

Forensic Anthropology ANT/FORS 4355 Fall, 2008

Anthropology/Forensic Science 4355-01, T/R, 2:00-3:15, 224 Marrs McLean Science Bldg.

Anthropology/Forensic Science 4355-02, T/R, 3:30-4:45, 224 Marrs McLean Science Bldg.

Instructor: Dr. Joseph Ferraro

Office: 308.2 Marrs McLean Science Bldg.

Phone: 710-1401

Email: joseph_ferraro@baylor.edu

Office hours: Wednesday 9:00-5:00 in my office, or by appointment. If you can possibly email ahead of time I will absolutely 100% make sure I'm not at the library, in the can, etc., when you show up! You can also always reach me via email and phone. Remember, I'm here to help you learn: take advantage of me as a resource (within reason).

Optional open lab hours for study: To be determined.

Course Description:

Forensic anthropology is the application of biological anthropology, one of the major subfields of anthropology, in a legal context. This course provides an overview of the principles and methods of forensic anthropology through lecture, reading, discussion, and laboratory experiences. Students will learn both the scientific basis of forensic anthropology and the legal context in which it is applied. Forensic anthropologists not only work on individual cases of skeletonized or partially skeletonized human remains in medical examiner contexts, but also on human remains recovered from mass fatalities (air crashes, terrorism), mass graves associated with genocide (Argentina, Guatemala, Kosovo, etc.), and from military personnel missing in action.

Course Objectives:

Students will (hopefully) learn how to determine the age, sex, stature, and ancestry of individuals using bony and/or dental remains. In addition, you will learn how to identify a wide variety of skeletal traumas, cultural modifications, and pathological conditions. Lastly, you will learn the protocols required for making positive identifications when dealing with human skeletal remains. You will also be required to demonstrate a knowledge of: (1) the contexts in which forensic anthropologists work and understand both the roles and limitations of forensic anthropology within a broader medico-legal context; (2) the basic methods in forensic archaeology and the study of taphonomy as they pertain to the recovery and identification of human remains; and (3) the process for preparing a written case report in forensic anthropology.

Required Texts:

Buikstra, Jane E. and Douglas H. Ubelaker (1994) *Standards for Data Collection from Human Skeletal Remains*. Arkansas Archeological Survey, Fayetteville. ISBN: 978-1563490750

Komar, Debra and Jane E. Buikstra (2008) *Forensic Anthropology: Contemporary Theory and Practice*. Oxford University Press, New York. ISBN: 978-0195300291

There are also a series of required journal articles and book chapters. These are listed at the end of the syllabus. PDF versions of these papers are posted on the course Blackboard site.

Strongly Recommended Texts (that you hopefully already own):

The Elements of Style. 4th Ed. William Strunk and E.B. White. Longman: Massachusetts (available almost everywhere, including the Baylor Bookstore).

and either: White, T.D. and P. Folkens (2000) *Human Osteology*. Second edition. Elsevier Academic Press, Burlington, MA.

or: White, T.D. and P. Folkens (2005) *The Human Bone Manual*. Elsevier Academic Press, Burlington, MA.

Assessment:

Osteology Quiz: 10%

There is one osteology review quiz. Students will be required to (1) identify the bones of the skeleton, (2) determine what side of the body the bone is from, and (3) identify important characteristics of each bone. Teeth will also be on the quiz. You will be required to identify tooth class, position, and maxillary/mandibular. A study packet of the bones and features will be provided.

Article review: 5%

Each student will be assigned two articles (or equivalent) from the semester's selection of reading to present to the class. This presentation should be brief (no more than 5 minutes) and should highlight the research question(s) investigated, the methods used, the research sample, the results, and strengths and weaknesses of the research. Students will be graded not only on their ability to address the above issues, but must be able to demonstrate a thorough command of the article and have some understanding of how the article fits within the field of forensic anthropology. *Students will also be evaluated as 'participant audience members' for other students' presentations.*

Weekly exercises: 10%

You will be completing a series of laboratory assignments for many of the osteological techniques covered in this course (see the course schedule). These assignments are designed to give you practical experience in forensic anthropology and will prepare you for the final forensic case report. Generally, these assignments will be due at the end of the class period.

Midterm exam: 20%

Consists of a combination of short answer definitions, laboratory problems/identification, and essays. The exams will draw from reading, lecture, videos, and osteological techniques learned in the laboratory.

Paper: 15%

A 5 page paper on (almost) anything related to forensic anthropology. Pursue your interests; explore a topic that really excites you! A minimum of three (3) academic references required; non-journal web-pages (e.g. Wikipedia, bobshouseofcalcanai.com, your friend's cousin's sister's blog, etc. [even if she's a forensic anthropologist!]) are categorically NOT academic references. All references should be parenthetically cited and included in a complete bibliography. The final draft is due in class on **October 16**. As part of a program offered at Baylor, this research paper and other written assignments must be submitted to TurnItIn.com. This company uses various search engines to identify unoriginal work. We will go over the mechanics of this in class. Please read the following notice:

"Students agree that by taking this course, all required papers, exams, class projects or other assignments submitted for credit may be submitted to turnitin.com or similar third parties to review and evaluate for originality and intellectual integrity. A description of the services, terms and conditions of use, and privacy policy of turnitin.com is available on its web site: <http://www.turnitin.com>. Students understand all work submitted to turnitin.com will be added to its database of papers. Students further understand that if the results of such a review support an allegation of academic dishonesty, the course work in question as well as any supporting materials may be submitted to the Honor Council for investigation and further action.

John/Jane Doe case study: 20%

During the last few weeks of class you will conduct an actual forensic case analysis. You will be required to apply every technique you learned throughout the semester. Further details will be provided in class.

Final exam: 20%

Consists of a combination of short answer definitions, laboratory problems/identification, and essay. The exams will draw from reading, lecture, videos, and osteological techniques learned in the laboratory.

Weekly Schedule and Reading Assignments:

Wk 1 Aug 26: Course introduction

Aug 28: Osteology review I

Readings due: Komar and Buikstra textbook chapters 1-2 (pp: 1-43)

Wk 2 Sept 2: Osteology review II

Sept 4: **Osteology quiz**

Forensic anthropology and the medicolegal system

Readings due: Komar and Buikstra textbook chapter 3 (pp: 44-64)

Wk 3 Sept 9: Forensic archaeology

Forensic context / recovery scene methods

Readings due: Komar and Buikstra textbook chapter 4 (pp: 65-114)

Article: Dirkmaat and Adavasio 1997

Sept 11: **Forensic archaeology / mapping exercise at the Mayborn Museum or O'Grady Facility (to be determined)**

Readings due: none

Wk 4 Sept 16: Forensic anthropology- methods and protocols

Initial treatment and examination

Readings due: none

Sept 18: Determining sex I

Readings due: Komar and Buikstra textbook (pp: 115-136)

Standards chapter 2 (pp: 5-14), chapter 3 (pp: 15-21)

Articles: Walker and Cook 1998; Walker 2005; Williams and Rogers 2006

Wk 5 Sept 23: Determining sex II

Exercise II

Readings due: none

Sept 25: Determining adult age at death I

Readings due: Komar and Buikstra textbook (pp: 136-147)

Standards (pp: 21-38)

Articles: Suchey and Katz 1998; Hoppa 2000; Martille et al 2007; Loth and Iscan 1989

Wk 6 Sept 30: Determining adult age at death II

Exercise III

Readings due: none

Oct 2: Histological aging and subadult age at death I

Readings due: *Standards* chapter 4

Articles: Robling and Stout 2000; Osborn et al 2004; Crowder and Austin 2005

- Wk 7 Oct 7: Determining subadult age at death II
Exercise IV
Readings due: none
Oct 9: **Midterm exam**
Readings due: none
- Wk 8 Oct 14: Determining ancestry I
Readings due: Komar and Buikstra textbook (pp: 147-148)
Standards chapter 7
Articles: AAPA statement on race; Brace 1995; Kennedy 1995;
Ousley and Jantz 1998
Oct 16: Determining ancestry II
Research paper due in class
Exercise V
Readings due: none
- Wk 9 Oct 21: Determining stature I
Readings due: Komar and Buikstra textbook (pp: 149-153)
Articles: Raxter et al 2006; Raxter et al 2007; Trotter 2007; Jantz et al 1995
Oct 23: Determining stature II
Exercise VI
Readings due: none
- Wk 10 Oct 28: Perimortem trauma I
Readings due: Komar and Buikstra textbook chapter 6 (pp: 154-188)
Oct 30: Perimortem trauma II
Exercise VII --- wear clothes you don't mind getting a little bloody!
Readings due: none
- Wk 11 Nov 4: Antemortem pathology I
Readings due: *Standards* chapter 10 (pp: 107-158)
Articles: Ubelaker and Adams 1995; Chalce and Rogers 2007;
Wheatley 2007
Nov 6: Antemortem pathology II / Forensic taphonomy I
Readings due: Komar and Buikstra textbook chapter 7 (pp: 189-207)
Standards chapter 11 (pp:159-163)
Articles: Dirkmaat 2002; Haglund 1997
- Wk 12 Nov 11: Forensic taphonomy II
Exercise VIII
Readings due: none
Nov 13: Personal identification; mass disasters, human rights, military MIA's
Readings due: Komar and Buikstra textbook chapters 8-10 (pp: 208-281)
Article: Owsley et al 1995
- Wk 13 Nov 18: Case study research
Readings due: none
Nov 20: Case study research
Readings due: none

Wk 14 Nov 25: Case study research
Readings due: none
Nov 27: **Thanksgiving Break --- no class**

Wk 15 Dec 2: Case study research
Readings due: none
Dec 4: **Case study presentations**

Final exam: Dec 15th at 2:00 (for the 2:00 section) or Dec 17th at 9:00 am (for the 3:30 section).
The exam will be held in the course classroom MMSCI 224
All students must take the final exam at their scheduled time.

Note: This syllabus is subject to modifications throughout the term. Exam and paper dates will NOT change; readings, topics, and assignments may change slightly. Changes (if any) will be announced in class and posted on 'Blackboard'.

Readings:

- American Journal of Physical Anthropology (1996). AAPA statement on biological aspects of race. *American Journal of Physical Anthropology* 101(4): 569-570.
- Brace, C. Loring (1995). Region Does not Mean "Race"—Reality versus Convention in Forensic Anthropology. *Journal of Forensic Sciences* 40: 171-175.
- Calce, Stephanie E. and Tracy L. Rogers (2007). Taphonomic Changes to Blunt Force Trauma: A Preliminary Study. *Journal of Forensic Sciences* 52(3): 519-527.
- Crowder, Christian and D. Austin (2005). Age ranges of epiphyseal fusion in the distal tibia and fibula of contemporary males and females. *Journal of Forensic Sciences* 50(5).
- Dirkmaat, D.C. (2002). Recovery and Interpretation of the Fatal Fire Victim: The Role of Forensic Anthropology. In *Advances in Forensic Taphonomy*, W.D. Haglund and M.H. Sorg (eds.), CRC Press, Boca Raton; pp. 451-472.
- Dirkmaat, D.C. and J.M. Adavasio (1997). The Role of Archaeology in the Recovery and Interpretation of Human Remains from an Outdoor Forensic Setting. In *Forensic Taphonomy: The Postmortem Fate of Human Remains*, edited by W.D. Haglund and M.H. Sorg, pp 39-64. CRC Press, Boca Raton.
- Haglund, W.D. (1997). Rodents and Human Remains. In *Forensic Taphonomy: The Postmortem Fate of Human Remains*, edited by W.D. Haglund and M.H. Sorg, pp 405-414. CRC Press, Boca Raton.
- Hoppa, R.D. (2000). Population Variation in Osteological Aging Criteria: An Example from the Pubic Symphysis. *American Journal of Physical Anthropology* 111:185-191.
- Jantz, R.L., D.R. Hunt, L. Meadows (1995). The Measure and Mismeasure of the Tibia: Implications for Stature Estimation. *Journal of Forensic Sciences* 40(5):758-761.
- Kennedy, K.A.R. (1995). But Professor, Why Teach Race Identification if Races Don't Exist? *Journal of Forensic Sciences* 40:797-800.
- Loth, S. R., and M. Y. Iscan (1989). Morphological Assessment of Age in the Adult: The Thoracic Region. In *Age Markers in the Human Skeleton*, edited by M. Y. Iscan, pp. Charles C. Thomas, New York.
- Martrille, L., DH. Ubelaker, C. Cattaneo, F. Seguret, M. Tremblay, and E. Baccino (2007). Comparison of Four Skeletal Methods for the Estimation of Age at Death on White and Black Adults. *Journal of Forensic Sciences* 52(2): 302-307.
- Osborn, D.L., T.L. Simmons, S.P. Narwocki (2004). Reconsidering the auricular surface as an indicator of age at death. *Journal of Forensic Sciences* 49(5): .

- Owsley, S.D.; Jantz, R.L. (1998). The Forensic Data Bank: Documenting Skeletal Trends in the United States. In K.J. Reichs (ed.), *Forensic Osteology: Advances in the Identification of Human Remains* (Second edition), Charles C. Thomas Press, Springfield; pp. 441-458.
- Owsley, D.H., D. H. Ubelaker, M. M. Houck, K. L. Sandness, W. E. Grant, E. A. Craig, T. J. Woltanski, and N. Peerwani, (1995). The Role of Forensic Anthropology in the Recovery and Analysis of Branch Davidian Compound Victims: Techniques of Analysis. *Journal of Forensic Sciences* 40(3):341-8.
- Raxter, M.H., B.M. Auerback, and C.B. Ruff (2006). Revision of the Fully Technique for Estimating Statures. *American Journal of Physical Anthropology* 130: 374-384.
- Raxter, M.H., C.B. Ruff, and B.M. Auerbach (2007). Technical Note: Revised Fully Stature Estimation Technique. *American Journal of Physical Anthropology* 133: 817-818.
- Robling, AG, and Stout, SD (2000). Methods of determining age at death using bone microstructure. In *Biological Anthropology of the Human Skeleton*, edited by MA Katzenberg and SR Saunders, pp. 187-205. Wiley-Liss, New York.
- Suchey, J.M. and Katz, D. (1998) Applications of pubic age determination in a forensic setting. In K.J. Reichs (ed.), *Forensic Osteology: Advances in the Identification of Human Remains* (Second edition), Charles C. Thomas Press, Springfield
- Trotter, M. (1970). Estimation of Stature from Intact Long Limb Bones. In *Personal Identification in Mass Disasters*, T.D. Stewart (eds.), Washington, DC: Smithsonian Institution Press; pp. 71-83.
- Ubelaker, D.H. and B.J. Adams (1995). Differentiation of Perimortem and Postmortem Trauma Using Taphonomic Indicators. *Journal of Forensic Sciences* 40(3):509-512.
- Walker, P.L. (2005). Greater Sciatic Notch Morphology: Sex, Age, and Population Differences. *American Journal of Physical Anthropology* 127(4):385-391.
- Walker, P.L. and D.C. Cook (1998). Gender and Sex: Vive la Difference. *American Journal of Physical Anthropology* 106-255-259.
- Wheatley, Bruce P. (2007). Perimortem or Postmortem Bone Fractures? An Experimental Study of Fracture Patterns in Deer Femora. *Journal of Forensic Sciences*.
- Williams, Brenda and Tracy Rogers (2006). Evaluating the Accuracy and Precision of Cranial Morphological Traits for Sex Determination. *Journal of Forensic Sciences* 51 (4): 729-735.