ANTH 4903 & ANTH 5153: Seminar in Anthropology
Problems in Primate Paleobiology

CLASS TIMES
Monday/ Wednesday, 3:05-4:20pm, Old Main 118

CONTACT INFORMATION
Dr. Claire Terhune
Department of Anthropology
Old Main 339
Phone: 479-575-3529
Email: cterhune@uark.edu (preferred method of contact)
Office Hours: Monday 1:30-3:00 pm or by appointment

COURSE DESCRIPTION
This course is focused on reviewing and discussing major issues in primate paleobiology and paleoanthropology, and more generally in biological anthropology. This course is divided into modules with 2-3 class periods devoted to a single topic. Typically the first of these classes will be devoted to basic introductory information, and subsequent classes for that topic will be focused on discussion of previous research in that area. Topics include mastication, locomotion, sensory systems, size and scaling, advanced quantitative techniques, phylogenetics, paleoecology, and genetics.

COURSE REQUIREMENTS
Performance in the course will be assessed via exams, participation, and a major research paper (and its components).

<table>
<thead>
<tr>
<th>Deliverable</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>CITI Training</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Paper</td>
<td>45% broken down into:</td>
<td>45% broken down into:</td>
</tr>
<tr>
<td>Topic/Bibliography</td>
<td>7.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Outline and Abstract</td>
<td>7.5%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Materials and Methods</td>
<td>--</td>
<td>5%</td>
</tr>
<tr>
<td>Results</td>
<td>--</td>
<td>5%</td>
</tr>
<tr>
<td>Final Paper Draft</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Presentation</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Discussion Leader</td>
<td>--</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Participation**
Although some lecture content will be delivered by Dr. Terhune, much of our time in class will be spent discussing research articles. As a result, preparation and participation is absolutely critical and therefore a large percentage of your final grade (30% for undergraduates and 20% for graduate students) will be based on how much you interact in class during our discussions.

**CITI Training**
All students are required to register for and complete the Responsible Conduct of Research (RCR) offered through the University of Arkansas’s Office of Research Compliance and the Collaborative Institutional Training Initiative (CITI). Instructions for signing up and completing this training will be posted to Blackboard, and a completed certificate must be turned in by September 14, 2015. Completion of this training makes up 5% of your course grade.
**Discussion Leader**

Graduate students will be expected to lead the class discussion during one class meeting of their choice. This will count for a total of 10% of their final grade, 5% of which will be based on a discussion outline that will be turned in at the beginning of that day’s class.

**Research Paper**

All students will be expected to complete a research paper that makes up the majority of their grade in the course (45%). Graduate students will be expected to generate and test a research question with data they collect themselves and/or that is culled from the literature. Undergraduates will not be required to analyze data as part of this paper, though they may do so if they wish. Portions of this paper (i.e., topic, outline, abstract, etc.) are due at various times throughout the semester. Each of these deliverables will be evaluated by Dr. Terhune and comments will be provided so that they may be incorporated in the final product. Final papers should be no longer than 15 pages of double-spaced text, not including references, figures, or tables. Ideally, the topic should be tailored to the student’s research interests. During the final two weeks of class, students will present their data in a 10-15 minute powerpoint presentation to the entire class.

**Late Assignments**

Assignments are due on the date assigned in the syllabus. Late assignments will only be accepted for a five days after the original due date, and for each day an assignment is delayed 5% points will be deducted from the assignment’s grade.

**Exams**

There will be a single cumulative, written final exam at the end of the semester worth 20% of the final grade. No make-ups for this exam will be given.

**Grading Scale**

A: 90 – 100%
B: 80 – 89.99%
C: 70 – 79.99%
D: 60 – 69.99%
F: Below 60%

**ACADEMIC HONESTY**

From the provost: “As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail.”

“Each University of Arkansas student is required to be familiar with and abide by the University’s ‘Academic Integrity Policy,’ which may be found at [http://provost.uark.edu](http://provost.uark.edu). Students with questions about how these policies apply to a particular course or assignment should immediately contact the instructor.”

The "Policy on Academic Honesty" is at [http://provost.uark.edu/245.php](http://provost.uark.edu/245.php) and the penalties for offenses are outlined are at [http://provost.uark.edu/246.php](http://provost.uark.edu/246.php).

**OTHER INFORMATION**

- **Emergency Procedures.** Many types of emergencies can occur on campus; instructions for specific emergencies such as severe weather, active shooter, or fire can be found at emergency.uark.edu.
- **Disability Resources.** University of Arkansas Academic Policy Series 1520.10 requires that students with disabilities are provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please verify your eligibility through the Center for
Educational Access (contact 479-575-3104 or visit http://cea.uark.edu for more information on registration procedures). If you are registered with CEA and require extra time for the exam, it is your responsibility to make an appointment with CEA. Your exam will be proctored by CEA staff at their testing center.

This syllabus is subject to change at the discretion of the professor.
# CLASS SCHEDULE (Subject to Change)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Deliverable</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/24/2015</td>
<td>Course Introduction and Expectations</td>
<td></td>
</tr>
<tr>
<td>8/26/2015</td>
<td>The Form/Function Relationship; Fundamentals of Biomechanics</td>
<td></td>
</tr>
<tr>
<td>8/31/2015</td>
<td>Mastication: introduction</td>
<td></td>
</tr>
<tr>
<td>9/2/2015</td>
<td>Mastication: extant models</td>
<td></td>
</tr>
<tr>
<td>9/7/2015</td>
<td>Labor Day- NO CLASS</td>
<td></td>
</tr>
<tr>
<td>9/9/2015</td>
<td>Mastication: inferring fossil behaviors</td>
<td></td>
</tr>
<tr>
<td>9/14/2015</td>
<td>Responsible Conduct of Research</td>
<td>Complete CITI Training (Turn in Certificates)</td>
</tr>
<tr>
<td>9/16/2015</td>
<td>Locomotion: introduction</td>
<td></td>
</tr>
<tr>
<td>9/21/2015</td>
<td>NO CLASS</td>
<td></td>
</tr>
<tr>
<td>9/23/2015</td>
<td>Locomotion: extant models</td>
<td></td>
</tr>
<tr>
<td>9/28/2015</td>
<td>Locomotion: inferring fossil behaviors</td>
<td>Paper Topic and Bibliography Due</td>
</tr>
<tr>
<td>9/30/2015</td>
<td>Sensory systems: brains and cognition</td>
<td></td>
</tr>
<tr>
<td>10/5/2015</td>
<td>Biometry Basics</td>
<td></td>
</tr>
<tr>
<td>10/7/2015</td>
<td>Biometry Basics Continued</td>
<td></td>
</tr>
<tr>
<td>10/12/2015</td>
<td>Size and scaling</td>
<td></td>
</tr>
<tr>
<td>10/14/2015</td>
<td>Society for Vertebrate Paleontology Meetings- NO CLASS</td>
<td></td>
</tr>
<tr>
<td>10/19/2015</td>
<td>Fall Break- NO CLASS</td>
<td></td>
</tr>
<tr>
<td>10/21/2015</td>
<td>Size and scaling: data analysis</td>
<td>Paper Outline and Abstract</td>
</tr>
<tr>
<td>10/26/2015</td>
<td>Advanced quantitative techniques</td>
<td></td>
</tr>
<tr>
<td>10/28/2015</td>
<td>Advanced quantitative techniques: data analysis</td>
<td></td>
</tr>
<tr>
<td>11/2/2015</td>
<td>Phylogenetics</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Deliverable</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>11/4/2015</td>
<td>Phylogenetics: data analysis</td>
<td></td>
</tr>
<tr>
<td>11/9/2015</td>
<td>Data analysis day</td>
<td></td>
</tr>
<tr>
<td>11/11/2015</td>
<td>Paleoecology</td>
<td>Materials and Methods and Results Due</td>
</tr>
<tr>
<td>11/16/2015</td>
<td>Paleoecology</td>
<td></td>
</tr>
<tr>
<td>11/18/2015</td>
<td>Genetics: primate studies</td>
<td></td>
</tr>
<tr>
<td>11/23/2015</td>
<td>Genetics: human evolution</td>
<td></td>
</tr>
<tr>
<td>11/25/2015</td>
<td>Thanksgiving Break- NO CLASS</td>
<td></td>
</tr>
<tr>
<td>11/30/2015</td>
<td>Anatomy of a research presentation</td>
<td></td>
</tr>
<tr>
<td>12/2/2015</td>
<td>Research presentations</td>
<td></td>
</tr>
<tr>
<td>12/7/2015</td>
<td>Research presentations</td>
<td></td>
</tr>
<tr>
<td>12/9/2015</td>
<td>Class Wrap-up</td>
<td>Final Paper Due</td>
</tr>
</tbody>
</table>

December 16, 1-3pm: FINAL EXAM
COURSE READINGS (Subject to Change)

In general, readings should be read in the order they are listed here and/or in chronological order. PDFs of all readings are provided on Blackboard in the “Content” section, except for those indicated below by a web address.

- **Course Introduction and Expectations**
  - Course syllabus
  - Review the following websites
    - [http://studysites.sagepub.com/bjohnsonstudy/howtoarticle.htm](http://studysites.sagepub.com/bjohnsonstudy/howtoarticle.htm)
    - [https://www.insidehighered.com/advice/instant_mentor/essay_on_teaching_students_to_read_journal_articles](https://www.insidehighered.com/advice/instant_mentor/essay_on_teaching_students_to_read_journal_articles)

- **Form/ Function and Introduction to Biomechanics**
  - Rudyard Kipling’s Just So Stories: [http://www.gutenberg.org/files/2781/2781-h/2781-h.htm](http://www.gutenberg.org/files/2781/2781-h/2781-h.htm) (pick any two)

- **Mastication**
  - Introduction
  - Extant Models
  - Inferring Fossil Behaviors

- **Responsible Conduct of Research**

- **Locomotion**
  - **Introduction**
  - **Extant Models**
  - **Inferring Fossil Behaviors**

- **Sensory Systems**

- **Size and Scaling**

• Advanced Quantitative Techniques
  o Cooke SB, Terhune CE. 2015. Form, function, and geometric morphometrics. Anat Rec 298:5-28. Main text (not appendix)

• Phylogenetics

• Paleoecology
  o Ecomorphology and Community Analysis
  o Mesowear, microwear, and stable isotopes
• Cerling et al. 2015. Dietary changes of large herbivores in the Turkana Basin, Kenya from 4 to 1 Ma. Proc Nat Acad Sci. Published online before print August 3, 2015, doi:10.1073/pnas.1513075112

• Genetics
  o General references (not required reading, but may be helpful)
  o Primate studies
  o Human evolution
    ▪ Sudmant et al. 2015. Global diversity, population stratification, and selection of human copy number variation. Science Express doi 10.1126/science.aab3761