Bioanthropology Methods (ANTH 487/587)
Spring 2012

Class Time: Tuesday 6-9pm
Class Location: 206 Condon Hall

Instructor: Dr. Kirstin N. Sterner
E-mail: ksterner@uoregon.edu
Office: 352 Condon Hall
Office Hours: Tuesdays 2-4pm & by appointment

Prerequisites
Introduction to Biological Anthropology (ANTH 270) or permission of the instructor is required to enroll in this course.

Course Description and Objectives
This course provides an overview of research methods used in biological anthropology. In this course students will learn the fundamentals of designing and conducting biological anthropology research and learn how to write a competitive research proposal.

Course Content
The course will introduce students to the process of research design, data analysis, and interpretation. Individual class meetings will involve discussion of various methods for assessing human/primate evolution and adaptation and when possible, hands-on application of laboratory techniques.

Course Format
Informal lectures followed by directed discussion and hands-on laboratory exercises.

Required Readings
All readings will be available online (Blackboard). Please see Reading List handout for weekly reading assignments. Readings should be completed before arriving to class on the day they are listed.

Classroom Etiquette
Help make this an intellectually safe and friendly environment by respecting others in the class. Along these lines, please:

• arrive for class on time and read all articles before the start of each class.
• do not interrupt someone speaking in class.
• silence or turn off your cell phone during class.
• never text, instant message or surf the web during class. In addition to being disrespectful and distracting to others, it will cost you your participation credit for the day.
• never record (audio or video) any part of the lectures or discussions unless you have my permission.
Evaluation Criteria

Participation in class discussion is required and very important for your grade in this course. If you are having trouble, come to my office hours or talk to me after class.

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<th>Undergraduate Students</th>
<th>Graduate Students</th>
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<tr>
<td>Class Attendance &amp; Participation</td>
<td>Class Attendance &amp; Participation</td>
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<td>20%</td>
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<tr>
<td>Lab Write-Ups (3 @ 5% each)</td>
<td>Annotated Bibliography (Due: 5/15)</td>
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<td>Presentation of Research Proposal</td>
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<td>Res. Question/Hypotheses (Due: 5/22)</td>
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<td>Research Proposal (Due: 6/12)</td>
<td>Research Proposal (Due: 6/12)</td>
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Your grade in the course will reflect class attendance, participation in discussions, and completion and presentation of a research proposal. See Grading Statement (below) for an explanation of what each letter grade requires. Undergraduates will additionally complete 3 short laboratory write-ups (~2 pages each) during the quarter that analyze and interpret data from lab exercises. Graduate students will write a slightly longer research proposal that includes additional sections (e.g., budget and CV) and, additionally, will complete an annotated bibliography that summarizes readings and synthesizes course material.

Students are expected to fully participate in class discussions and exercises and to have read the required readings by class time. Due to the focus of this class on laboratory activities, class attendance is critical. Therefore, make-ups will only be available under extraordinary circumstances.

The class will culminate in the production of a 10-page (double-spaced; grad students 15 pages) NSF-style proposal for an original research project using methods learned in this course. Students will propose a topic, provide sufficient background to show the topic to be important and interesting, propose methods for collecting and analyzing data, and discuss the significance of the project. Examples of NSF grant proposals are available on Blackboard. Prior to handing in their proposal, students will present their research to the class.

Graduate students will compile an annotated bibliography. Each entry will be approximately 1/2 page (single-spaced) and should 1) briefly summarize the article's main points, and 2) place the article into the framework of the class, linking it with other ideas and critically evaluating it. Writing should be concise and focused.

Assignments must be turned in at the scheduled time - under no circumstances will assignment extensions be given without a documented excuse (e.g., signed note from your doctor). If you will not be able to turn in an assignment at the designated time, you must notify me in advance (preferably by e-mail).

Appropriate accommodations will be provided for students with documented disabilities. If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with me as soon as possible. Please bring a notification letter from Disability Services outlining your approved accommodations.
Grading Statement

A Outstanding performance relative to that required to meet course requirements; demonstrates both mastery of course content & coursework quality at the highest level.
B Performance that is significantly above that required to meet course requirements; demonstrates both mastery of course content & coursework quality at a high level.
C Performance that meets the course requirements in every respect; demonstrates adequate understanding of course content and coursework quality.
D Performance that is at the minimal level necessary to pass the course but does not fully meet the course requirements; demonstrates marginal understanding of course content and coursework quality.
F Performance in the course, for whatever reason, is unacceptable and does not meet the course requirements; demonstrates inadequate understanding of the course content and coursework quality.

Course Schedule and Assignments

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<th>Week</th>
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<th>Topic</th>
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| 1    | April 3rd | Course Introduction  
Research in Biological Anthropology and Research Design |
| 2    | April 10th | Anthropological Histories & Scope; Ethical Issues  
Proposal Writing (Part 1) |
| 3    | April 17th | Molecular Anthropology; Primate Comparative & Functional Genomics |
| 4    | April 24th | Human Biology; Biomarkers (Dr. Josh Snodgrass)  
Lab Write-Up For Week 3 (Genomics) Due (Undergrads Only) |
| 5    | May 1st  | Human Social Environment (Dr. Heather McClure)  
Qualitative & Quantitative Methods  
Lab Write-Up for Week 4 (Biomarkers) Due (Undergrads Only) |
| 6    | May 8th  | Geometric Morphometrics (Dr. Steve Frost) |
| 7    | May 15th | Molecular Phylogenetics; Sampling Wild Primates (Dr. Nelson Ting)  
Annotated Bibliography Due (Graduate Students Only) |
| 8    | May 22nd | Microbiome & Metagenomics (Dr. Brendan Bohannan)  
Proposal Writing (Part 2)  
Research Question/Hypotheses Due  
Lab Write-Up for Week 7 (Phylogenetics) Due (Undergrads Only) |
| 9    | May 29th | Bioanthropology Data Analysis (Dr. Frances White)  
Presenting Research |
| 10   | June 5th | Student Presentations |
|      | June 12th | Research Proposal Due |

This syllabus is tentative and may change during the term. It is your responsibility to come to class and check Blackboard for updates. Any changes to readings or assignments will be given in advance.
**Required Readings**
(Check Blackboard for updates. Any additions will be announced during the previous week.)

**Week 1 Research in Biological Anthropology and Research Design**


**Week 2 Anthropological Histories & Scope; Ethical Issues; Proposal Writing (Part 1)**

- Ethical Issues (Pick One depending on your interest: Stinson 2005; Larsen & Walker 2005; Nash 2005; HGP Ethical Issues)

**Week 3 Molecular Anthropology; Primate Comparative & Functional Genomics**

- Molecular Methods in Anthropology Module *(please read through this module; you do not need to do the questions at the end)*

**Week 4 Human Biology; Biomarkers**


**Week 5 Human Social Environment; Qualitative & Quantitative Methods**

• Wali 2007 Collaborative Research: A Practical Introduction to Participatory Action Research (PAR) for Communities and Scholars.
• Bernard 2005 Direct and Indirect Observation (Ch. 15) in Research Methods in Anthropology: Qualitative and Quantitative Approaches (4th Edition) Altamira Press.

Week 6 Geometric Morphometrics

• Slice 2007 Geometric Morphometrics Annual Reviews of Anthropology 36:261-81.

Week 7 Molecular Phylogenetics; Population Genetics of Wild Primates

• Ting et al., 2012 Genetic signatures of a demographic collapse in a large-bodied forest dwelling primate (Mandrillus leucophaeus) Ecology and Evolution.

Week 8 Human Microbiome; Proposal Writing (Part 2)

• Day & Gastel 2006 What is a Scientific Paper? (Ch. 4) in How to Write and Publish a Scientific Paper (6th Edition) Greenwood Press.
• Day & Gastel 2006 Avoiding Jargon (Ch. 31) in How to Write and Publish a Scientific Paper (6th Edition) Greenwood Press.

Week 9 Bioanthropology Data Analysis; Presenting Research

• Handout on Hypothesis Testing (Dr. White)
• Day & Gastel 2006 How to Present a Paper Orally (Ch. 27) in How to Write and Publish a Scientific Paper (6th Edition) Greenwood Press.
• Meredith 2010 Introduction: Explaining Your Research is a Professional Necessity in Explaining Research: How to Reach Key Audiences to Advance Your Work. Oxford University Press.