Course Description: This course is a detailed study of skeletal anatomy and a general introduction to a range of osteological topics including basic anatomy, mechanical properties of bone, histology, functional and comparative anatomy (including musculature), evolution of bipedalism, growth and development, age and sex determination, paleodemography, paleopathology, dietary reconstruction, assessment of biological relatedness, and forensic techniques. The course will be divided between lectures on the preceding topics and hands-on learning of skeletal anatomy using real specimens and casts from the Archaeology and Anthropology Collections.

Required readings:


Additional required readings listed on the syllabus are available as .pdf files on Moodle (full bibliography at the end of the syllabus).

Supplemental materials (refer to relevant anatomical sections):


- You might also find these websites useful for general reference (additional websites are listed in the back of *Human Osteology*):
  
  http://www.innerbody.com/htm/body.html
  http://ect.downstate.edu/courseware/haonline/index.htm

- There are also a number of tablet apps available (search “skeleton” or “anatomy”).

- PowerPoint presentations used in class will be available on Moodle.

Examinations and Assignments: The body is divided into four main regions: axial skeleton, upper limb, and lower limb, and skull. A practical examination will cover the anatomy of each region, for a total of four in-class exams (80% of grade). The final exam will be in short answer and essay format and will cover the readings from the entire semester (20% of grade). Lab exercises will not be graded, but are required.
Class Locations: On Mondays and Wednesdays, class meets in SCIE113, unless noted. On most Tuesdays and for exams and labs class meets in SCIE351. (Note exceptions on Jan. 31st)

Course Outline

Jan. 30 M Introduction; Ethics; Anatomical Terminology
Readings: Human Osteology: Chapters 2, 17 (particularly 17.2)

31 T (Class meets in ANTH6) Biomechanics of Movement; Joints; Breathing
Readings: Standring, “Anatomy of breathing”
          Standring, “Biomechanics”
          Standring, “Joints”

Feb.  1 W The Postcranial Axial Skeleton: Hyoid, Vertebrae, Sacrum, Sternum, Ribs
Readings: Human Osteology: Chapters 6-7, pages 219-226

6 M The Postcranial Axial Skeleton: Hyoid, Vertebrae, Sacrum, Sternum, Ribs
Readings: Human Osteology: Chapters 6-7, pages 219-226

7 T Lab (351): Axial Skeleton

8 W EXAM (351): Axial Skeleton: Hyoid, Vertebrae, Sacrum, Sternum, Ribs

13 M The Upper Limb: Shoulder Girdle, Arm, Hand
Readings: Human Osteology: Chapters 8-10, pages 300-307
          Shipman et al., “Manipulation”

14 T Lab (351): Upper Limb

15 W The Upper Limb: Shoulder Girdle, Arm, Hand
Readings: Human Osteology: Chapters 8-10, pages 300-307
          Shipman et al., “Manipulation”

20 M The Upper Limb: Shoulder Girdle, Arm, Hand
Readings: Human Osteology: Chapters 8-10, pages 300-307
          Shipman et al., “Manipulation”

21 T Lab (351): Upper Limb

22 W EXAM (351): The Upper Limb: Shoulder Girdle, Arm, Hand

27 M The Lower Limb: Pelvis, Leg, Foot
Readings: Human Osteology: Chapters 11-13, pages 308-315
          Shipman et al., “Walking”

28 T Lab (351): Lower Limb
Mar. 1 W The Lower Limb: Pelvis, Leg, Foot  
Readings:  *Human Osteology*: Chapters 11-13, pages 308-315  
Shipman et al., “Walking”

6 M The Lower Limb: Pelvis, Leg, Foot  
Readings:  *Human Osteology*: Chapters 11-13, pages 308-315  
Shipman et al., “Walking”

7 T Lab (351): Lower Limb

8 W **EXAM (351):** The Lower Limb: Pelvis, Leg, Foot

**Spring Break**

Mar. 27 M The Skull: Cranium and Mandible  
Readings:  *Human Osteology*: Chapter 4, pages 298-299  
Shubin, “Getting ahead”

27 T Lab (351): Skull and Teeth  
Readings:  *Human Osteology*: Chapter 5, Appendix 2

29 W **NO CLASS**

Apr. 3 M The Skull: Cranium and Mandible  
Readings:  *Human Osteology*: Chapter 4, pages 298-299

4 T Lab (351): The Skull

5 W The Skull: Cranium and Mandible  
Readings:  *Human Osteology*: Chapter 4, pages 298-299

10 M The Skull: Cranium and Mandible; Chewing  
Readings:  *Human Osteology*: Chapter 4, pages 298-299  
Shipman et al., “Chewing”

11 T Lab (351): The Skull: Cranium and Mandible

12 W **EXAM (351):** The Skull: Cranium, Mandible, Teeth

17 M Hominin Evolution  
Readings:  *Human Osteology*: Chapters 27-28  
Bramble and Lieberman: “Endurance running and the evolution of Homo”  
Lovejoy: “Evolution of human walking”  
Roach et al.: “Elastic energy storage in the shoulder and the evolution of high-speed throwing in Homo”
18 T  Lab (351): Hominin Fossils

19 W  Biology of Bone
      Readings:  *Human Osteology*: Chapter 3
                  Standring, “Bone”

24 M  The 4 Ds: Diet, Disease, Distance and Demography
      Readings:  *Human Osteology*: Chapters 19, 21

25 T  NO CLASS

26 W  Paleopathology in Medieval Europe; Taphonomy
      Readings:  *Human Osteology*: Chapters 20, 25, 26

May  1 M  Ancestry, Sex, and Age-at-Death
      Readings:  *Human Osteology*: Chapter 18
                  Byers, “Attribution of ancestry”

  2 T  Lab (351): Ancestry, Sex, and Age-at-Death

  3 W  Forensics
      Readings:  *Human Osteology*: Chapters 15, 23, 24
                  Smith et al., “Look until you see: Identification of trauma
                              in skeletal material”

  8 M  Video: “The Body Farm”

  9 T  Lab (351): Forensics

10 W  Manipulation; Walking
      Readings:  Shipman et al., “Manipulation”
                  Shipman et al., “Walking”

The final exam is Tuesday, May 16th, 9:00 am, in SCIE113.
Disability Resources

Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible.

If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-5581 for an appointment to discuss your needs and the process for requesting accommodations.

Bibliography for readings on Moodle:


