

ANTH 270
HUMAN OSTEOLOGY

Fall 2011

T/R 11-12:15 pm

Garland 109

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Hours: T 9-10:30, R 9-11 am

Course Description: The discipline of anthropology has shown us that humans are naturally curious about themselves and the world around them. From prehistoric cave art to modern biochemistry, people have sought to describe human anatomy and physiology in a variety of ways. This course specifically covers human osteology, or the study of the human skeleton. The course will teach you about skeletal morphology in both lecture and laboratory settings, and you will master identification of all 206 bones and 52 teeth (permanent and deciduous) in the human body. Students will learn: 1) how to identify skeletal elements, both whole and fragmentary; 2) how to estimate age, sex, ancestry, and stature of an individual; 3) laboratory analysis and imaging techniques; 4) how to reconstruct populations, particularly in terms of diet and disease; and 5) real-world applications of human osteology.

Texts:

Required – *Human Osteology, 3rd ed.* by T.D. White and P.A. Folkens
Osteology of Infants and Children by B. Baker, T. Dupras & M. Tocheri
Additional articles uploaded to OAK

Requirements:



Quizzes (40%) – There will be twelve (12) quizzes throughout the semester. Quizzes will always be given on **Tuesday** at the beginning of class (**11am sharp**). You will have 20 stations at which you will have to identify bone, side, and/or landmark. Quizzes are designed to take about 20 minutes, 1 minute for each station. There will be no make-ups for quizzes, but I will drop your lowest two (2) quiz grades. Each quiz will have an extra credit question.



Midterm and Final (30%) – The midterm and final will also consist primarily of identification and/or analysis of bones (side, landmarks, age, sex, pathology). The midterm is worth 15% of your grade and will be given on **October 13**. The final is cumulative and will also include essay questions. It is worth 15% of your grade and will be given on **December 10**.



Skeletal Report (20%) – Throughout the semester, you will be working on a full osteological analysis of a human skeleton. In a 7- to 10-page report, you will identify the bones present and report on the skeleton's age, sex, stature, and pathological conditions. This project is due on or before **November 29**, and more information will be forthcoming.



Lab Notebook (10%) – You will also receive a lab assignment almost every Tuesday, for a total of eleven (11) labs. Labs will be checked during the quiz the following **Tuesday**, and the lowest assignment will be dropped. These labs are designed to help you learn course material in a hands-on environment. You may work with a partner to complete the lab, but you will turn in assignments individually. I suggest purchasing a 3-ring binder to keep assignments organized.

Attendance Policy:

In addition to the above, your attendance at lecture is mandatory. You are required to attend at least one hour of lab each week. You will find during the semester that you need more than one hour of lab in order to study or work on your projects. The lab will be open on Tuesdays and Thursdays before class. Outside of those times, if the lab is locked, ask for a key from Dr. Killgrove, Beth, or Shelley Darling in the 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. Failure to come to lab at least one hour per week will also 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 (quizzes, exams, reports, lab write-ups). Quizzes and exams are closed book. You may discuss the skeletal report and lab write-ups 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:

Date	Topic	Reading Due	Assignments Due
UNIT 1	Introduction to Osteology		
8/25	What is Human Osteology? Course Guidelines	White Ch. 1 Baker Ch. 1	
8/30	Skeletal Terminology, Laboratory Rules Biology of the Human Skeleton	White Chs. 2 & 3	
UNIT 2	The Human Skeleton		
9/1	Skull Skeleton Assignments	White Ch. 4 Baker Chs. 3 & 4	Skeleton Lab
9/6	Dental Anatomy, Terminology, and Development	White Ch. 5, pp. 101-109	QUIZ 1, Skull Lab
9/8	Adult Dentition	White Ch. 5, pp. 109-128 White Appendix 2	
9/13	Subadult Dentition	Baker Ch. 5	QUIZ 2, Tooth Lab
9/15	Vertebrae & Hyoid	White Ch. 6 Baker Ch. 6 (pp. 75-86)	
9/20	Shoulder Girdle and Ribcage	White Chs. 7 & 8 Baker Ch. 7	QUIZ 3, Vertebrae Lab
9/22	Arm and Hand	White Chs. 9 & 10 Baker Ch. 8, pp. 103-112 Baker Ch. 9, pp. 124-137	
9/27	Bipedalism and the Pelvis	White Ch. 11 Baker Ch. 6 (pp. 86-92)	QUIZ 4, Arm/Hand Lab
9/29	Leg and Feet	White Chs. 12 & 13 Baker Ch. 8, pp. 112-123 Baker Ch. 9, pp. 138-153	
10/4	Excavation and Retrieval	White Ch. 15 Baker Ch. 2	QUIZ 5, Pelvis Lab
10/6	<i>No Class – Fall Break</i>		
10/11	Animal Bones & Taphonomy	White Ch. 20	QUIZ 6, Leg/Foot Lab
10/13	<i>MIDTERM</i>		

Date	Topic	Reading Due	Assignments Due
UNIT 3 Identifying Individuals			
10/18	Sex	White Ch. 16, pp. 352-354 White Ch. 18, pp. 408-417	
10/20	Age at Death – Adult & Subadult	White Ch. 18, pp. 379-408 Baker Ch. 10	
10/25	Stature	White Ch. 18, pp. 418-421 Bass Ch. 1, pp. 21-28	QUIZ 7, Sex/Age Lab
10/27	Ancestry	White Ch. 18, pp. 421-426 Byers Ch. 7 AAPA Statement on Race	
11/1	Pathology – Dental	White Ch. 19, pp. 454-457	QUIZ 8, Stature/Ancestry Lab
11/3	Pathology – Trauma	White Ch. 19, pp. 433-439	
11/8	Pathology – Arthritis and Nonspecific	White Ch. 19, pp. 441-443	QUIZ 9, Pathology Lab I
11/10	Pathology – Nutritional	White Ch. 19, pp. 447-448	
11/15	Nonmetric Variation, Photography	White Ch. 21 & Appendix 1 White Ch. 16, pp. 345-349	QUIZ 10, Pathology Lab II
11/17	Ethics of Analysis	White Ch. 17, NAGPRA	
11/22-24	<i>No Class – Thanksgiving</i>		
UNIT 4 Applications of Osteology			
11/29	Bioarchaeology	White Chs. 25 & 26	QUIZ 11 Skeletal Project Due
12/1	Forensic Anthropology	Byers Ch. 3 White Chs. 23 & 24	
12/6	Palaeoanthropology	White Chs. 27 & 28	QUIZ 12
12/8	Medical & Dental Professions		
12/10	<i>FINAL EXAM, 3pm</i>		

Bibliography

Additional Required Readings: (found through OAK)

- American Association of Physical Anthropologists 1996. "AAPA statement on biological aspects of race." *American Journal of Physical Anthropology* 101:569-70.
- Bass, WM. 2005. "Stature estimation." *Human Osteology: a Laboratory and Field Manual*, Chapter 1, pp. 21-30. Missouri Archaeological Society.
- Byers, SN. 2008. "Establishing the forensic context." *Introduction to Forensic Anthropology, 3rd Ed.*, Chapter 3, pp. 60-85. Pearson.
- Byers, SN. 2008. "Attribution of ancestry." *Introduction to Forensic Anthropology, 3rd Ed.*, Chapter 7, pp. 152-175. Pearson.
- Native American Graves Protection and Repatriation Act (NAGPRA) 1990.

Books on Reserve: (for projects and further information; may be listed under ANTH 274)

- * = Central Library @ = Lab # = eBook
- @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.
- *Reichs, K, ed. 1986. *Forensic Osteology: Advances in the Identification of Human Remains*. Thomas.
- *Roberts, C. 2005. *The Archaeology of Disease, 3rd ed*. Cornell University Press.
- *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.