labour in salt mines from the Early Iron Age in Hallstatt, Austria. *Childhood in the Past* 12: 67-80.
- Ortner D and S Mays
1998. Dry bone manifestations of rickets in infancy and childhood. *International Journal of Osteoarchaeology* 8: 45-55.

Falys CG and ME Lewis

2011. Proposing a way forward: A review of standardisation of the use of age categories and ageing techniques in osteological analysis (2004-2009). *International Journal of Osteoarchaeology* 21: 704-16.

Simon AM and M Hubbe

2021. The accuracy of age estimation using transition analysis in the Hamann-Todd collection. *American Journal of Physical Anthropology* 175: 680-8.

Miller E, BD Ragsdale and DJ Ortner

1996. Accuracy in dry bone diagnosis: A comment on paleopathological methods. *International Journal of Osteoarchaeology* 6: 221-29.

McFadden C

2021. The past, present and future of skeletal analysis in palaeodemography. *Philosophical Transactions of the Royal Society B* 376: 1-7.

Jiménez-Brobeil SA, RM Maroto, M Milella, Z Laffranchi and CR Botella

2022. Introduction of sugarcane in Al-Andalus (Medieval Spain) and its impact on children's dental health. *International Journal of Osteoarchaeology* 32: 283-93.

Waldron T

1997. Osteoarthritis of the hip in past populations. *International Journal of Osteoarchaeology* 7: 186-9.

Perry MA and RL Gowland

2022. Compounding vulnerabilities: Syndemics and the social determinants of disease in the past. *International Journal of Paleopathology* 39: 35-49.

Woo EJ, J-H Kim, W-J Lee, H Cho and S Pak

2019. Syphilitic infection in a pre-modern population from South Korea (19th century AD). *Anthropological Science* 127: 55-63.

Brown C

2019. The USS *Oklahoma* identification project. *Forensic Anthropology* 2: 102-12.

Pinheiro J, E Cunha, C Cordeiro and DN Vieira

2004. Bridging the gap between forensic anthropology and osteoarchaeology – a case of vascular pathology. *International Journal of Osteoarchaeology* 14: 137-44.

Fernández-Crespo T, J Ordoño, F Etxeberria, L Herrasti, Á Armendariz, JI Vegas and RJ Schulting

2023. Large-scale violence in Late Neolithic Western Europe based on expanded skeletal evidence from San Juan ante Portam Latinam. *Nature Scientific Reports* 13: 1-17.

Grauer A and C Roberts

1996. Paleoepidemiology, healing and possible treatment of traumas in the Medieval cemetery populations of St. Helen-on-the-Walls, York. England. *American Journal of Physical Anthropology* 100: 531-44.

Stirland AJ

1997. Care in the Medieval community. *International Journal of Osteoarchaeology* 7: 587-90.

Snoddy AME, J Beaumont, HR Buckley, A Colombo, SE Halcrow, RL Kinaston and M Vlok

2020. Sensationalism and speaking to the public: Scientific rigour and interdisciplinary collaborations in paleopathology. *International Journal of Paleopathology* 28: 88-91.

Mann RW, K Koel-Abt, A Dhody, P Mahakkanukrauh, VJ Mann, N Techataweewan, JR DeFreytas and S Ruengdit

2021. The importance of human osteological collections: Our past, present, and future. *Forensic Science International* 325: 1-9.

Reference Citation Style

Within the text, you need to identify sources for all information you use, except for that which is common knowledge or your original thoughts. You must cite sources (including page numbers) for any relatively specific information that you are referring to (e.g. Harris 1991: 285), not just when citing or paraphrasing. If you are using a citation in a very general way, such as referring to the entire work, then only the author's last name and publication date is required (e.g. Harris 1991).

Please use **American Antiquity** style. This is the required format. These citations should appear within the text in the appropriate place (directly before or after the information used or quoted). **Do not use footnotes or endnotes or any other format.**

Every reference or source of information that you actually utilize must appear in the References Cited section (use that heading). **I do not want a Bibliography of sources consulted but not used.** Follow the required format for the References Cited section of your paper, see some examples below. Pay attention to what is indented and capitalized below, as well as the order of presentation (see American Antiquity for more examples). Provide working URL addresses for all web-based materials, but this is not needed for a journal article you access electronically. Above all, be consistent.

In your Reference List

For a journal article or chapter in an edited volume:

Harrison R, J Smyth and E Breithoff

2017 Archaeologies of the Contemporary World. *Annual Review of Anthropology* 46: 201-221.

Spector J and M Whyte

1991 What This Awl Means: Towards a Feminist Archaeology. In *Engendering Archaeology*, edited by J Gero and M Conkey. Blackwell, London: 376-87.

For a book:

Kelly RL

2013 *The Lifeways of Hunter-Gatherers: The Foraging Spectrum*. Smithsonian Institution Press, Washington, D.C.

In-text

The format for in-text referencing is in-text citations only, such as Smith (2020), or Law and colleagues (2018), which can also be written as Law (*et al.* 2018) if your source has more than two authors. If you are paraphrasing specific information such as the C¹⁴ date of 1327 cal BC Smith (2020:32) MUST include the page number. Do not include the word “page” or a “p”. Absolutely no footnotes or endnotes are allowed.

See your reading list for additional examples for your reference list, and also the Written Assessment Style Guide on our course site for in-text citations, as well as the American Antiquity style guide. If you are using the electronic version of a regular journal, you need provide only the usual attribution, **not the URL.** Do not include any Doi information either.

Course Policies

Class expectations: You are expected to read this outline in its entirety and follow all guidelines as they are clearly set out. If you have any questions, ask them as soon as possible. I will not necessarily be checking my email the night before an assignment is due, so please plan accordingly. This class will be a respectful place; no insulting language or actions will be tolerated.

There is absolutely no photography or lecture recording permitted in this class.

Communication with Dr. Whitaker: Feel free to email me regarding concerns, however please read through the course outline first, as often, the answer can be found here. If, in fact, your answer can be found within the course documents, I will direct you there to find your answer. Email is also best for quick one-off questions, if you have a more complicated situation, I suggest discussing it face-to-face during office hours.

In composing your email, you must send it from your Laurier account (I am not allowed to reply to personal email accounts), **include your course number in the subject field** and write a formal email,

addressing myself in a respectful manner (see the beginning of this section), use complete sentences and sign your email with your full name and student number. Please do not simply attach assignments to blank emails or write as though you are sending a text to your friend (**this drives me crazy**). I will try to answer emails in a timely manner, usually within 48 hours, though I will not be checking or responding to emails from 6:00 pm on Friday to 9:00 am on Monday.

Readings: You are expected to complete all readings BEFORE the assigned class. We may discuss the readings in class, but your lectures will not follow them so come to class prepared to ask and answer questions.

Attendance: It is HIGHLY recommended you attend all classes. It is expected you will show up and participate in every class. Lecture notes and power point presentations WILL NOT be provided so it is up to you to ensure you are keeping up with the pace of the course. Please see me as soon as possible if you feel you are getting behind.

Late Policy: You are expected to submit all work on time and be in class. If an assignment is late, 5% will be deducted for every 24 hours past the due date (specifically received by 10:00 pm unless otherwise stated) and will not be accepted after three days (72 hours after the deadline). Deadlines are firm, and **no extensions** will be given unless there are extenuating circumstances and the appropriate documentation (e.g. doctor's note, obituary) is provided. If an extension is requested, Dr. Whitaker must be informed by email at least 24 hours BEFORE the assignment is due. **Please note, stating that you have a lot of other course work is not grounds for an extension, and honestly, no professor wants to hear this.** Required documentation will be specific to each case as appropriate. You must have a response from Dr. Whitaker indicating the granting of an extension as confirmation it has been accepted. **ALWAYS** keep a backup copy of your work!

Regrading Assignments: If you feel you deserve a different mark on an assignment, please use the following procedure: **take 24 hours to step back and consider your assignment.** Read through all of the comments and think about what aspects you understand and agree with and where you have concerns. After 24 hours compose a written explanation of why you feel you deserve a different mark by specifically referring to areas within your paper, comments made, and the grading rubric for your specific assignment. Do not discuss your work in relation to other students', but rather within the context of the work you have put into it and the assignment expectations. Marks are not given based on how much perceived effort you put in, but rather the conformation to assessment and class expectations. Email your explanation as an attachment and also include a copy of your marked assignment. You can expect a response within 72 hours, however, keep in mind your mark could remain the same, be increased, or decreased upon a secondary review.

Academic Conduct: You are expected, as a university student, to abide by and follow the Student Code of Conduct. This means you will submit only your own, original work. If it is found that you have been less than honest in your submission you may receive a mark of zero for the assignment or the course and may possibly face further penalties. Just don't do it. **The standard definition of plagiarism is copying four or more words in a row without quote marks. A consistent pattern of "paraphrasing" by changing only one or two words also constitutes plagiarism.**

Note: "Plagiarism" shall be deemed to include:

1. Plagiarism of ideas as where an idea of an author or speaker is incorporated into the body of an assignment as though it were the writer's idea, i.e. no credit is given the person through referencing or footnoting or endnoting.
2. Plagiarism of words occurs when phrases, sentences, tables or illustrations of an author or speaker are incorporated into the body of a writer's own, i.e. no quotations or indentations (depending on the format followed) are present but referencing or footnoting or endnoting is given.
3. Plagiarism of ideas and words as where words and an idea(s) of an author or speaker are incorporated into the body of a written assignment as though they were the writer's own words and ideas, i.e. no quotations or indentations (depending on format followed) are present and no referencing or footnoting or endnoting is given.

Recording: No form of mechanical or electronic recording device, including cell phone cameras, may be used in this class without the express written approval of the instructor. This includes but is not limited to audio recordings, video recordings, and still photographs.

GENERAL REGULATIONS

Student Accessibility Services (SAS) (Thunder Bay) and Student Affairs (Orillia) coordinate services and facilitates reasonable academic accommodations for students with disabilities. Academic accommodations are provided on the basis of documentation of a disability. Additional information is available at the following campus websites:

Thunder Bay: <http://learningassistance.lakeheadu.ca/>.

Orillia: <http://orillia.lakeheadu.ca/about-us--orillia-student-affairs/>

ACADEMIC DISHONESTY:

The University takes a most serious view of offences against academic honesty such as plagiarism, cheating and impersonation. Penalties for dealing with such offences will be strictly enforced.

A copy of the "Code of Student Behaviour and Disciplinary Procedures" including sections on plagiarism and other forms of misconduct may be obtained from the Office of the Registrar.

The following rules shall govern the treatment of candidates who have been found guilty of attempting to obtain academic credit dishonestly.

- (a) The minimum penalty for a candidate found guilty of plagiarism, or of cheating on any part of a

course will be a zero for the work concerned.

(b) A candidate found guilty of cheating on a formal examination or a test, or of serious or repeated plagiarism, or of unofficially obtaining a copy of an examination paper before the examination is scheduled to be written, will receive zero for the course and may be expelled from the University.

Students disciplined under the Code of Student Behaviour and Disciplinary Procedures may appeal their case through the Judicial Panel.

Note: "Plagiarism" shall be deemed to include:

1. Plagiarism of ideas as where an idea of an author or speaker is incorporated into the body of an assignment as though it were the writer's idea, i.e. no credit is given the person through referencing or footnoting or endnoting.
2. Plagiarism of words occurs when phrases, sentences, tables or illustrations of an author or speaker are incorporated into the body of a writer's own, i.e. no quotations or indentations (depending on the format followed) are present but referencing or footnoting or endnoting is given.
3. Plagiarism of ideas and words as where words and an idea(s) of an author or speaker are incorporated into the body of a written assignment as though they were the writer's own words and ideas, i.e. no quotations or indentations (depending on format followed) are present and no referencing or footnoting or endnoting is given.

A listing of University Regulations can be found at:

<http://calendar.lakeheadu.ca/current/contents/regulations/univregsintro.html>

The code of student behaviour and disciplinary procedures can be found at:<http://policies.lakeheadu.ca/policy.php?pid=60>