

## PRIMATE ANATOMY

ANT 432L Unique# 31360

Spring 2012/Shapiro

TTH 11:00-12:30 SAC 5.172 (or Mezes 2.120- see lab syllabus)

LAB: THURSDAY: 3:00-5:00 SAC 5.172

**COURSE WEBSITE: (via Blackboard): <http://courses.utexas.edu>)**

**Instructor:** Liza Shapiro  
Office Hours: Tues 1:30-2:30 or by appointment\*  
SAC 5.128  
Phone: 471-7533  
Email: [liza.shapiro@mail.utexas.edu](mailto:liza.shapiro@mail.utexas.edu)

**\*If you can't come to my office during office hours, please feel free to make an appointment! You are also welcome to communicate with me by email.**

**Teaching Assistant:** Gabrielle Russo  
Office Hours Thurs 2:00-3:00  
SAC 5.130  
Phone: 471-2720  
Email: [gabrielle.russo@mail.utexas.edu](mailto:gabrielle.russo@mail.utexas.edu)

**Prerequisites:** ANT 301 or Human biology major or consent of instructor.

**Required Texts:**  
Gebo, D (1993) Postcranial Adaptation in Nonhuman Primates. Northern Illinois University Press.

Whitehead P, Sacco W, and Hochgraf S (2005) A Photographic Atlas for Physical Anthropology. Morton Publishing Company.

**Recommended text:**  
Fleagle, John (1999) Primate Adaptation and Evolution. Academic Press.

The textbooks are available at the University Co-Op and are also on reserve in the Life Sciences Library (2nd floor, Main Building). **The Fleagle book is also available electronically via the UT Library website.**

### **Other required readings:**

1. Readings online: In addition to the textbook readings, there are numerous other assigned readings that are available in pdf format via the course website (<http://courses.utexas.edu>) . These readings are *required*.

2. Lab readings and assignments: For each lab, go to "Assignments" on Blackboard and download the lab reading and assignment sheet. Read the assignment before coming to lab. **You MUST bring your lab readings and assignment sheets to lab EVERY WEEK.**

## **Course description and objectives:**

This course is an exploration of the relationship between primate anatomical form and function. The course is designed to demonstrate how the primate body form is adapted to its many functions, with an emphasis on adaptations to diet and locomotion. There will be lectures as well as a separate laboratory section. The lab will NOT include dissection, but will emphasize the diversity and function of the primate skeleton and give you a chance to learn anatomy "hands-on".

After taking the course, you should:

- 1) have a good grasp of basic primate anatomy - e.g. be able to identify the bones that comprise the skeleton, and to understand the arrangement of the basic muscle groups described in class;
- 2) understand the various methodological approaches one can use to elucidate the relationship between morphology and function;
- 3) be able to provide functional explanations for some of the basic anatomical differences among primates;
- 4) understand how the study of functional morphology in living primates can be applied to the reconstruction of behavior in fossil primates.

**Grading** : Grades are based on the following:

1. Midterm 20%
2. Final 20%
3. Lab Quiz 10%
4. Lab Final 20%
5. Term Paper 15% (including choosing paper topic by due date, 4/17/11).
6. Lab assignments 10%
7. Participation in class discussion 5%

(I expect you to be able to demonstrate your understanding of the reading material by responding to questions I might ask in class, or simply by asking relevant questions yourself).

**Lab grades:** Each lab includes a weekly assignment to hand in. You will be graded on the weekly lab assignments, and you will be tested on the lab material twice during the semester. There will be a lab quiz, covering only the 4 labs on the human skeleton. At the end of the semester, there will also be a lab final that covers the remaining lab material. Both the lab quiz and the lab final will be in the form of a lab practical. The percentages of your final grade for each of these components of lab are listed above.

**Midterm:** The midterm is 20% of your final grade and will consist of multiple choice questions and short essays. The material you are responsible for comes from the lectures, the readings, and the labs.

**Final:** The final (20% of your grade) is not cumulative and also includes material from the lectures, the readings, and the labs.

**Term Paper:** Each student will be required to write a term paper 10-15 pages long (double-spaced, 12 pt font, 1 inch margins.). The paper is worth 15% of your final grade. Details about the content of the term paper are on a separate handout (see website)

### **Course policies:**

The following policies are not intended to be harsh, but are included to provide clear guidelines on issues that students often face throughout the semester.

### **Make-ups**

There will be no make-up exams or in-class labs. Exceptions will be made only 1) with *proof* of dire emergency or illness, 2) due to observance of a religious holy day, or 3) due to military service.

**Illness or emergency:** If you miss an exam or lab due to illness or emergency, contact me *as soon as possible* either before the exam or within 2 days after the exam or lab. You will not be given a make-up unless you can provide documentation regarding the reason for your absence.

**Religious holy days.** A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform me as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

**Absence for military service.** In accordance with section 51.9111 of the Texas Education Code, a student is excused from attending classes or engaging in other required activities, including exams, if he or she is called to active military service of a reasonably brief duration. [The maximum time for which the student may be excused has been defined by the Texas Higher Education Coordinating Board as "no more than 25 percent of the total number of class meetings or the contact hour equivalent (not including the final examination period) for the specific course or courses in which the student is currently enrolled at the beginning of the period of active military service."] The student will be allowed a reasonable time after the absence to complete assignments and take exams.

**Students with disabilities:** At the beginning of the semester, students with disabilities who need special accommodations should notify the instructor by presenting a letter prepared by the Services for Students with Disabilities (SSD) office. To ensure the most appropriate accommodations can be provided, students should contact the SSD at 471-6259. See <http://deanofstudents.utexas.edu/ssd/>

### **Late assignments**

Late labs will cost you 10 points (out of 100) per day. This could change your grade dramatically. Don't be late!

### **Attendance**

I do not take formal attendance, but I am aware of who consistently comes to class and who doesn't. Consistent attendance can help boost your grade if you end up with a borderline final grade. Whether you come to class or not, you are responsible for keeping up with what happens in class. This applies to the content of the class, handouts, and announcements about class policies, events, deadlines, etc. Lectures and announcements can be found on Blackboard, but it is easy to miss other pertinent information if you are absent from class.

### **Grades**

The grade you are given, either on an individual exam or assignment or as your final grade, is not the starting point of a negotiation. It is your grade unless an error has been made. If you think an error has been made, let me know within one week of receiving the assignment or exam grade.

### **Extra Credit:**

I do not offer "extra credit" opportunities. If you are struggling in the course, please come for help *during* the semester when there is still time for me to help you. Take advantage of my office hours or make an appointment with me. Do not wait until the course is over and ask me to change your grade because you are trying to graduate, or you have had a tough time with your personal life this semester. By then, it is too late for me to help you.

### **Scholastic Dishonesty**

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from The University. Scholastic dishonesty" includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor), or the attempt to commit such an act. For more information, see [http://deanofstudents.utexas.edu/sjs/acint\\_student.php](http://deanofstudents.utexas.edu/sjs/acint_student.php) and Chapter 11 in <http://deanofstudents.utexas.edu/sjs/downloads/InstitutionalRules1011.pdf>

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LAB TH 3:00-5:00 SAC 5.172 (or Mezes 2.120-see lab syllabus)

LECTURE SCHEDULE

Jan	17	Introduction
	19	The primate musculoskeletal system
	24	Primate diversity
	26	The evolutionary origin of primate features
	31	Adaptation, natural selection, and functional morphology
Feb	2	Functional morphology: methods
	7	Muscles and lever systems
	9	Locomotion
	14	MOVIE
	16	Primate quadrupedal gait
	21	Bone Biomechanics
	23	Body size and primate adaptations
	28	* MIDTERM *
Mar	1	Review for lab quiz
	6	Functional morphology of the dentition
	8	Functional morphology of the jaw
	13	SPRING BREAK
	15	SPRING BREAK
	20	Functional morphology of the forelimb I (arm, forearm, shoulder, elbow)

	22	Functional morphology of the forelimb II (hands)
	27	Functional morphology of the vertebral column
	29	...vertebral column continued...
Apr	3	Cranial morphology and bipedalism
	5	Kinematics of bipedalism
	10	Functional morphology of the hindlimb I (leg, hip, knee)
	12	No class- work on term paper
	17	Functional morphology of the hindlimb II (feet) <b>(Paper topic due today).</b>
	19	Movie
	24	Reconstruction of locomotor behavior in fossils: <i>Australopithecus afarensis</i> and the evolution of bipedalism
	26	(Lab during class time): <b>LAB 11: Primate Pelvis and Hindlimb</b>
May	1	Review for lab final ( <b>TERM PAPER DUE TODAY AT 11:00 a.m.</b> )
	3	No class (study for lab final!)- lab final during lab hours (3:00)

**\*\* FINAL EXAM \*\***

**Monday, May 14 9:00 a.m.-11:00 a.m. (2 hrs, not 3)**

**ANT 432L PRIMATE ANATOMY Spring 2012**

LAB SCHEDULE (THURS 3:00-5:00 PM, SAC 5.172 or Mezes 2.120 as indicated )

Jan	19	No lab
	26	LAB 1: Shoulder and Forelimb: Osteology
Feb	2	LAB 2: Pelvis and Hindlimb: Osteology
	9	LAB 3: Skull, Vertebral Column and Thorax: Osteology

- 16 LAB 4: Muscles and Lever Systems
- 23 LAB 5: Primate quadrupedal gait (**This lab will be held in MEZ 2.120!**)
- Mar 1 Lab Quiz (on human osteology only)
- 8 LAB 6: Primate Teeth and Jaws
- 15 SPRING BREAK
- 22 LAB 7: The Primate Forelimb
- 29 LAB 8: Primate Vertebral Column and Thorax
- Apr 5 LAB 9: Back muscle function during locomotion (**This lab will be held in MEZ 2.120!**)
- 12 No lab
- 19 Lab 10 Kinematics of bipedalism (**This lab will be held in MEZ 2.120!**)

**Note: LAB 11: Primate Pelvis and Hindlimb will be held during lecture hours (11:00-12:30) on April 26.**

- 26 Lab 12: Locomotor anatomy of *Australopithecus afarensis*
- May 3 LAB FINAL EXAM

A review session for the lab final will be held on TUES, May 1 during lecture hours (see lecture schedule).