

## **SYLLABUS - ANT 366**

### **ANATOMY AND BIOLOGY OF THE HUMAN SKELETON (a.k.a., HUMAN OSTEOLOGY)**

**Spring Semester 2019**

**PROFESSOR:** Dr. Chris Kirk  
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Email: eckirk@austin.utexas.edu  
Office hours: Wednesday 1:00 – 3:00 PM

**CLASSES:** Tuesday and Thursday, 12:30 – 3:00 PM **SAC 5.172**

**PREREQUISITES:** ANT 301, or consent of instructor

#### **COURSE DESCRIPTION:**

ANT 366 is a lab-based course in human osteology. Weekly lectures will comprise a portion of the course, but the majority of each class day will be spent directly interacting with skeletal remains. Topics that will be covered include basic skeletal anatomy, identification of fragmentary remains, bone biology and development, skeletal pathology and remodeling, and the use of osteological remains to reconstruct individual characteristics (e.g., sex, age, etc.). The subject material covered in this course is intended to provide a foundation in human skeletal anatomy for students interested in pursuing graduate study and/or careers in biological anthropology, forensic science, archaeology, and medicine. Detailed knowledge of the human skeleton is also highly relevant for a range of other courses in biological anthropology, such as Human Evolution, Primate Anatomy, and Primate Evolution.

Students who have performed well in ANT 366 in the past are generally those who are committed to learning human skeletal anatomy and willing to spend the necessary time in the lab to achieve this goal. Students must be prepared to handle human osteological specimens with care, and to have a professional approach to working with human remains. Because this course covers a large amount of material that can only be learned through hands-on study, attendance is mandatory. Mastery of course material will be assessed with regular quizzes, which may include both practical (e.g., bone identification, bone siding, etc.) and written components.

Lab exercises in weeks 1-11 will primarily be devoted to learning the basics of human skeletal anatomy. We begin with the skull and dentition, and then proceed by anatomical region to cover the axial skeleton, upper limb, and lower limb. In weeks 12-16, this basic knowledge of skeletal anatomy will be applied and expanded through 2 projects. Project 1 focuses on comparative mammalian skeletal anatomy and the fundamental similarities shared by all mammalian skeletons. Project 2 provides students with an opportunity to hone their skills in skeletal identification and analysis with a series of applied human case studies.

## TEXTBOOKS AND READING ASSIGNMENTS:

Required: *Human Osteology*, 3<sup>rd</sup> ed. 2012. White, Black, & Folkens. Academic Press

Additional readings will be posted on Canvas at: <http://canvas.utexas.edu>

## GRADING:

**Quizzes** will focus *mainly* on new information learned in the previous week. Most quizzes will begin with a timed practical component, in which students will identify skeletal specimens and may also be asked to provide additional information about the specimen (e.g., side, age, sex, etc.). Quizzes may also include questions drawn from lectures and readings.

Quizzes -----	50%
Comparative Project & Presentation -----	20%
Human Case Studies -----	30%

### **Please note that:**

- (1) The lowest quiz grade will be dropped.
- (2) Each student may have a *maximum* of 2 excused quizzes.
- (3) After one unexcused absence, one point will be subtracted from your final grade for each additional unexcused absence.

Final Grade Ranges:

**A** = 100-90; **B** = 89-80; **C** = 79-70; **D** = 69-60; **F** = 59 and below

THERE IS NO FINAL EXAM FOR THIS COURSE.

## CLASS RULES & POLICIES:

1. Please use great care in handling skeletal remains – *most lab materials cannot be replaced*.
2. Skeletal material may *never* be taken out of the classroom (SAC 5.172).
3. Students engaging in flippant, frivolous, or imprudent behavior that could damage skeletal specimens (e.g., juggling or throwing specimens) will be asked to immediately leave the classroom and will be given an unexcused absence for the day. *Any student who damages a skeletal specimen due to such behavior, or who removes a specimen from SAC 5.172, will have their final grade reduced by a full letter.*
4. Any student suspected of stealing skeletal remains will be referred to both UT Police and Student Judicial Services.

5. Any student who observes unsafe handling of, or who observes / suspects theft of skeletal specimens, is encouraged to speak confidentially to Dr. Kirk.
6. Accidental damage to skeletal specimens can be minimized by careful observance of safe handling policies (see Protocols for Safe Handling and Care of Osteological Specimens). However, some accidental damage to the materials used in this class is inevitable. In the event that you damage a specimen or become aware of damage, please inform Dr. Kirk as soon as possible.
7. Please do not eat or drink while handling skeletal remains.
8. Visitors to the classroom are not allowed without Dr. Kirk's specific prior consent.
9. Please treat human skeletal remains with the appropriate level of respect. Photography of human skeletal remains for purposes unrelated to class assignments (e.g., for posting on social media, etc.) is not permitted.
10. Please arrive in class prepared and on time. Please bring your textbook (*Human Osteology*) to class with you every day.
11. Readings for each week should be completed *prior to class* on Tuesday.
12. Attendance will be taken at the beginning of class. Students arriving after 12:40 PM will be marked as absent for the day. Students leaving class before 2:00 PM will also be marked as absent for the day. If you need to arrive late or leave early on a given day due to a non-recurring commitment, you must inform Dr. Kirk at least 24 hours in advance.
13. All students will have 1 free unexcused absence per semester. After that, one point will be subtracted from your final grade for each unexcused absence. Students will also only be excused from a *maximum* of two quizzes. Reasons for excused absences include (but are not limited to) illness or family emergencies. Documentation (e.g., a doctor's note) must be provided for absences to be excused. Please also note that documentation for excused absences will not be accepted more than 3 class days after the absence.
14. Please don't text during lectures. I'll remind the class not to text one time per lecture; any student who continues to text in class after this reminder will be asked to leave the classroom.
15. Feel free to take notes on a computer. However, no one is permitted to make audio or video recordings of lectures under any circumstances.
16. If you want to send me a message, please use my email address and *not* the message function in Canvas.

## CHEATING POLICY:

During quizzes, students will not be permitted to use electronic devices of any kind. Please note that cheating includes (but is not limited to) both plagiarism and unauthorized collaboration on projects. Without exception, any student found cheating on a quiz or an assignment will receive a grade of zero for that quiz or assignment and will be referred to Student Judicial Services for further disciplinary action.

## NOTE ON SPECIAL ACCOMMODATIONS:

If you have an accommodation letter from the UT Services for Students with Disabilities (SSD) office, please schedule a meeting with Dr. Kirk as soon as possible. **Please note** that a number of common accommodation requests (e.g., extra time for exams and quizzes, special consideration for frequent absences) cannot be met in this class. For example, speed is a factor being evaluated on quizzes so students cannot have extra time to complete quizzes. Similarly, given the hands-on nature of this lab-intensive course, there is no way to accommodate frequent absences because learning the course material is absolutely dependent on regular attendance. In short, if you cannot attend class, you cannot learn the course material with sufficient detail to succeed in ANT 366.

## COURSE OUTLINE

### Week 1

*Readings:* White et al., Chs. 2-4

22 Jan (Tu) Anatomical Terms & Introduction to Skull  
24 Jan (Th) Skull (continued)

### Week 2

*Readings:* White et al., Chs. 4-5

*Supplemental Reading on Dental Variation:* Hillson, 1996

29 Jan (Tu) **Quiz 1**; Skull (continued)  
31 Jan (Th) Skull (continued)

### Week 3

*Readings:* White et al., Chs. 4-5

*Supplemental Readings on Bone Biology:* Swartz, 1993; Bonewald, 2008; Robey and Boskey, 2008; Ross, 2008

5 Feb (Tu) **Quiz 2**; Introduction to Dentition  
7 Feb (Th) Dentition (continued)

#### Week 4

*Readings:* White et al., Chs. 4-5

*Supplemental Reading on Dental Microstructure:* Smith and Tafforeau, 2008

12 Feb (Tu) **Quiz 3;** Dentition (continued)

14 Feb (Th) Dentition (continued)

#### Week 5

*Readings:* White et al., Ch. 6-7

*Supplemental Readings on Age Determination:* Cox, 2000; AlQahtani et al., 2010

19 Feb (Tu) **Quiz 4;** Introduction to Vertebral Column & Thorax

21 Feb (Th) Vertebral Column & Thorax (continued)

#### Week 6

*Readings:* White et al., Chs. 8-9,

*Supplemental Readings on Sex Determination:* Bruzek, 2002; Cox, 2000; Ubelaker and Volk, 2002

26 Feb (Tu) **Quiz 5;** Introduction to Shoulder Girdle & Arm

28 Feb (Th) Shoulder Girdle & Arm (continued)

#### Week 7

*Readings:* White et al., Ch. 10,

*Supplemental Reading on Siding Manual Phalanges:* Christensen, 2005

5 Mar (Tu) **Quiz 6;** Introduction to Hand

7 Mar (Th) Hand (continued)

#### Week 8

*Readings:* White et al., Chs. 11, 18

*Supplemental Reading on Estimating Stature:* Auerbach and Ruff, 2004

12 Mar (Tu) **Quiz 7;** Introduction to Pelvis

14 Mar (Th) Pelvis (continued)

Week 9 18-22 Mar **Spring Break**

#### Week 10

*Readings:* White et al., Ch. 12

*Supplemental Readings on Entheses:* Cardoso and Henderson, 2010; Milella et al., 2012; Schrader, 2012; Schrader, 2015

26 Mar (Tu) Introduction to Leg

28 Mar (Th) **Quiz 8;** Leg (continued)

Week 11

*Readings:* White et al., Ch. 13

*Supplemental Readings on Estimating Ancestry:* Gill, 1998; Hefner, 2009

2 Apr (Tu) **Quiz 9;** Introduction to Foot

4 Apr (Th) Foot (continued); **Begin comparative project**

Week 12

9 Apr (Tu) **Quiz 10;** Comparative project

11 Apr (Th) Comparative project

Week 13

*Readings:* White et al., Ch. 19

*Supplemental Reading on Pathology:* Skinner and Goodman, 1992; Burns and Kumar, 1997

16 Apr (Tu) Comparative project; **Begin Human Case Studies**

18 Apr (Th) Comparative project & Case Studies

Week 14

*Readings:* White et al., Ch. 20

*Supplemental Reading on Skeletal Plasticity:* Lanyon and Rubin, 1985; Ruff, 2000

23 Apr (Tu) **Comparative Project Due; Comparative Project Presentations**

25 Apr (Th) Case Studies

Week 15

*Readings:* White et al., Chs. 25-26

30 Apr (Tu) Case Studies

2 May (Th) Case Studies

Week 16

*Readings:* White et al., Chs. 27-28

7 May (Tu) Case Studies

9 May (Th) Case Studies

10 May (F) **Case Studies Due by 4:00 PM**