

## HUMAN OSTEOLOGY (ANTH 116a)



Summer 2021

Instructor: Javier Urcid

Class meetings:  
M, T and Th 2 - 4:30 pm

Contact:  
email: [urcid@brandeis.edu](mailto:urcid@brandeis.edu)

Virtual conversations:  
By appointment (available  
Wednesdays and Fridays  
10 am-6pm Eastern time)

Ready to join the [Human Osteology class?](#)

Want to have a [virtual conversation](#)?

To set up a day/time for the virtual office conversation make sure to email me with at least 24 hours advance notice, to make sure there is an open slot for you.

### ***Course description***

This course reviews in detail human skeletal anatomy for the proper identification of the bones in the body, their biomechanical articulations and their relationship with the muscular system. Focus is then directed to studying forensic methods and techniques for the estimation of age at death, determination of sex, assessment of type of bone remodeling, identification of cultural modifications to bone, and of the impact of environmental processes on bony tissue. The class includes a case illustrating the use of forensic approaches to the study of the past. Students give a class presentation focusing on a bone of their preference, and engage in a library research project to write a final paper dealing with medical, forensic, archaeological, museographic, or ethical issues related to the human skeleton.

### ***Learning goals***

The aim of the course is for students to have full command of human skeletal anatomy and of basic forensic techniques, goals that will serve as foundational for those pursuing graduate training in medicine, forensic sciences, and archaeology, among other disciplines. The course also provides transferable skills such as the ability to conceptualize a scholarly project, conduct library research, and write a short paper.

### *Course plan*

| <b>Sessions</b> | <b>Topics</b>  | <b>Readings</b>  |
|-----------------|--|--|
| Jun T 1         | Introduction to the course<br>Generalities   | None   |
| Jun Th 3        | The Skull  | Bass 1987: 291-299;<br>Schwartz 2007, Chapter 1: 1-12  |
| Jun M 7         | The Skull  | Schwartz 2007, Chapters 2-3  |
| Jun T 8         | Dentition  | Schwartz 2007, Chapter 7   |
| Jun Th 10       | Postcranium: Axial skeleton<br><b>Proposal for Research Paper due</b>  | Schwartz 2007, Chapter 4   |
| Jun M 14        | Postcranium: Upper extremities<br><b>Comments on Proposal returned</b>   | Schwartz 2007, Chapter 5   |
| Jun T 15        | Postcranium: Lower extremities   | Schwartz 2007, Chapter 6   |
| Jun Th 17       | <b><i>First exam</i></b>   | None   |
| Jun M 21        | Assessment of age at death   | Ubelaker 1989: 63-95<br>Iskan and Loth 1989 (suggested)  |
| Jun T 22        | Assessment of sex  | Ubelaker 1989 pp. 52-60  |
| Jun Th 24       | Bone Remodeling<br>Documentary: <i>True Story of J. Merrick</i><br>Suggested Readings related<br>to the documentary:<br><b>Draft of research paper due</b> | Wells 1967; Ubelaker 1989: 107-108<br>Ortner 1992<br>Montagu 1979; Cohen 1987;<br>Bilkay et al. 2003; Legrende et al.<br>2011; De Souza 2012 |
| Jun M 28        | Cultural and natural<br>skeletal modification<br><br><b>Comments on draft of research paper returned</b>   | Ubelaker 1989: 96-107<br>Verano 2003 or Duncan-Hofling<br>2011; Haglund 2001 or Gould 2002   |
| Jun T 29        | <b><i>Second exam</i></b>  | None   |
| Jul Th 1        | Skeletal Forensics of Human sacrifice<br><i>Video “Mystery of First Americans”</i><br><b>(review due on July 3rd)</b>                                      | Harner 1977; Ortiz Montellano 1978<br>(references at end of bibliography)  |
| Jul Friday 9    | Research paper due   |  |

### ***Important dates***

- June 10 (before class) – Proposal of research paper due via Latte
- June 17 – First exam due at end of class via Latte
- June 24 (before class) – Draft of research paper due via Latte
- June 29 – Second exam due at end of class via Latte
- Jul 3– Review of documentary “Mystery of First Americans” due via Latte, no later than 5pm.
- July 9– Research paper due via Latte, no later than 5pm.

### ***LATTE***

LATTE is the Brandeis on-line course website and the course will be managed through it. All the reading materials and the two documentaries required for the class are available there.

Assignment submissions, course related announcements, and any and all syllabus changes will be also communicated via LATTE. Login using your UNET ID and password at <http://latte.brandeis.edu>.

### ***Library***

[The Brandeis Library](#) collections and staff offer resources and services to support Brandeis students, faculty and staff. These include workshops, consultations, collaboration, materials and instruction on emerging trends in technologies such as machine learning, emerging trends in research such as data visualization, and emerging trends in scholarship such as open access. Librarians at the Circulation Desk, Research Help Desk, Archives & Special Collections, Sound & Image Media Studios, MakerLab, AutomationLab, and Digital Scholarship Lab are available to help you. <https://www.brandeis.edu/library/about/index.html>

### ***Accommodations***

Brandeis faculty seeks to welcome and include all students. If you need accommodations as outlined in an accommodations letter issued by the Office of Student Accessibility Support, please get in touch with me and submit your letter within the first week of class. If you have questions about documenting a disability or requesting accommodations, please contact [Student Accessibility Support](#) (SAS <https://www.brandeis.edu/accessibility/>) at 781.736.3470 or [access@brandeis.edu](mailto:access@brandeis.edu).

### ***Student Support***

Brandeis University is committed to supporting all our students so they can thrive. The following resources are available to help with the many academic and non-academic factors that contribute to student success (finances, health, food supply, housing, mental health counseling, academic advising, physical and social activities, etc.). Please explore the many links on this [Support at Brandeis](#) page (<https://www.brandeis.edu/support/undergraduate-students/browse.html>) to find out more about the resources that Brandeis provides to help you and your classmates to achieve success.

### ***Four-Credit Course (with three hours of class-time per week)***

Success in this 4-credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, response to questions, preparation for discussions, writing of papers, and preparation for exams).

### ***Class attendance***

Attendance to class is highly recommended because there are some assignments that are meant to be done during our online sessions, either individually or in groups. However, if you will not be able to attend, please notify me by email **prior** to the intended absence. Post-class notifications will not be honored and could be considered when assessing your overall performance in the course. The sessions will be recorded, so if you miss a class, you will be able to access it through the Latte portal for reviewing and studying purposes.

### ***Reading assignments***

Reading assignments should be completed by the dates indicated above. The assigned readings on skeletal anatomy can be done using simultaneously any digital resource for the 3D visualization of individual bones or the entire skeleton. There are several online and free resources, but highly recommend products are from the company “Visual Body”, either “Human Anatomy Atlas” (\$ 25) and/or “Muscle Premium” (\$ 25-\$35 depending on the device) (for more information, visit [visiblebody.com](http://visiblebody.com)). These applications, which I will use at times in class, are very useful for visualizing the anatomical context of the bones and muscles, but are not a substitute for the readings and the class notes, as the latter two go into much depth on the morphological traits of each bone. If you are having difficulty purchasing the application, please make an appointment with your Student Financial Services or Academic Services advisor to discuss possible funding options.

### ***Class presentation assignment***

Using my class presentations on the skull as a model, students will make a class presentation on a bone from the post-cranium of their own choosing. The class presentation involves crafting a slide show that you will share via zoom. The presentation should run for some 20-25 minutes. During the first day of class we will create a schedule for such presentations.

### ***Written assignment***

There is one written review of the documentary “Mystery of the First Americans” (available on Latte). The review should have a maximum of three double-spaced typed and numbered pages. It needs to address three points: 1) A synthetic summary of the core ideas (half page), a critical evaluation of the main points (two pages), and a general assessment of the effectiveness of the video (half page). In order to critically evaluate the main point of the documentary, students need to engage the authors listed in the bibliography below (Owsley and Jantz 2001; Jones and Harris 1998; Meighan and Gulliford (1992); and Meighan and Zimmerman (1994). If you cite from any source, you should include an extra page listing your bibliography. The review should be submitted through the Latte portal in Word or pdf format. The file must be named: “Last name-video review.”

### ***Exams***

There will be two exams throughout the summer session. Each examination involves brief answers to a series of questions, the identification from 3D digital models of complete and partial bones, and applying forensic techniques to specific “bone stations.” The exams are accumulative in order to reinforce your knowledge of skeletal anatomy. The submitted files should be named: “Last name-exam 1” and “Last name-Exam 1.”

### ***Research Project and Final paper***

Select a topic of your interest that has to do with the human skeleton (it can be a topic on medical, archaeological, historical, forensic, and/or ethical dimensions). On June 10 you will submit a one-page research proposal outlining what you will research on, why do you think it is interesting or relevant, and what resources do you plan to use, including a preliminary bibliography. The latter must include sources from books and peer review journals, although web resources are allowed too as secondary sources. The commented proposal will be returned to you on June 14th. An advanced draft of your paper is then due on June 24th, and further feedback will be given to your draft by June 28th. The final version of the paper is due on July 9th no later than 5 pm. No final papers will be accepted after the submission deadline.

Papers should be 7-9 double-spaced typed and numbered pages of text, plus the bibliography. Photographs, illustrations, maps and diagrams are also encouraged. Papers should follow the [stylistic and formatting guidelines of the Society for American Archaeology](#). The grading of the final paper will be based on its structure (an introduction, the development of the argument or theme, and a conclusion). The richness of the content is also important, and should reflect the variety of resources that you use. The clarity of the writing, and the adherence to the stylistic guidelines, are additional features that will play an important role in the paper’s evaluation.

The proposal, the draft and the final version should be submitted in the Latte portal as a Word or pdf file, and the files must be named “Last name-draft paper” and “Last name-final paper.”

### ***Summary of assessment weighting***

| Class Element      | Grade Percentage | Learning Goals   |
|--------------------|------------------|--|
| Class presentation | 10%              | Develop your research, organizational and oral skills                          |
| First exam         | 20%              | Have basic command of skeletal anatomy   |
| Second exam        | 30%              | Have full command of skeletal anatomy and forensic techniques                  |
| Documentary review | 10%              | Develop critical insights as well as clear and succinct writing skills         |
| Research Project   | 30%              | Conceptualize a research project with comparative and or analytical components |

### ***Academic Integrity***

Every member of the University community is expected to maintain the highest standards of academic integrity. A student shall not submit work that is falsified or is not the result of the student's own effort. Infringement of academic honesty by a student subjects that student to serious penalties, which may include failure on the assignment, failure in the course, suspension

from the University or other sanctions (see section 20 of R&R). Please consult Brandeis University Rights and Responsibilities for all policies and procedures related to academic integrity. A student who is in doubt regarding standards of academic honesty as they apply to a specific course or assignment should consult the faculty member responsible for that course or assignment before submitting the work. Allegations of alleged academic dishonesty will be forwarded to the Department of Student Rights and Community Standards. Citation and research assistance can be found at [Brandeis Library Guides - Citing Sources \(https://guides.library.brandeis.edu/c.php?g=301723\)](https://guides.library.brandeis.edu/c.php?g=301723).

### *Readings (on LATTE)*

Bass, William M.

- 1987 Appendix 1-Glossary and Miscellaneous Information for the Osteology Student. In *Human Osteology: A Laboratory and Field Manual of the Human Skeleton*. Missouri Archaeological Society, University of Missouri, Columbia (Third edition).

Bilkay, Ufuk, C. Tokat, C. Ozek, H. Gundogan, O. Erdem, T. Gurler, and A. Cagdas

- 2003 Proteus Syndrome. *Scandinavian Journal of Plastic Reconstruction Surgery and Hand Surgery*, vol. 37: 307-310.

Cohen, Michael, M. Jr

- 1987 The Elephant Man did not have Neurofibromatosis. *Proceedings of the Greenwood Genetic Center* 6: 187-192.

Gould, Richard A.

- 2002 WTC Archaeology: What we Saw, What we Learned, and What we did about it. *The SAA Archaeological Record*, vol. 2 (5): 11-17.

De Souza, Rag

- 2012 Origins of the Elephant Man: Mosaic Somatic Mutations cause Proteus Syndrome. *Clinical Genetics* 81: 123-127.

Duncan, William N., and Charles Andrew Hofling

- 2011 Why the Head? Cranial Modification as Protection and Ensoulment among the Maya. *Ancient Mesoamerica* 22 (1): 199-210.

Haglund, William, D,

- 2001 Archaeology and Forensic Death Investigations. *Historical Archaeology*, Vol. 35 (1): 26-34.

Harner, Michael

- 1977 The Enigma of Aztec Sacrifice. *Natural History* vol.86, no.4, pp.47-51.

Iscan, Mehmet Yasar, and Susan R. Loth

- 1989 Osteological Manifestations of Age in the Adult. In *Reconstruction of Life from the Skeleton*, edited by Mehmet Yasar Iscan and Kenneth A. R. Kennedy, pp. 23-40. Alan R. Liss, Inc., New York.
- Legendre, Claire-Marie, C. Charpentier-Coté, R. Drouin, and Ch. Bouffard  
 2011 Neurofibromatosis Type 1 and the “elephant Man’s Disease: The Confusion Persists: An Ethnographic Study. *Plos ONE* 6(2): e16409. doi:10.1371/journal.pone.0016409
- Montagu, Ashley  
 1979 The Elephant man: A Study in Human Dignity. E.P. Dutton, New York.
- Ortiz de Montellano  
 1978 Aztec Cannibalism: An Ecological Necessity? *Science* 200: 611-617.
- Ortner, Donald, J.  
 1992 Skeletal Paleopathology: Probabilities, Possibilities, and Impossibilities. In *Disease and Demography in the Americas*, pp. 5-14. Verano, John, and Douglas Ubelaker, editors. Smithsonian Institution Press, Washington DC.
- Scheuer, Louise and Sue Black  
 2004 The Juvenile Skeleton. Elsevier Academic Press, Amsterdam.
- Schwartz, Jeffrey, H.  
 2007 *Skeleton Keys: An Introduction to Human Skeletal Morphology, Development, and Analysis*. Oxford University Press, New York (Second edition).
- Ubelaker, Douglas, H.  
 1989 *Human Skeletal Remains: Excavation, Analysis, Interpretation*. Manuals on Archaeology 2. Taraxacum, Washington.
- Verano, John  
 2003 Mummified Trophy Heads from Peru: Diagnostic Features and Medicolegal Significance. *Journal of Forensic Sciences*, vol. 48 (3): 1-6.
- Wells, C.  
 1967 Pseudopathology. In *Diseases in antiquity*, edited by Don Brothwell and Sandison, pp. 5-19. Charles C. Thomas, Springfield Il.

### **Readings associated with the Video Review of “Mystery of First Americans”**

- Jones, D G and R Harris  
 1998 Archaeological Human Remains. Scientific, cultural and ethical considerations. *Current Anthropology* 39(2):253-264.
- Meighan, Clement W / Gulliford, Andrew

- 1992 Another View on Repatriation: Lost to the Public, Lost to History/ Reply to  
“Another View on Repatriation”. *The Public Historian*, vol. 14 (3): 39-50.

Meighan, Clement W./ Zimmerman, Larry

- 1994 Burying American Archaeology/ Sharing Control of the Past. *Archaeology*,  
November/December, pp.64-68.

Owsley, Douglas W., and Richard L. Jantz

- 2001 Archaeological Politics and Public Interest in Paleoamerican Studies: Lessons from  
Gordon Creek Woman and Kennewick Man. *American Antiquity*, vol. 66 (4): 565-  
575.