PRIMATE ANATOMY

ANT 432L Unique# 31720
Spring 2014/Shapiro
TTH 12:30-2:00  SAC 5.172 (or CLA 1.404- see lab syllabus)
LAB: THURSDAY: 3:00-5:00 SAC 5.172

COURSE WEBSITE: (via Canvas): utexas.instructure.com

Instructor: Liza Shapiro
Office Hours: Thurs 2:00-3:00 or by appointment*
SAC 5.128
Phone: 471-7533
Email: liza.shapiro@austin.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: Amber Heard-Booth
Office Hours Tues 2:00-3:00 or by appointment
SAC 5.130
Phone: 471-2720
Email: amber.heardbooth@utexas.edu

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

Required Texts:


Recommended text:

The textbooks are available at the University Co-Op and are also on reserve in the Life Sciences Library (2nd floor, Main Building).

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 on Canvas (utexas.instructure.com). These readings are required. Once you log into the course via Canvas, you will find these readings by clicking on the links for the appropriate dates visible on the Home page.
2. Lab readings and assignments: You can find lab readings and assignment sheets on Canvas by clicking on the appropriate lab data on the Home page. Read the assignment before coming to lab, and download and print the lab assignment sheet. 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% (Topic due April 15, Paper due April 29)
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).

Final course letter grades will be assigned using the +/- grading system.

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 the Canvas website (see Term Paper link on the Home page).

Submit paper topic or outline to me by April 15, 12:30 p.m. (email or hard copy)
Submit paper (hard copy) on April 29 at 12:30 p.m.

In conjunction with the paper, you are required to read a tutorial on plagiarism and take a short quiz on it. The tutorial can be found at http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism/.
The plagiarism test is available on Canvas under “Quizzes”.

*Your term paper will not be graded unless you complete the plagiarism quiz. Take the quiz anytime but no later than April 29.*

**Manage your time wisely when preparing to write the paper. This may help (even though you’re not “dummies”!):**
http://www.dummies.com/how-to/content/budgeting-your-time-to-complete-a-research-paper.html

**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.

**Expectations**
I expect you to do the assigned readings in advance of the lectures and to come to class each day on time. During class, you may use your laptop or other device for note taking but not for checking email, doing homework from other classes, surfing the web, etc. For lab, I expect you to come prepared with your assignment sheet in hand (from Canvas). If you forget to bring the assignment sheet, you will have to leave class and print it out on campus, which means you will lose precious lab time.
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 Canvas, but it is easy to miss other pertinent information if you are absent from class.

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. I will not provide alternative exam times for students who have personal travel plans or commitments, so please don’t ask.

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. By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work 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!
**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 office hours or make an appointment with me or the TA. 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.

**Honor Code:** Each student in this course is expected to abide by the University of Texas Honor Code.:
*The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.*

**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 a tutorial and information on plagiarism, see [http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism/](http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism/)

Also, see [http://deanofstudents.utexas.edu/sjs/scholdis.php](http://deanofstudents.utexas.edu/sjs/scholdis.php) and section 11-802 in the General Information Catalog [http://registrar.utexas.edu/catalogs/gi09-10/app/gi09.appc03.html#subchapter-11-800-student-standards-of-conduct](http://registrar.utexas.edu/catalogs/gi09-10/app/gi09.appc03.html#subchapter-11-800-student-standards-of-conduct).


- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
• Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

• Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

• In the event of an evacuation, follow the instruction of faculty or class instructors.

• Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

**Other useful information:**

**Resources for Learning & Life at UT Austin**

• The University of Texas has numerous resources for students to provide assistance and support for your learning.
  o Sanger Learning and Career Center: [http://lifelearning.utexas.edu/](http://lifelearning.utexas.edu/)
  o Undergraduate Writing Center: [http://uwc.utexas.edu/](http://uwc.utexas.edu/)
  o Counseling & Mental Health Center: [http://cmhc.utexas.edu/](http://cmhc.utexas.edu/)
  o Career Exploration Center: [http://www.utexas.edu/student/careercenter/](http://www.utexas.edu/student/careercenter/)
  o Student Emergency Services: [http://deanofstudents.utexas.edu/emergency/](http://deanofstudents.utexas.edu/emergency/)

**Behavior Concerns Advice Line (BCAL)**

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual’s behavior. This service is provided through a partnership among the Office of the Dean of
LECTURE SCHEDULE

Jan
14 Introduction
16 The primate musculoskeletal system
21 Primate diversity
23 The evolutionary origin of primate features
28 Adaptation, natural selection, and functional morphology
30 Functional morphology: methods

Feb
4 Muscles and lever systems
6 Locomotion
11 MOVIE
13 Primate quadrupedal gait
18 Bone Biomechanics
20 Body size and primate adaptations
25 * MIDTERM *
27 Review for lab quiz

Mar
4 Functional morphology of the dentition
6 Functional morphology of the jaw
11 SPRING BREAK
13 SPRING BREAK
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Apr 18</td>
<td>Functional morphology of the forelimb I (arm, forearm, shoulder, elbow)</td>
</tr>
<tr>
<td>Apr 20</td>
<td>Functional morphology of the forelimb II (hands)</td>
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<tr>
<td>Apr 25</td>
<td>Functional morphology of the vertebral column</td>
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<tr>
<td>Apr 27</td>
<td>…vertebral column continued…</td>
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<tr>
<td>Apr 1</td>
<td>Primate sensory systems and locomotion</td>
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<tr>
<td>Apr 3</td>
<td>Kinematics of bipedalism</td>
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<tr>
<td>Apr 8</td>
<td>Functional morphology of the hind limb I (pelvis, thigh, leg, hip, knee)</td>
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<tr>
<td>Apr 10</td>
<td>No class- work on term paper</td>
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<tr>
<td>Apr 15</td>
<td>Functional morphology of the hind limb II (ankle, foot) <strong>(Paper topic due today at 12:30 p.m.)</strong></td>
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<td>Apr 17</td>
<td>Movie</td>
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<td>Apr 22</td>
<td>Reconstruction of locomotor behavior in fossils: <em>Australopithecus afarensis</em> and the evolution of bipedalism</td>
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<td>Apr 24</td>
<td>(Lab during class time): <strong>LAB 11: Primate Pelvis and Hind Limb</strong></td>
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<tr>
<td>Apr 29</td>
<td>Review for lab final (TERM PAPER DUE TODAY AT 12:30 p.m.)</td>
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<tr>
<td>May 1</td>
<td>No class (study for lab final!)- lab final during lab hours (3:00)</td>
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**FINAL EXAM**
Thurs May 8  2:00 p.m.-4:00 p.m  (2 hrs, not 3)
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<thead>
<tr>
<th>Date</th>
<th>Lab No</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Jan  16</td>
<td>No lab</td>
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<tr>
<td>Jan  23</td>
<td>LAB 1</td>
<td>Shoulder and Forelimb: Osteology</td>
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<td>Jan  30</td>
<td>LAB 2</td>
<td>Pelvis and Hindlimb: Osteology</td>
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<td>Feb  6</td>
<td>LAB 3</td>
<td>Skull, Vertebral Column and Thorax: Osteology</td>
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<td>Feb  13</td>
<td>LAB 4</td>
<td>Muscles and Lever Systems</td>
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<td>Feb  20</td>
<td>LAB 5</td>
<td>Primate quadrupedal gait (This lab will be held in CLA 1.404!)</td>
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<tr>
<td>Feb  27</td>
<td>Lab Quiz</td>
<td>(on human osteology only)</td>
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<tr>
<td>Mar  6</td>
<td>LAB 6</td>
<td>Primate Teeth and Jaws</td>
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<td>Mar  13</td>
<td>SPRING BREAK</td>
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<tr>
<td>Mar  20</td>
<td>LAB 7</td>
<td>The Primate Forelimb</td>
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<td>Mar  27</td>
<td>LAB 8</td>
<td>Primate Vertebral Column and Thorax</td>
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<td>Apr  3</td>
<td>LAB 9</td>
<td>Back muscle function during locomotion (This lab will be held in CLA 1.404!)</td>
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<td>Apr  10</td>
<td>No lab</td>
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<tr>
<td>Apr  17</td>
<td>Lab 10</td>
<td>Kinematics of bipedalism (This lab will be held in CLA 1.404!)</td>
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**Note:** LAB 11: Primate Pelvis and Hind limb will be held during lecture hours (12:30-2:00) on April 24.

| Apr  24 | Lab 12   | Locomotor anatomy of *Australopithecus afarensis*                     |

| May  1  | LAB FINAL EXAM |                  |

A review session for the lab final will be held on TUES, April 29 during lecture hours.