

Anthropology 3PP3 Paleopathology

Winter Term

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Lecture/discussion/viewing material:

[Synchronous Thursday 11.30am-2.20pm on Zoom]

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Course Description

The focus of the course will be archaeological human remains and interpretations of past human health through the research on paleopathology (the study of ancient diseases and their origins). Students will gain a broad grounding in current work in paleopathology and have the opportunity to gain practical experience of working with in directly with archaeological human remains or records from previously recorded archaeological skeletons.

Due to the delayed start of classes provided by the University, some details and deadlines regarding course content and assessments in the published course outline may be changed. Please check Avenue to Learn for the most up-to-date information for this course. The course outline on Avenue to Learn will supersede previously published outlines until published course outlines are updated.

Course Objectives

By the end of the course students should be able to:

- Recognize and describe pathological lesions on skeletal remains and demonstrate an understanding of the changes that occur in bones and teeth in response to different diseases and forms of trauma.
- Be able to discuss biocultural interpretations of disease in past communities.

Required Materials and Texts

- White, T. D., and P.A. Folkens (2005) *The Human Bone Manual* **OR** equivalent. Required for key background information required to understand assigned reading. Students may use the text purchased for ANTH 2FF3. The Human Bone Manual can be purchased as an ebook and can be accessed through several sellers of ebooks.
- Weekly readings will be available as articles that can be downloaded through the McMaster library website. Required reading will be limited to a maximum of two papers a week to allow time for additional readings undertaken as part of research undertaken to produce a poster. The reading list will be made available at the start of the Winter term through Avenue to Learn.

Class Format

The combined lecture/discussion of topics and examples of pathological bones/teeth will give the student a comprehensive overview of the pathological processes of bone, enamel and dentine as well as the option of gaining practical experience with the methods used recording pathological lesions in archaeological human remains.

Lecture/discussion will take place as synchronous virtual classes on Zoom.

Course Evaluation – Overview

1. **Mid-term exam – 30%, handout Feb. 11th through A2L (submission Feb 12th 6pm EST)**
2. **Poster assignment, 35%, due March 26th 9am EST**
3. **Final (take home) exam, 35%, due April 14th 9am EST**

Course Evaluation – Details

1. Mid-term exam (30%), Hand out Feb. 11th due Feb 12th 6pm EST

Consists of a written exam composed of: Comprehension, short-answer and pictorial questions related to material from the lectures/discussions, labs, and assigned reading. This test will be provided through A2L in the usual class time. There will be an opportunity for students to ask questions at the hand out time in the scheduled class time. The exam is open book, will be completed independently.

2. Poster (35%), due March 26th 9am EST

A biocultural examination of an individual buried at St. Martin's church, Birmingham, UK, during the 18th - 19th centuries (CE). Burials took place in both family vaults and earth cut graves within the cemetery, and files on individuals from both contexts are available. Digital copies of handwritten recording forms completed during the original analysis will need to be transcribed to access information recorded. Data recorded includes assessment of age at death, sex, metric and non-metric variation and pathological findings. Original photographs of some lesions present in each individual will be provided. This information will need to be combined with background research on the social context and current understanding of the pathological conditions present to produce an 'osteobiography' presented as a poster.

Full instructions on format of the poster and grading scheme will be provided for both forms of poster. In brief:

Students are required to take a biocultural approach to analysis undertaken. Information on the methods used and findings should be presented as a poster in the style of posters as presented at meetings of organizations such as the Paleopathology Association (PPA) and the Canadian Association of Physical Anthropologists (CAPA). A PDF copy will be submitted through A2L.

3. Final (take home) exam (35%), due April 14th 9am EST

This will be based on all in-class work, lectures, labs, discussions, and assigned readings. It will consist of a series of essay questions. The exam will be made available in the synchronous class and through A2L. Advice on the writing essay style questions and length formatting requirements will be provided.

Weekly Course Schedule and Required Readings

Week 1 (Jan 14th)

Topic – Course introduction, brief review of the skeleton and bone biology

Grauer, A. L. (2018). A century of paleopathology. *American Journal of Physical Anthropology*, 165(4), 904-914. DOI: 10.1002/ajpa.23366.

Week 2 (Jan 21st)

Topic – History of paleopathology, theoretical considerations and disease classification.

Grauer, A. L. (2018). Paleopathology: from bones to social behavior. In A. Katzenberg, & A. Grauer (Eds.), *Biological Anthropology of the Human Skeleton, Third Edition* (pp. 447-465). Wiley: New Jersey.

Mays, S. (2018). How should we diagnose disease in palaeopathology? Some epistemological considerations. *International Journal of Paleopathology*, 20, 12-19. DOI: 10.1016/j.ijpp.2017.10.006.

Week 3 (Jan 28th)

Topic – Congenital disease and dental disease

Notes: Poster projects allocated

- Roberts, C., & Manchester, K. (2005). Congenital disease. In *The Archaeology of Disease, Third Edition* (pp. 44-62). Cornell University Press: New York.
- Gagnon, C. M. (2019). Exploring oral paleopathology in the Central Andes: A review. *International Journal of Paleopathology*, 29, 24-34. DOI: 10.1016/j.ijpp.2019.10.003.

Week 4 (Feb 4th)

Topic – Trauma, fractures, weapons injuries and other types of injury

- Lovell, N. C. (2008). Analysis and interpretation of skeletal trauma. In M. A. Katzenberg, & S. R. Saunders, *Biological Anthropology of the Human Skeleton, Second Edition* (pp. 341–386). John Wiley & Sons, Inc: New Jersey. DOI:10.1002/9780470245842.ch11.
- Nerlich A. G., Fleckinger A., Peschel O. (2020). Life and Diseases of the Neolithic Glacier Mummy “Ötzi”. In D. Shin, & R. Bianucci (Eds.), *The Handbook of Mummy Studies* (pp. 1-22). Springer: Singapore. DOI: 10.1007/978-981-15-1614-6_19-1.

Week 5 (Feb 11th)

Notes: Mid-term exam made available

No Assigned Readings.

Week 6 (Feb 18th)

Topic – Reading/Recess Week

Papers that will help with poster projects.

- Mays, S. A. (2020). A dual process model for paleopathological diagnosis. *International Journal of Paleopathology*, 31, 89-96. DOI: 10.1016/j.ijpp.2020.10.001.

For those undertaking remote work:

- Hosek, L., & Robb, J. (2019). Osteobiography: A Platform for Bioarchaeological Research. *Bioarchaeology International*, 3, 1–15. DOI: [10.5744/bi.2019.1005](https://doi.org/10.5744/bi.2019.1005).

Week 7 (Feb 25th)

Topic – Metabolic and endocrine disease: Guest Contributor Brianne Morgan

- Brickley, M. B. (2020). Metabolic and Endocrine Disease. In A. L Grauer (Ed.), *The Routledge Handbook of Paleopathology*. Manuscript in preparation.
- Mays, S. (2018). Micronutrient deficiency diseases: anemia, scurvy, and rickets. In W. Trevathan (Ed.), *The International Encyclopedia of Biological Anthropology* (pp. 1-5). Wiley: Chichester. DOI: 10.1002/9781118584538.ieba0271

Week 8 (March 4th)

Topic – Joint disease

- Waldron, T. (2020). Joint Disease. In J. E. Buikstra (Ed.), *Ortner's Identification of Pathological Conditions in Human Skeletal Remains, Third Edition* (pp. 719-748). Academic Press: London.
- Zúñiga Thayer, R., Suby, J., Luna, L., & Flensburg, G. (2020). Osteochondritis dissecans and physical activity in skeletal remains of ancient hunter-gatherers from Southern Patagonia. *International Journal of Osteoarchaeology*, 2020, 1-11. DOI: 10.1002/oa.2926.

Week 9 (March 11th)

Topic – Infectious disease and non-diagnostic changes

- Waldron, T. (2008). Infectious Disease. In *Palaeopathology* (pp. 83-117). Cambridge University Press: Cambridge. DOI: 10.1017/CBO9780511812569.007.
- Bos, K. I., Harkins, K. M., Herbig, A., Coscolla, M., Weber, N., Comas, I., Forrest, S. A., Bryant, J. M., Harris, S. R., Schuenemann, V. J., Campbell, T. J., Majander, K., Wilbur, A. K., Guichon, R. A., Wolf Steadman, D. L., Collins Cook, D., Niemann, S., Behr, M. A., Zumarraga, M., Bastida, R., Huson, D., Niedelt, K., Young, D., Parkhill, J., Buikstra, J. E., Gagneux, S., Stone, A. C., & Krause, J. (2014). Pre-Columbian mycobacterial genomes reveal seals as a source of New World human tuberculosis. *Nature*, 514(7523), 494-497. DOI: 10.1038/nature13591.

Week 10 (March 18th)

Topic – Neoplastic disease.

- Kirkpatrick, C. L., Campbell, R. A., & Hunt, K. J. (2018). Paleo-oncology: Taking stock and moving forward. *International Journal of Paleopathology*, 21, 3-11. DOI: 10.1016/j.ijpp.2018.02.001.
- Brothwell, D. (2008). Tumours and tumour-like processes. In R. Pinhasi, & S. Mays (Eds.), *Advances in Human Palaeopathology* (pp. 253–281). John Wiley: Chichester. DOI: 10.1002/9780470724187.ch12

Week 11 (March 25th)

Topic – Independent work on posters

Notes: Poster hand in March 26^h 9am EST

No Assigned Reading.

Week 12 (April 1st)

Topic – The future of paleopathology and non-human pathology

- Haruda, A. F., Ventresca Miller, A. R., Paijmans, J. L. A., Barlow, A., Tazhekeyev, A., Bilalov, S., Hesse, Y., Preick, M., King, T., Thomas, R., Härke, H., & Arzhantseva, I. (2020). The earliest domestic cat on the Silk Road. *Scientific Reports*, 10(1), 1-12. DOI: 10.1038/s41598-020-67798-6.
- Upex, B., & Dobney, K. (2012). More than just mad cows: exploring human–animal relationships through animal paleopathology. In A. L. Grauer (Ed.), *A Companion to Paleopathology* (pp. 191-213). Wiley-Blackwell: Chichester.

Week 13 (April 8th)

Topic – Information and hand-out of the final take home exam

Notes: Final Exam Due April 15th 9am EST

No Assigned Readings.

Week 14 (April 14th)

Notes: Final Exam Due 9am EST on April 15th

No Assigned Readings.

Course Policies

Submission of Assignments

[Avenue to Learn in format specified]

Grades

Grades will be based on the McMaster University grading scale:

MARK	GRADE
90-100	A+
85-90	A
80-84	A-
77-79	B+
73-76	B
70-72	B-
67-69	C+
63-66	C
60-62	C-
57-59	D+
53-56	D
50-52	D-
0-49	F

Late Assignments & penalties for over length work

Lateness penalty for unapproved lateness: 15% per day including weekend days until a mark of 0 is reached. A deduction of 15% will be made for any part of an assignment that is over the specified length.

Absences, Missed Work, Illness

If you are ill, please contact the instructor in advance of deadline to arrange for an extension. Written confirmation, approved by your Faculty office, is required in order to make up the marks. *Students are responsible for contacting the instructor.*

In the event access to campus is shut down prior to submission of the posters based on lab work students will be given the opportunity to be assigned an equivalent alternate assessment.

Avenue to Learn

In this course we will be using Avenue to Learn (A2L). Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure, please discuss this with the course instructor.

Turnitin.com

In this course we will be using a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically to Turnitin.com so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please to go www.mcmaster.ca/academicintegrity.

University Policies

Academic Integrity Statement

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at www.mcmaster.ca/academicintegrity.

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

Academic Accommodation of Students with Disabilities

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University's Policy for [Academic Accommodation of Students with Disabilities](#).

Religious, Indigenous and Spiritual Observances (RISO)

The University recognizes that, on occasion, the timing of a student's religious, Indigenous, or spiritual observances and that of their academic obligations may conflict. In such cases, the University will provide reasonable academic accommodation for students that is consistent with the Ontario Human Rights Code.

Please review the [RISO information for students in the Faculty of Social Sciences](#) about how to request accommodation.

Faculty of Social Sciences E-mail Communication Policy

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Privacy Protection

In accordance with regulations set out by the Freedom of Information and Privacy Protection Act, the University will not allow return of graded materials by placing them in boxes in departmental offices or classrooms so that students may retrieve their papers themselves; tests and assignments must be returned directly to the student. Similarly, grades for assignments for courses may only be posted using the last 5 digits of the student number as the identifying data. The following possibilities exist for return of graded materials:

1. Direct return of materials to students in class;
2. Return of materials to students during office hours;
3. Students attach a stamped, self-addressed envelope with assignments for return by mail;
4. Submit/grade/return papers electronically.

Arrangements for the return of assignments from the options above will be finalized during the first class.

Course Modification

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check his/her McMaster email and course websites weekly during the term and to note any changes.

ADVISORY STATEMENTS

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/), located at <https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/>

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one’s own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY / PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster’s use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

ONLINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the “Code”). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students’ access to these platforms.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University’s [Academic Accommodation of Students with Disabilities](#) policy.

REQUESTS FOR RELIEF FOR MISSED ACADEMIC TERM WORK

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar “Requests for Relief for Missed Academic Term Work”.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office **normally within 10 working days** of the beginning of term in which they anticipate a need for accommodation or to the Registrar’s Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.