ANG 6587

GRADUATE SEMINAR IN BIOLOGICAL ANTHROPOLOGY

Spring 2011

Time:  W 6:00 – 8:50 pm        Instructor:  Dr. Robert McCarthy
Place:  SO 190              Office:  SO 173
Format:  Lecture and discussion  Phone:  561-297-1355
                      E-mail:  rmccar10@fau.edu
                      Office hours:  TTh 1-3 pm, by appt.

Course objectives:

This course will introduce students to the fundamental principles of, and terminology associated with, paleoanthropology, providing a basis for further study of the subject. Students will be encouraged to think critically about all aspects of paleoanthropology, including such topics as evolution and natural selection and human evolutionary history. The course will be run as a combination of lecture and discussion, and students are expected to read relevant sections in the textbook and selected readings prior to class, and to come prepared with questions and comments.

Readings:

(2) Selected readings (SR) available on Blackboard, from the instructor or online from e-journals.

Course format:

In this course, you will practice the two “Rs” (and one “P”) that will make up 75% of what you will be doing for the rest of your academic career (regardless of which subfield you are in):

Reading, Writing, and Presenting.

Reading: each week, you will read one or two scientific papers about the discovery, identification, taxonomy, or functional anatomy of hominins.

Writing: every third week, you will prepare a brief (3-4 single-spaced pages) report based on your critical analysis of an academic paper.

Presenting: you will be responsible for one 10- to 20-minute Powerpoint presentation during the course of the semester. One to two presentations will be scheduled for the beginning of each class period. Students will be expected to explain a scientific article to the class, and to analyze and critically examine the ideas therein.
Each class period will be structured in the following manner:

1. introduction [5-10 minutes];
2. student presentation and questions [30 minutes];
3. background on hominins – fossils, dates, sites, anatomy, archaeology [~1 – 1.5 hr(s)];
4. discussion of thematic issues [~1 – 1.5 hr(s)]

**Grading:**

Your grade in this course will be based on your scores on two examinations (50%), one presentation (20%), short weekly reports and reviews (20%, or 5% each), and attendance (10%). Four times during the semester, students will prepare reports on an assigned article. Further details will be made available in class or on Blackboard during the course of the semester. Letter grades for the course will be assigned according to standard FAU policy.

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca Raton - SU 133 (561-297-3880), in Davie - MOD I (954-236-1222), in Jupiter - SR 117 (561-799-8585), or at the Treasure Coast - CO 128 (772-873-3305), and follow all OSD procedures.

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see http://www.fau.edu/regulations/chapter4/4.001_Honor_Code.pdf.

**Note:** This syllabus is subject to change at any time. Updates will be posted on Blackboard.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic 1 - Theory</th>
<th>Topic 2 - Hominins</th>
<th>Reading</th>
<th>Presentation</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 13</td>
<td>Evolution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 19</td>
<td>Outline of human evolution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 26</td>
<td>Primate adaptations</td>
<td>Miocene hominoids</td>
<td>Chapter 3</td>
<td>Report</td>
<td></td>
</tr>
<tr>
<td>Feb. 2</td>
<td>Bipedalism</td>
<td>Earliest hominins</td>
<td>Chapter 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb. 9</td>
<td>Social groups</td>
<td>Australopiths</td>
<td>Chapter 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb. 16</td>
<td>Feeding ecology</td>
<td>Paranthropiths</td>
<td>Chapter 4</td>
<td>Report</td>
<td></td>
</tr>
<tr>
<td>Feb. 23</td>
<td>Stone tools and culture</td>
<td>Habilines</td>
<td>pp. 234-278</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar. 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EXAM</td>
</tr>
<tr>
<td>Mar. 9</td>
<td>NO CLASS – MID-SEMESTER BREAK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar. 16</td>
<td>Taxonomy</td>
<td>Erectines I</td>
<td>Chapter 5</td>
<td>Report</td>
<td></td>
</tr>
<tr>
<td>Mar. 23</td>
<td>Geology and stratigraphy</td>
<td>Erectines II</td>
<td>Chapter 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar. 30</td>
<td>Species concepts</td>
<td>Archaic Homo</td>
<td>Chapter 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 6</td>
<td>Behavior and archaeology</td>
<td>Neanderthals I</td>
<td>Chapter 6</td>
<td>Report</td>
<td></td>
</tr>
<tr>
<td>Apr. 13</td>
<td>NO CLASS – AAPA MEETINGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 20</td>
<td>Cognition and language</td>
<td>Neanderthals II</td>
<td>Chapter 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 27</td>
<td>Molecular evolution</td>
<td>Homo sapiens</td>
<td>Chapter 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 4</td>
<td>FINAL EXAM, 7:00 – 9:30 PM</td>
<td></td>
<td></td>
<td></td>
<td>EXAM</td>
</tr>
</tbody>
</table>
SELECTED READINGS / BIBLIOGRAPHY / QUESTIONS

(👤 indicates papers around which discussion will center)

Jan. 19 Outline of human evolution

.setUserError(false)


Additional Readings:

QUESTIONS: how many species of early hominin are there?

Jan. 26 Miocene hominoids / primate adaptations

 setUserError(false)


Additional Readings:

QUESTIONS: what hominoid gave rise to modern chimpanzees? Can we identify stem hominoids? Can we reconstruct the morphological or, for that matter, behavioral characteristics of the LCA?

Feb. 2 Earliest hominins / bipedalism

 setUserError(false)


Additional Readings:


**QUESTIONS:** what types of locomotor repertoires did the very earliest (putative) hominins (*Sahelanthropus, Ardipithecus, Orrorin, Australopithecus anamensis*) exhibit? Is there any way to use details about chimpanzee and human locomotion to try to determine how (or if) these early hominins walked bipedally?

---

**Feb. 9 Australopiths / social groups**


翳 Reno, P.L., R.S. Meindl, M.A. McCollum, O. Lovejoy. Sexual dimorphism in *Australopithecus afarensis* was similar to that of modern humans. *Proc. Natl. Acad. Sci. USA* 100, 9404-9409.


Additional Readings:


**QUESTIONS:** In what types of social groups did australopiths live? How could you tell?

---

**Feb. 16 Paranthropiths / feeding ecology**


**Additional Readings:**

**QUESTIONS:** Do you think it is more likely that robust australopiths / paranthropiths are monophyletic or diphyletic? Why?

---

**Feb. 23 Habilines / stone tools and culture**


**Additional Readings:**

**QUESTIONS:** Do you think that *Homo habilis* is one species or two? Does it belong in *Homo*, even?
Mar. 16 + 23 Homo erectus, geology and stratigraphy


Additional Readings:

Taxonomy


Additional Readings:

**QUESTIONS:** Did *Homo erectus* run? What is its body size and shape? Should we consider it to be one long-lived, “worldwide” species? Or is there support for the idea that it should be split into several species? If so, how do we determine how many species it should be split into?
Mar. 30 Archaic *Homo* / Species concepts


**Additional Readings:**

**QUESTIONS:** One question: How many species?

Apr. 6 + 20 Neanderthals


**Additional Readings:**

**QUESTIONS:** What is the evidence for Neanderthals being a separate species from modern *H. sapiens*? Was Neanderthal behavior different from that of earlier members of our species, or the same?

**Behavior, archaeology, cognition, speech and language**


**Additional Readings:**
Krause et al. (2007). The derived FOXP2 variant of modern humans was shared with Neandertals. *Curr. Biol.* 17, 1908-1912.


**Apr. 27 Homo sapiens / molecular evolution**


**Additional Readings:**


**QUESTIONS:** What differentiates fossil and modern *H. sapiens* from Neanderthals and other archaic hominins? What is the nature of this transition?