ANTHROPOLOGY 4498B:
SPECIAL TOPICS IN ANTHROPOLOGY -
RESEARCH IN PALEOPATHOLOGY AND PALEODIET
&
ANTHROPOLOGY 9104B:
SPECIAL TOPICS IN BIOARCHAEOLOGY -
ADVANCED RESEARCH IN PALEOPATHOLOGY AND PALEODIET

Course value: 0.5 credit

January – April 2018

Course Instructor: Dr. Andrea Waters-Rist (awaters8@uwo.ca)
Office: SSC 3427
Office hours: Mondays, 1:00-3:00 pm, or by appointment

Class time: Tuesdays, 1:30-4:30 pm
Class location: SSC 2257

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 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.

This seminar course is open to graduate students and a limited number of senior undergraduate students. It consists of weekly meetings that combine short instructor lectures, class discussion, and student presentations. 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.

Prerequisite: Registration in fourth year, and permission of the instructor. Recommended: Anthropology 3338F/G: Skeletal Biology or equivalent background.

Learning Outcomes:

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

1. Understand how disease can affect the morphology of bone and teeth via the relationships between cellular structures, soft tissues, connective tissues, and hard tissues.
2. Understand and recognize the main pathological conditions and anomalies that we can identify in human skeletal and dental remains.
3. Have improved understanding of the normal range of human skeletal variation against which pathological changes can be accurately diagnosed.
4. Understand the main methods used to reconstruct dietary variables of past populations via their bones, teeth and other biological remains.
5. Understand 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 both 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.

Assignments and Grading:

	Graduate	Undergraduate
Class Participation (including weekly questions)	15%	15%
Class PowerPoint Presentation and Leading of Discussion	20% (45-50 min)	20% (25-30 min)
Annotated Bibliography	15% * 15 references required	15% * 10 references required
Research Paper	30% *4000 words	30% *3000 words
Academic Poster and Poster Presentation	20%	20%

Required Readings:

1. Roberts, C. and Manchester, K. (2005) The Archaeology of Disease. 3rd edition. Ithaca: Cornell University Press.
3. Other readings available under the Course Readings tab of the OWL course website.
4. Articles chosen by students leading a class will be made available via the OWL site as the course progresses.

Additional Recommended Textbooks:

1. Ortner, DJ. (2003) Identification of Pathological Conditions in the Human Skeletal Remains, 2nd edition. San Diego CA: Academic Press/Elsevier.
2. Aufderheide, AC and Rodrigues-Martin, C. (1998) The Cambridge Encyclopedia of Human Paleopathology.
3. Waldron, T. (2008) Paleopathology. Cambridge University Press.
4. Sutton, MQ, Sobolik, KD, Gardner JK. (2010) Paleonutrition. University of Arizona Press.
5. Moffat T, Prowse T. (2010) Human Diet and Nutrition in Biocultural Perspective: Past Meets Present. Berghahn Publishing.
6. Larsen, CS. (2015). Interpreting Behavior from the Human Skeleton. Cambridge University Press.

Assignment Details:

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

2. PowerPoint Presentation and Leading Class Discussion (20%). Every student is expected to lead one class. 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. In addition to the readings that are already assigned for that week the student is responsible for assigning two additional research articles to the class that provide an example of their topic in an archaeological context. The research article must be approved by the instructor and made known to the class no later than one week before the class. A list of acceptable journals from which to choose your article will be made available.

3. Annotated Bibliography and Abstract (15%) (Due Friday Feb. 9th by 11:59pm). Abstracts and annotated bibliographies are useful techniques in the preparation of a research paper or poster. An abstract is a brief synopsis or summary of the most important points that you plan to discuss in your paper or poster (note, an abstract is not merely a condensed table of contents or an introductory paragraph). The abstract for your poster should be no more than 250 words in length. In addition, graduate students must have an annotate for fifteen peer-review journal articles or book chapters, and undergraduate students for ten articles/chapters, related to your poster topic. An annotate is a brief (200-400 words) paragraph that describes and evaluates the article/chapter. The purpose of the annotate is to provide an overview of the paper (that will be useful to other readers and yourself in the future) that assesses the relevance and quality of the work. More details on the abstract and annotated bibliography will be made available.

4. Research Paper (Due Friday Mar. 23 by 11:59pm). 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). The paper will be formatted as a manuscript to be submitted to the American Journal of Physical Anthropology (AJPA). This formatting includes the cover page, keywords, an abstract, referenced cited, and sections as appropriate (i.e. sections should include Introduction, Discussion, and Conclusion; sections that also may be appropriate are Material(s), Methods, and Results). Headings (predefined as per above or your own) and subheadings (your own) should be used to clarify the structure of the paper. This link will take you to the AJPA author guidelines, which details how to format your in-text citations and references. You do NOT need to bother noting the month/season of publication as they sometimes suggest. Noting the year is sufficient. http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1096-8644/homepage/ForAuthors.html. Graduate student essays should be approximately 4000 words (16 double-spaced pages) and undergraduate essays approximately 3000 words (12 double-spaced pages). Please use 1.5 or 2.0 sentence spacing for the main body of text. This word count does NOT include the cover page, keywords, abstract, figures, tables, figure/table headings, or references cited. The abstract should be an improved version of the abstract submitted with the annotated bibliography (incorporate instructor feedback and new material).

5. Academic Poster. 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 ca 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 isotopic data reconstructing a particular diet), which could perhaps be ultimately given at a future conference. Instructor approval of your poster topic is required. Further specification of poster requirements (e.g. – less than 1200 words, required headings, use of figures and tables, page dimensions, recommended font size, etc.) will be made available. Each student will then be required to present their poster in class (it will be projected onto a screen; you do not need to print your poster) and give a four-minute oral summary. You will be cut-off after four minutes. There will be two additional minutes allotted for questions from your instructor and/or fellow students. This presentation will occur during our allotted time in the exam week (or possibly a preferable unanimously agreed upon other time during exam week).

Additional Policies:

Attendance:
Attendance at every class is mandatory. While I will not keep attendance, I will require you to hand in your chapter/article questions after each class thereby keeping track of your attendance (or at least your participation should you choose to attend class without having prepared any questions). 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. As it is not possible to re-schedule the class you are leading, nor the day and time of your poster presentation, only MAJOR extenuating circumstances will be taken into consideration, and an additional assignment will need to be completed if the student does not want to receive a grade of zero. An unexcused absence will result in a grade of zero that cannot be made up in any other way.

Late Assignments: Extensions on assignments will only be given in the case of major medical or personal emergencies. Each day past due will result in the deduction of 5% off the grade for that assignments. Assignments more than five days late will not be accepted and the student will receive a grade of zero for that assignment.

General University Policies:

All students should familiarize themselves with Western's current academic policies regarding accessibility, plagiarism and scholastic offences, and medical accommodation. These policies are outlined (with links to the full policies) at:
http://anthropology.uwo.ca/undergraduate/course_information/academic_policies.html

Mental Wellbeing: Students who are in emotional/mental distress should refer to Mental Health@Western http://uwo.ca/health/mental_wellbeing/index.html for a complete list of options about how to obtain help.

Weekly Schedule

	Topic	Readings
Week 1: Jan. 9	INTRODUCTION 1. Review Syllabus (~45 min) 2. Instructor Lecture (~1.5 hours): Introduction to Paleopathology: Theory and Methods; Lesion Terminology; The Differential Diagnosis	1. Roberts and Manchester Chapter 1
Week 2: Jan. 16	THE OSTEOLOGICAL PARADOX 1. Student Presentation (Grad Only) (45-50 min): The Osteological Paradox and Responses to the Osteological Paradox 2. Student-Led Class Discussion (~2 hours): The Osteological Paradox and its Solutions in the Field of Paleopathology	1. The Osteological Paradox. Wood et al. 1992. 2. Recent progress in bioarchaeology: approaches to the osteological paradox. Lori E. Wright & Cassady J. Yoder. 2003. Journal of Archaeological Research 11(1): 43-70. 3. The Osteological Paradox 20 Years Later: Past Perspectives, Future Directions Sharon N. DeWitte & Christopher M. Stojanowski. 2015. Journal of Archaeological Research: 397-450.
Week 3: Jan. 23	JOINT DISEASE 1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min): Overview of Main Joint Diseases in Paleopathology and Examples of Joint Disease Research 2. Student-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 6 2 & 3. Two student assigned readings
Week 4: Jan. 30	INFECTIOUS DISEASE 1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min): Overview of Main Infectious Diseases in Paleopathology and Examples of Infectious Disease Research 3. Student-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 7 2 & 3. Two student assigned readings
Week 5: Feb. 6	Trauma/Injury 1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min): Overview of Main Traumatic Injuries in Paleopathology and Examples of Trauma Research 3. Student-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 5 2 & 3. Two student assigned readings
Friday Feb. 9th: ANNOTED BIBLIOGRAPHY DUE (upload in OWL by 11:59pm; bring a printed copy the following week)		
Week 6: Feb. 13	Metabolic Disease 1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min): Overview of Main Metabolic Diseases in Paleopathology with Examples of Metabolic Disease Research 3. Student-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 8 2 & 3. Two student assigned readings
READING WEEK		

Week 7: Feb. 27	Dental Disease and Endocrine Disease 1. Student Presentation (Undergrad Only – 25-30 min) of Main Dental OR Endocrine Diseases in Paleopathology with example of Dental OR Endocrine Research 2. (If necessary) Student Presentation (Undergrad Only – 25-30 min) of Main Dental OR Endocrine Diseases in Paleopathology with example Dental OR Endocrine Research 3. Student (both)-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 4 2. Roberts and Manchester Chapter 8 3. Student #1 assigned reading 4. Student #2 assigned reading
Week 8: Mar. 6	Neoplastic Disease and Congenital Disease 1. Student Presentation (Undergrad Only 25-30 min) of Main Neoplastic OR Congenital Diseases in Paleopathology with example of Neoplastic or Congenital Research 2. (If necessary) Student Presentation (Undergrad Only 25-30 min) of Main Neoplastic OR Congenital Diseases in Paleopathology with example of Neoplastic or Congenital Research 3. Student (both)-Led Discussion (~2 hours)	1. Roberts and Manchester Chapter 3 2. Roberts and Manchester Chapter 9 3. Student #1 assigned reading 4. Student #2 assigned reading
Week 9: Mar. 13	1. Instructor Lecture (~2 hours): Introduction to Paleodiet: Theory and Methods; Diet vs. Nutrition; Stable Isotope Analysis; Trace Element Analysis; Dental Calculus; Other Methods (Coprolites, GI Track Contents via Soil analyses) 2. Instructor-Led Discussion (~45 min)	1. Chapter 8 (Isotopic and Trace Elemental Signatures of Diet, Nutrition, and Life History) in Larsen CL, 2nd ed. 2015. Interpreting Behavior from the Human Skeleton. 2. Ch. 1 (A Biocultural Approach to Human Diet and Nutrition) in Human Diet and Nutrition in Biocultural Perspective: Past Meets Present, edited by Moffat T and Prowse T, 2010. 3. To be determined
Week 10: Mar. 20	1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min) of Plant Food (Macronutrient) Consumption in Bioarchaeology with examples of research 2. Student-Led Discussion (~2 hours)	1. Ch. 4 (The Carbohydrates) of Understanding Nutrition by Whitney et al., 2nd Can. Ed. 2015. 2. Mintz S, Time, Sugar and Sweetness in Food and Culture: A Reader, 2013, 3rd Ed., edited by Counihan C, and Van Esterik P. 3 & 4. Two student assigned readings
Friday Mar. 23 RESEARCH PAPER DUE (upload to OWL by 11:59 pm)		
Week 11: Mar. 27	1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min) of Animal Food (Macronutrients) Consumption with examples of research 3. Student-Led Discussion (~2 hours)	1. Ch. 6 (Protein Amino Acids) of Understanding Nutrition, by Whitney et al., Can. Ed. 2015. 2. Ch. 5 (The Lipids) of Understanding

		Nutrition by Whitney et al., 2nd Can. Ed. 2015. 3 & 4. Two student assigned readings
Week 12: Apr. 3	1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min) on Micronutrients (Vitamins and Minerals) in Bioarchaeology with examples of research 2. Student-Led Discussion (~2 hours)	1. Ch. 44 (Micronutrients: Vitamins and Minerals, by DA Bender) in Harper's Illustrated Biochemistry, 29th ed., 2012 (available at: http://accessmedicine.mhmedical.com/content.aspx?bookid=389&sectionid=40142524#55885519) 2 & 3. Two student assigned readings
Week 13: Apr. 10	1. Student Presentation (Grad (45-50 min) or Undergrad (25-30 min) about Breastfeeding and Weaning Research in Bioarchaeology with examples of research 2. Student-Led Discussion (~2 hours)	1. A Waters-Rist*. in press*. Stable isotope evidence for infant feeding practice variables in past populations: Breastfeeding and weaning in ancient Siberian foragers. In: Exploring Human Behavior through Stable Isotope Analysis: Applications in Archaeological Research. Beasley M., Sommerville A. (eds). Springer Publishing Company. 32 pages. 2 & 3. Two student assigned readings
Exam Week	Presentation of Academic Posters (posters must also be uploaded by OWL; this can be done right before or after the presentation)	