DRAFT SYLLABUS
Bioanthropology Methods (ANTH 487)
Spring 2016

Class Time: Tuesdays 6-8:50pm
Class Location: 204 Condon Hall

Instructor: Dr. Kirstin N. Sterner
E-mail: ksterner@uoregon.edu
Office: 352 Condon Hall
Office Hours: Thursdays 11am-1pm & by appointment

Prerequisites
Introduction to Biological Anthropology (ANTH 270) or permission of the instructor is required to enroll in this course. This course is intended for upper-level undergraduates and graduate students.

Course Description
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.

Learning Objectives
By the end of this course students will be able to:

1. outline and explain the steps of the scientific method
2. describe methods commonly used in biological anthropology research
3. develop a research project by applying the scientific method to a specific research question
4. use newly acquired grantsmanship skills to write an NSF-style 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/or hands-on laboratory exercises.

Required Readings
All readings will be available online (Canvas). Please see Required Readings (below) 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
Your grade in the course will reflect class attendance, participation in discussions, participation in 3 lab exercises, completion of 3 short lab write-ups that analyze and interpret data from lab exercises, and completion and presentation of a research proposal. 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. See Grading Statement (below) for an explanation of what each letter grade requires.

| Class Attendance & Participation  | 15% |
| Lab Write-Ups (3 @ 5% each)       | 15% |
| Research Proposal Topic (Due: April 19th) | 5% |
| Res. Question/Hypotheses (Due: May 10th) | 15% |
| Presentation of Research Proposal  | 10% |
| Research Proposal (Due: June 7th)  | 40% |

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 NSF-style proposal for an original research project using methods learned in this course. Undergraduates will be required to submit a 10-page (double-spaced) proposal, while graduate students will write a longer (15 to 20-page, double-spaced) research proposal that includes additional sections (e.g., budget and CV). All 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 Canvas. Prior to handing in their proposal, students will present their research to the class. Proposal Guidelines will be made available during Week 2.

Assignments must be turned in at the scheduled time - under no circumstances will assignment extensions be given without a documented excuse. 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 for Undergraduates
Grades will be assigned as follows: A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F < 60% (with minus and plus grades assigned at appropriate cutoffs).
A+ Quality of student’s performance significantly exceeds that of an A. Very few, if any, students receive this grade in a given course.

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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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>March 29th</td>
<td>Course Introduction; Research in Bio Anthropology; Research Design</td>
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<tr>
<td>2</td>
<td>April 5th</td>
<td>Anthropological Questions; Ethical Issues; Proposal Writing</td>
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<td>3</td>
<td>April 12th</td>
<td>Geometric Morphometrics <em>(Dr. Steve Frost)</em></td>
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<td>4</td>
<td>April 19th</td>
<td>Human Social Environment and Qualitative Methods <em>(Dr. Heather McClure)</em> Field Primatology <em>(Dr. Larry Ulibarri)</em> <strong>Research Proposal Topic Due</strong></td>
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<td>5</td>
<td>April 26th</td>
<td>Population Genetics of Wild Primates <em>(Dr. Nelson Ting)</em> Lab 1 <em>(Primate Phylogeny) Due at the End of Class</em></td>
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<td>6</td>
<td>May 3rd</td>
<td>Evolutionary Genomics <em>(Dr. Kirstin Sterner)</em> Lab 2 <em>(Evolutionary Genomics) Due</em></td>
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<td>7</td>
<td>May 10th</td>
<td>Human Biology &amp; Biomarkers <em>(Dr. Josh Snodgrass)</em> Research Question/Hypotheses Due</td>
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<td>8</td>
<td>May 17th</td>
<td>Writing and Presenting Research Lab 3 <em>(Human Biology) Due</em></td>
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<td>9</td>
<td>May 24th</td>
<td>Bioanthropology Data Analysis <em>(Dr. Frances White)</em></td>
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<td>10</td>
<td>May 31st</td>
<td><strong>Student Presentations</strong></td>
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<td>June 7th</td>
<td><strong>Research Proposal Due by Noon</strong></td>
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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 (Tentative List)**

(Required readings 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 Geometric Morphometrics*


*Week 4 Human Social Environment and Qualitative Methods AND Field Primatology*

- Wali 2007 Collaborative Research: A Practical Introduction to Participatory Action Research (PAR) for Communities and Scholars.

*Week 5 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 6 Primate Comparative & Functional Genomics

• Goodman et al., 2009 Phylogenomic analyses reveal convergent patterns of adaptive evolution in elephant and human ancestries Proceedings of the National Academy of Sciences 106:20824-20829.
• Molecular Methods in Anthropology Module (optional reading; you do not need to do the questions at the end)

Week 7 Human Biology; Biomarkers

• McDade 2001 Lifestyle incongruity, social interaction, and immune function in Samoan adolescents. Social Science and Medicine 53:1351-1362.
• McDade et al., 2007 What a drop can do: Dried blood spots as a minimally invasive method for integrating biomarkers into population-based research. Demography 44:899-925.

Week 8 Writing & Presenting Research

• 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.
• 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.

Week 9 Bioanthropology Data Analysis; Presenting Research

• Handout on Hypothesis Testing (Dr. White)

Week 10 Presentations

• No readings.