ENVIRONMENTAL CHANGE AND HUMAN EVOLUTION (ANTH3491/6491)
Special Topic in Biological Anthropology

Spring 2019

T: 11:10 AM- 1:00 PM
Lecture meets in Rome Hall, Room 351
Course Instructor: Dr. Laurence Dumouchel
Office Hours: Monday, 2:30-4:30 PM or by appointment
Contact: ldumouchel@gwu.edu
Office Location: Science & Engineering Hall, 6th floor, #6675

COURSE DESCRIPTION
This course will examine the influence of ecological and environmental influences on our lineage from the Miocene to the present, with a focus on the Plio-Pleistocene. The course will be centered around current research findings and their implications, as well as the methods used in the field of paleoecology. Most classes will be organized according to the following format: lecture, discussion, lab visit/exercise.

LEARNING OBJECTIVES
By the end of this semester, students will develop skills allowing them to:
• Be able to identify the important research questions within hominin paleoecology
• Become familiar with the classes of evidence available to hominin paleoecologists
• Know the main analytical and research methods used in hominin paleoecology
• Be able to analyze evidence critically (evaluate strengths and weaknesses)
• Be able to discriminate between evidence and the interpretations placed on that evidence
• Be sufficiently familiar with the paleoecological evidence and the relevant research methods to follow the arguments set out in reviews of the primary research literature
• Know influential researchers in the field of hominin paleoecology

REQUIRED MATERIALS
Specific reading assignments will be posted on Blackboard each week, following the course schedule (subject to change).
EVALUATION
• Discussion and Participation (15%)
  o Students will be assigned one week (or two, depending on the size of the class) to be the discussion leader (10%)
  o Every student is expected to participate in discussions (5%)
• Final exam (30%)
  o There will be one exam - a comprehensive final at the end of the semester covering all topics seen in lecture and readings
• Research projects (30%)
  o See below
• Exercises (5 exercises worth 5% each, for a total of 25%)

RESEARCH PROJECT
Each student will design a research project and frame it around a question relevant to hominin paleoecology. These projects may entail analyzing data available in online databases. Alternatively, students may choose to write a review of a specific topic. Examples and ideas will be provided. The paper should be 10 double-spaced pages (20 pages for graduate students) in length with 1” margins and 12-point font. It should cite 20 primary literature references (30 for graduate students).

GRADING SCHEME
Letter grades are assigned at the end of the semester using the +/- system according to the following chart. Final grades are not rounded, and there is no extra credit offered.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93%-100%</td>
</tr>
<tr>
<td>A-</td>
<td>90%-92.99%</td>
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<tr>
<td>B+</td>
<td>87%-89.99%</td>
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<tr>
<td>B</td>
<td>83%-86.99%</td>
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<tr>
<td>B-</td>
<td>80%-82.99%</td>
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<tr>
<td>C+</td>
<td>77%-79.99%</td>
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<tr>
<td>C</td>
<td>73%-76.99%</td>
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<tr>
<td>C-</td>
<td>70%-72.99%</td>
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<tr>
<td>D+</td>
<td>67%-69.99%</td>
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<tr>
<td>D</td>
<td>63%-66.99%</td>
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<tr>
<td>D-</td>
<td>60%-62.99%</td>
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<tr>
<td>F</td>
<td>0%-59.99%</td>
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LATE ASSIGNMENT POLICY
Late assignments are penalized 10% for each calendar day late.

MAKE-UP EXAMS
The date for the exam is posted on the course schedule below. Make travel plans accordingly. A make-up exam may be scheduled in two circumstances, as follows. (1) If you must miss an exam due to an unavoidable conflict, such as observance of a religious holiday or participation in a school-sanctioned sport, you must notify the professor at least one month prior to the exam date. (2) If you must miss an exam for an unforeseen medical reason or emergency, notify the course instructor as soon as possible. Documentation of your reason for missing the exam (e.g., a note from student health) is required. The make-up exam must be taken within one week of the original exam date, except in
rare circumstances. If the course director is not notified of a student’s intention to miss an exam until after the exam has already been administered in class, the make-up exam may be given in essay format.

**RELIgIOUS HOLIDAY**
It is completely acceptable for you to miss lecture or lab due to observance of religious holidays. However, it is your responsibility to look ahead on the calendar and notify the instructor of any conflicts (for the entire semester) with lab or lecture no later than the first month of class.

**BLACKBOARD**
Once you are registered for this course, you will automatically have access to the Blackboard site associated with it. Go to [https://blackboard.gwu.edu/](https://blackboard.gwu.edu/) and sign in using your GW NetID and password. We will use Blackboard to communicate announcements, store important documents and external links to web sites of interest that deal with material covered in the course, and provide a way for you to check your grades as the course progresses.

**ACADEMIC INTEGRITY**
If you have questions regarding your work, please refer to GW’s policy on academic integrity, available at [https://studentconduct.gwu.edu/code-academic-integrity](https://studentconduct.gwu.edu/code-academic-integrity). Academic dishonesty includes cheating, fabrication, plagiarism, falsification, and facilitating academic dishonesty by others.

**SUPPORT FOR STUDENTS OUTSIDE OF THE CLASSROOM**
- **Disability Support Services (DSS).** Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Rome Hall, Suite 102, to establish eligibility and to coordinate reasonable accommodations. For additional information, please refer to [https://disabilitysupport.gwu.edu/](https://disabilitysupport.gwu.edu/)
- **Mental Health Services.** The Colonial Health Center offers 24/7 assistance and referral to address students’ personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations; and confidential assessment, counseling services (individual and small group), and referrals. You can reach the Colonial Health Center at 202-994-5300. For additional information, please refer to [https://healthcenter.gwu.edu/mental-health](https://healthcenter.gwu.edu/mental-health)
- **International Services Office (ISO).** The International Services Office offers free tutoring and language support for international students who are non-native English speakers. For additional information, please refer to [https://libguides.gwu.edu/c.php?g=576191&p=4068674](https://libguides.gwu.edu/c.php?g=576191&p=4068674)

**SECURITY**
In the case of emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After the evacuation, seek shelter at a predetermined rendezvous location.
## Provisional Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 15</td>
<td>Introduction to the course What is hominin paleoecology?</td>
<td>N/A</td>
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<tr>
<td>Jan. 22</td>
<td>The geological time scale and climate change</td>
<td>Peppe and Deino, 2013</td>
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<td>Jan. 29</td>
<td>Taphonomy</td>
<td>Faith &amp; Behrensmeyer, 2006</td>
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<tr>
<td>Feb. 5</td>
<td>Modern analogs and community ecology</td>
<td>Reed, 1997</td>
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<td>Feb. 12</td>
<td>Ecomorphology and taxon-free methods</td>
<td>Barr, 2015</td>
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<td>Feb. 19</td>
<td>Soil and enamel stable isotopes</td>
<td>Cerling et al., 2015; Quade and Levin, 2013</td>
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<tr>
<td>Feb. 26</td>
<td>Biogeographic analysis Confirm project topic</td>
<td>Winder, 2014</td>
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<tr>
<td>Mar. 5</td>
<td>Pollen, phytoliths and paleobotanical remains Visit of CASHP phytolith lab</td>
<td>Bonnefille et al., 2004</td>
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<tr>
<td>Mar. 12</td>
<td></td>
<td><strong>Spring Break (No class)</strong></td>
</tr>
<tr>
<td>Mar. 19</td>
<td>ZooMS, ancient DNA and other approaches of the future!</td>
<td>Rawlence et al., 2014; Brown et al., 2016</td>
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<tr>
<td>Mar. 26</td>
<td>Paleocology in human evolution: the Miocene</td>
<td>Fortelius et al., 2006; Cerling et al., 1993</td>
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<tr>
<td>Apr. 2</td>
<td>Paleocology in human evolution: early hominins</td>
<td>Levin, 2015</td>
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<tr>
<td>Apr. 9</td>
<td>Paleocology in human evolution: the genus <em>Homo</em></td>
<td>Bobe and Behrensmeyer, 2004; Stewart and Stringer, 2012</td>
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</tbody>
</table>
Reference list (the articles will be posted on Blackboard)