ANTH 274

Health and Disease in Ancient Populations

Fall 2011 T/R 2:35-3:50 pm Garland 109

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Wiki: diseaseancientpops.wikispaces.com Twitter: #ANTH274

Course Description: One of the fundamental aspects of being human is being mortal: everyone eventually dies. Life histories and causes of death, though, vary tremendously based on factors such as time period, geographical environment, biological sex, and social status. This course specifically covers the discipline of palaeopathology, or the study of health and disease patterns in archaeological populations. We will take a biocultural approach to our understanding of past peoples, examining their skeletons for evidence of pathologies and integrating information on the societies in which they lived. Students will learn: 1) the origin and symptoms of major pathological conditions in antiquity; 2) how to diagnose these diseases from skeletal and dental lesions; 3) how to research unique cases; 4) how to record and use data for generating hypotheses and performing basic statistical analyses; 5) how to interpret pathology data in order to generate a new understanding of a population or a disease; and 6) to be critical of media and journal reports on palaeopathology.

Prerequisites: None, but it is strongly suggested that students have already taken ANTH 270 (Human Osteology), NURS 210A (Human Anatomy & Physiology), or similar course.

Texts:
Required – *Cambridge Encyclopedia of Human Paleopathology*, A. Aufderheide & C. Rodriguez-Martin
Bioarchaeology: Interpreting Behavior from the Human Skeleton, C.S. Larsen
Additional articles uploaded to OAK
Recommended – *Standards for Data Collection from Human Skeletal Remains*, J. Buikstra & D. Ubelaker

Requirements:

Exams (30%) – There will be two exams during the semester, each worth 15% of your overall grade. The midterm will be held on Tuesday, **October 4**, and will cover class material to date. The final will be held on Wednesday, **December 14**, at 3pm, and will be cumulative. Both exams will consist of identification and/or analysis of bones as well as short-answer essay questions.

Bioarchaeology Report (20%) – In order to give you hands-on experience analyzing pathologies and populations, you will collect data from one complete skeleton and input those data into an online Excel spreadsheet on or before Thursday, **October 27**. Your report, which is due on or before Tuesday, **November 8**, will include an inventory of your skeleton, a brief report on basic biological and pathological characteristics, and photograph(s). The second portion of your paper will involve the class data, which you will draw on to discuss the demographic profile of the "population," to calculate statistics on frequencies and patterns in pathological lesions, and to make inferences about the health and lifestyles of the "population." This paper should be at least 2,500 words and should be fully illustrated with photos, charts, and graphs. More information will be forthcoming.

Pathology Research Project (35%) – For this assignment, you will research one or more diseases and write about them on a class wiki, found here: http://diseaseancientpops.wikispaces.com. Your work,

rather than being directed solely at me, should be accessible by a larger audience and should be both well-researched and well-written. The end result will be a compendium of palaeopathology information that students and other interested parties can easily navigate. The written wiki portion should be at least 2,500 words and should be appropriately illustrated; this portion counts for 20% of your overall grade and is due on or before Thursday, **December 8**. During the last two weeks of class, each student will give a 10- to 15-minute presentation on his or her pathology using Powerpoint and/or skeletal material from lab. The presentation portion counts for 15% of your overall grade. More information will be forthcoming.

 *Article Presentations* (15%) – On most class days, two students will each briefly present an article (news on Tuesday, published case study on Thursday) that relates to the topic of the current week or previous weeks. Students may choose their own article or may get suggestions from Dr. Killgrove, Matt, the class Twitter hashtag (#ANTH274), or the BioAnthropology newsgroup on Facebook, but the article or link should be posted to OAK by the Sunday before the presentation. For the Tuesday news article (c. 5 minutes), students should discuss the way the information is presented and address any problems with reporting. For the Thursday peer-reviewed case study (c. 5-10 minutes), students should discuss what the article contributes to our understanding of health and disease in antiquity and address any problems in terms of methodology or conclusions. Powerpoint presentations are not necessary for this assignment; however, illustrations or show-and-tell with lab material may help convey the research better. Each student will do two presentations throughout the semester (one Tuesday/news and one Thursday/case study; each presentation is therefore worth 7.5% of the overall grade), and a sign-up sheet will be passed around.

 *Graduate Students* – In addition to the above, graduate students registered for this course will create an annotated bibliography consisting of 2 articles each week, will expand their wiki contribution to 5,000 words, and will expand their wiki presentation to 20-30 minutes.

Attendance Policy:
In addition to the above, your attendance at lecture is mandatory. You will also find throughout the course of the semester that you need to access the osteology lab outside of class time in order to study or work on your projects. Open lab hours will be offered each week, but you may also ask to borrow keys to the lab from Dr. Killgrove, Matt, or Shelley Darling in the main Anthropology office. More than two unexcused absences from lecture will result in half a letter grade deduction from your final grade for each additional absence. Please see Dr. Killgrove during office hours to discuss extended absences or other unavoidable attendance issues as far in advance as possible.

Classroom Behavior:
This class will sometimes cover controversial topics such as gender, ethnicity, and race. All efforts will be made to present information in a social scientific manner as well as to encourage productive dialogue and discussion. However, I do expect that all students will treat each other, me, and their teaching assistant with respect at all times. No opinions or speech that discriminate against or are derogatory towards others on the basis of race, ethnicity, age, gender, religion, sexual orientation, political affiliation, or disability will be tolerated. Students who express such opinions will be asked to leave the classroom. Laptop use in class is permitted, but students engaging in overt and constant web surfing in lecture or lab will be asked to close their computers, as this distracts the entire class. Students should also refrain from unacceptable behavior such as sleeping, using their cell phones, or talking with classmates at inappropriate times. Such behaviors will also result in the student's being asked to leave the classroom.

Lab Behavior:
It is a great privilege to be able to study the physical remains of the dead. Additionally, medical-grade skeletal remains are expensive and therefore a precious resource. There is to be no roughhousing or otherwise mistreating the skeletal remains. Food is not permitted in the lab; drinks are acceptable if they

can be capped. You will receive a full list of laboratory rules in class. Students who fail to abide by lab rules will be asked to leave.

Academic Dishonesty Policy:
The Vanderbilt Honor Code applies to all assignments in this class (exams, reports, and presentations). Exams will be closed-book. You may discuss the skeletal report openly with your classmates and share ideas. However, the final written reports must be the work of each individual student. If you have questions about how the Honor Code applies to this course, consult Dr. Killgrove before the assignment is due. Further information can be found in the Vanderbilt Student Handbook: http://www.vanderbilt.edu/student_handbook/chapter2.html.

Disability Services and Accommodations:
Students who need disability-related classroom accommodations should make an appointment to see Dr. Killgrove as soon as possible and should contact the Opportunity Development Center at 322-4705 (Box 1809-B).

Course Outline: * = Article presentations; @ = Wiki presentations

Week	Topic	Due	
		Tuesday	Thursday
8/23-8/25	Introduction		Larsen, Ch. 1
8/30-9/1	The Skeleton	*Human Osteology*	*Human Osteology*
9/6-9/8	History & Practice Evidence & Techniques	*CEHP*, pp. 1-10 * Wood et al.	Larsen, pp. 333-342 * *Standards*
9/13-9/15	Dental Disease	*CEHP*, pp. 393-412 *	Larsen, pp. 23-29; 43-56; * 65-82; 242-269 Buzon & Bombak
9/20-9/22	Trauma	*CEHP*, pp. 11-50 *	Larsen, Ch. 4 * Smith
9/27-9/29	Joint Disease	*CEHP*, pp. 93-116 *	Larsen, Ch. 5 * Waldron
10/4-10/6		**Midterm**	*Break*
10/11-10/13	Growth & Development	*CEHP*, pp. 51-76; 357-370 *	Larsen, pp. 40-43 * Roberts et al. Sarry el-Din & El Banna
10/18-10/20	Metabolic Disease	*CEHP*, pp. 228-238; * 305-324; 345-350	Larsen, pp. 29-40 * Lewis
10/25-10/27	Infectious	*CEHP*, pp. 117-154; * 172-180; skim pp. 181-246	Larsen, pp. 82-93; 99-108 * Boldsen & Mollerup; Pfeiffer **Skeletal Data Due**
11/1-11/3	Treponemal	*CEHP*, pp. 154-171 *	Larsen, pp. 93-99 * Hutchinson & Richman

Week	Topic	Due Tuesday	Thursday
11/8-11/10	Tumors Soft Tissue Disease	*CEHP*, pp. 371-392 * **Skeletal Report Due**	*CEHP*, pp. 247-304 * Zweifel et al.
11/15-11/17	Isotope Analyses & aDNA Body Modification	Larsen, Ch. 8 * Killgrove & Tykot	Romero-Vargas et al. *
11/22-11/24	Thanksgiving Break		
11/29-12/1	Presentations	@	@
12/6-12/8	Presentations Wrap-up	@	@ **Wiki Article Due**
12/14	**Final** (Wednesday, 3pm)		

Additional Required Readings: (found through OAK)

Boldsen, J & L Mollerup. 2006. Outside St. Jørgen: leprosy in the Medieval Danish city of Odense. *American Journal of Physical Anthropology* 130:344-351.

Buzon, M & A Bombak. 2010. Dental disease in the Nile Valley during the New Kingdom. *International Journal of Osteoarchaeology* 20:371-387.

Hutchinson, D & R Richman. 2006. Regional, social, and evolutionary perspectives on treponemal infection in the Southeastern United States. *American Journal of Physical Anthropology* 129:544-558.

Killgrove, K & R Tykot. n.d. Investigating diets of the lower classes of Imperial Rome through carbon and nitrogen isotope analyses. Manuscript in submission to *Journal of Archaeological Science*.

Lewis, M. 2010. Life and death in a *civitas* capital: metabolic disease and trauma in the children from Late Roman Dorchester, Dorset. *American Journal of Physical Anthropology* 142:405-416.

Pfeiffer, S. 1984. Paleopathology in an Iroquoian ossuary, with special reference to tuberculosis. *American Journal of Physical Anthropology* 65:181-189.

Roberts, C, C Knüsel & L Race. 2004. A foot deformity from a Romano-British cemetery at Gloucester, England, and the current evidence for *talipes* in palaeopathology. *International Journal of Osteoarchaeology* 14:389-403.

Romero-Vargas, S et al. 2010. A look at Mayan artificial cranial deformation practices: morphological and cultural aspects. *Neurosurgery Focus* 29:1-5.

Sarry el-Din, A & R El Banna. 2006. Congenital anomalies of the vertebral column: a case study of ancient and modern Egypt. *International Journal of Osteoarchaeology* 16:200-207.

Smith, M. 1996. 'Parry' fractures and female-directed interpersonal violence: implications from the Late Archaic period of West Tennessee. *International Journal of Osteoarchaeology* 6:84-91.

Waldron, T. 1992. Osteoarthritis in a Black Death cemetery in London. *International Journal of Osteoarchaeology* 2:235-240.

Wood, J, G Milner, H Harpending & K Weiss. 1992. The osteological paradox: problems of inferring prehistoric health from skeletal samples. *Current Anthropology* 33(4):343-370.

Zweifel, L, T Böni & F Rühli. 2009. Evidence-based palaeopathology: meta-analysis of PubMed-listed scientific studies on ancient Egyptian mummies. *HOMO* 60:405-427.

Books on Reserve: (for projects and reference)
* = Central Library @ = Lab # = eBook

* Agarwal, S, ed. 2011. *Social Bioarchaeology*. Wiley-Blackwell.

@Aufderheide, AC & C Rodríguez-Martín. 1998. *The Cambridge Encyclopedia of Human Paleopathology*. Cambridge University Press.

@*Baker, BJ, TL Dupras & MW Tocheri. 2005. *The Osteology of Children and Infants*. Texas A&M University Press.

@*Bass, WM. 2005. *Human Osteology: a Laboratory and Field Manual*. Missouri Archaeological Society.

*Buikstra, J. 2006. *Bioarchaeology: the Contextual Analysis of Human Remains*. Academic Press.

@Buikstra, J & D Ubelaker. 1994. *Standards for Data Collection from Human Skeletal Remains*. Arkansas Archaeological Survey.

#Cox, M & S Mays. 2000. *Human Osteology in Archaeology and Forensic Science*. Greenwich Medical Media, Ltd.

*Grauer, AL and P Stuart-Macadam. 1998. *Sex and Gender in Paleopathological Perspective*. Cambridge University Press.

*Hillson, S. 2005. *Teeth, 2nd ed.* Cambridge.

*İşcan, MY & KAR Kennedy. 1989. *Reconstruction of Life from the Skeleton*. Wiley-Liss.

*Katzenberg, M & S Saunders. 2008. *Biological Anthropology of the Human Skeleton, 2nd ed*. Wiley.

*Larsen, CS. 1997. *Bioarchaeology: Interpreting Behavior from the Human Skeleton*. Cambridge.

#Mays, S. 1998. *The Archaeology of Human Bones*. Routledge.

*Ortner, DJ. 2003. *Identification of Pathological Conditions in Human Skeletal Remains*. Academic Press.

*Parker Pearson, M. 1999. *The Archaeology of Death and Burial*. Texas A&M University Press.

*Pinhasi, R & S Mays, eds. 2008. *Advances in Human Palaeopathology*. Wiley & Sons.

*Powell, M & D Cook. 2005. *The Myth of Syphilis: the Natural History of Treponematosis in North America*. University Press of Florida.

*Reichs, K, ed. 1986. *Forensic Osteology: Advances in the Identification of Human Remains*. Thomas.

*Rifkin, B. 2006. *Human Anatomy: Depicting the Body from the Renaissance to Today.* Thames & Hudson.

*Roberts, C. 2005. *The Archaeology of Disease, 3rd ed.* Cornell University Press.

*Roberts, C and J Buikstra. 2003. *The Bioarchaeology of Tuberculosis: a Global View on a Reemerging Disease*. University Press of Florida.

*Scheuer, L. 2000. *Developmental Juvenile Osteology*. Academic Press.

*Ubelaker, DH. 1989. *Human Skeletal Remains: Excavation, Analysis, Interpretation*. Taraxacum.

@van Beek, GC. 1983. *Dental Morphology: An Illustrated Guide*. Wright.

*Waldron, T. 2009. *Palaeopathology*. Cambridge.

@White, T & P Folkens. 2011. *Human Osteology, 3rd ed*. Academic Press.