

## **Anthropology 9108B**

Advanced Research in Paleopathology and Paleodiet

## **Anthropology 4408G-001**

Paleopathology and Paleodiet

### **~PRELIMINARY COURSE OUTLINE~**

Winter 2025

#### **Instructor and course information:**

Dr. Andrea Waters-Rist

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Prerequisite: Registration in fourth year in Anthropology and permission of the instructor. Completion of Anthropology 3338F/G is recommended.

Antirequisite: none.

Credit value: 0.5

This seminar course is open to graduate students and a limited number of senior undergraduate students. It consists of weekly meetings that involve student presentations, class discussion, and occasional instructor lectures. Class participation is mandatory. Graduate students will require a more comprehensive approach and the employment of advanced critical thinking skills to successfully complete the assignments and graduate students will be graded on a more advanced scale than undergraduate students.

#### **Course Description:**

This course will explore disease and diet in past human populations with particular focus on the interaction of health and nutrition. A range of topics within paleopathology, the study of ancient disease, and paleodiet, the study of ancient diet, will be investigated to learn what can and cannot be discerned about human health through the analyses of skeletal and dental remains from archaeological contexts. Major techniques for reconstructing disease and diet from archaeological human remains are covered. The skeletal and dental markers of disease, injury, and diet are a source of evidence about the broader context in which people lived, for example providing information about changing environments, changing

exposure to pathogens, population size and density, conflict between groups, the varied effects of the domestication of plants and animals, and activity patterns such as the gendered division of labour. Cutting-edge research in biological anthropology is utilizing the interaction of health and nutrition to address broad hypotheses about human adaptation and evolution.

A full course schedule including a week-by-week breakdown of topics and assigned readings will be available on the course's website before the first day of class.

### **Learning Outcomes:**

On successful completion of this course, students will be able to:

1. Explain how disease can affect the morphology of bone and teeth via the relationships between cellular structures, soft tissues, connective tissues, and hard tissues.
2. Recognize and describe the main pathological conditions and anomalies that we can identify in human skeletal and dental remains.
3. Distinguish the normal range of human skeletal variation from pathological changes.
4. Explain and critique the main methods used to reconstruct dietary variables of past populations via their bones, teeth and other biological remains.
5. Summarize both the benefits and limitations of the study of disease and diet in past populations.
6. Critically read and evaluate paleopathology and paleodiet research from methodological and theoretical perspectives.
7. Understand the synergy of diet and disease based on research in modern (i.e. ethnographic, clinical) and past (i.e. historic, archaeological) contexts considered within an evolutionary framework emphasizing biocultural variation and adaptation.
8. Effectively communicate well-supported arguments on complex topics in paleopathology and paleodiet.
9. Prepare a visually impactful and insightful research-based academic poster.

## **Course Materials:**

1. Roberts, C. and Manchester, K. (2010) *The Archaeology of Disease*. 3rd edition. Ithaca: Cornell University Press.
2. Journal articles and book chapters available under the Course Readings tab of the OWL course website. Registered students will be able to access these course readings before the first day of class.
3. Articles chosen by students leading a class will be made available via the OWL site as the course progresses.

## **Evaluation:**

Evaluation will consist of five items, as outlined below. Note, there is no final, written exam in this course but there is an assignment with a presentation component that is due during exam week.

1. Class Participation (worth 15% of final mark). All students are expected to participate in class discussion. Beginning the 2<sup>nd</sup> week of class all students are required to bring one comprehensive comment or question they've developed for each assigned chapter or article that highlights their critical thinking and stimulates discussion and debate. These may be typed or hand-written (but ensure your writing is legible!). You may be called upon to read your comment/question if class discussion is slow. Your comments/questions will be handed in at the end of class and returned with evaluative comments the following week.

This means attendance at every class is mandatory. Notify me as soon as possible via e-mail if you are unable to attend a class due to illness or other serious personal circumstances. In order to avoid the loss of marks you still must submit comments/questions for all of the readings as soon as possible. You are required to attend at least 75% (e.g., 9 of 12) classes. Students attending fewer than 75% of classes cannot pass this course.

2. PowerPoint Presentation and Leading Class Discussion (worth 20% of final mark). Every student is expected to lead one class (or half class if undergraduate student). All students will do this individually. This involves presenting the topic via a PowerPoint presentation of 45-50 minutes for graduate students and 25-30 minutes for undergraduate students, and leading the questions and discussion of the topic during the latter half of the class. With exception of week 2 where two of three readings are pre-chosen, the student that is presenting is responsible for

assigning one to two (undergraduate) or two to three (graduate) additional research articles to the class that provide an example(s) of their topic in an archaeological context(s). These research articles must be approved by the instructor and made known to the class no later than one week before the class so they can be posted on OWL.

3. Paleopathology Differential Diagnosis Laboratory Assignment (worth 15% of final mark). Write a concise 'short-report' describing and diagnosing the disease(s) that caused the bony pathological lesions seen in a skeleton housed in the SSC 2238, using the method of differential diagnosis. 'Short-reports', also called 'brief communications' and 'case studies', are a common type of publication in academic journals that are meant to draw attention to a singular significant finding that does not necessitate a broad or extensive discussion. The section on differential diagnosis should list possible causes in order from the least likely to the most likely. The text can be no longer than 1300 words (approximately five double-spaced pages), not including the title page, figures, tables, figure/table captions, references cited, and/or appendices. You should cite a minimum of four references other than your textbook (additional references are strongly encouraged but note that this assignment is not designed to be an exhaustive literature review so only include references that are specifically applicable to your considered diagnoses). Consult your Roberts and Manchester textbook to begin the diagnostic process. More details will be made available to students on the course OWL site

4. Research Paper including Abstract (worth 30% of final mark). Topics for the research paper must be related to one of the broad lecture themes and be selected in consultation with the instructor (in office hours or by email). Topics must critically engage with a current line of inquiry or debate, and not be merely a literature review. Graduate student essays should be 3500-4000 words (approximately 14-16 double-spaced pages) and undergraduate essays 2500-3000 words (approximately 10-12 double-spaced pages), not including the title page, abstract, references cited, figures, tables, figure/table captions, and/or appendices. The abstract should be no more than 250 words. More details will be made available to students on the course OWL site. In order to pass this essay course, students must submit and receive a passing grade on their research paper.

*The essay will 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. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).*

5. Academic Poster and Presentation (worth 20% of final mark) (To be submitted and presented during exam week; date and time to be determined). Every student is responsible for the creation of an academic poster using PowerPoint or Adobe Acrobat. They cannot choose the same topic as the class they led nor can the topic be the main focus of their research paper (it can be peripherally related). Often a specific disease/pathology or debated case-study make for effective posters. You are welcome to make a poster containing your own unpublished data (from your own research; e.g. a skeleton you've encountered with interesting pathological lesions; human dietary isotope data), which could perhaps be ultimately given at a future conference. Instructor approval of your poster topic is required. The poster should be less than 1000 words, not including the title, figures, tables, figure/table captions, and references cited. Further specification of poster requirements (e.g., required headings, use of figures and tables, page dimensions, recommended font size, etc.) will be made available to students on the course OWL site.

Each student will then be required to present their poster to the class (it will be projected onto a screen; you do not need to print your poster) and give a four-minute oral summary. There will be two additional minutes allotted for questions from your instructor and/or fellow students. It will be possible for students who are not in town to present their posters remotely.

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