ANTH 487/587: BIOANTHROPOLOGY METHODS  
Spring 2011  
4 Credit Hours

Class Time & Location: Wednesday 6:00 - 8:50 pm, 203 Chapman Hall

Instructor: Dr. Josh Snodgrass  
Phone: 346-4823  
E-mail: jjosh@uoregon.edu  
Office Hours: Tuesday 2-4 & by appointment

Prerequisite: ANTH 270 or permission of the instructor

Course Description: A laboratory-based introduction to research methods in biological anthropology.

Course Content: This course provides an overview of research methods used in biological anthropology, with an emphasis on research among living humans. The course will introduce students to the process of research design, data analysis, and interpretation. Individual class meetings will be split between discussions of various methods for assessing human biology and hands-on application of laboratory techniques.

Format: Short lectures (~30 minutes) followed by directed discussion and hands-on laboratory exercises.

Required Readings: A collection of readings consisting of articles and book chapters (see below); all required readings are available on Blackboard

Evaluation Criteria:

<table>
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<tr>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
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<tr>
<td>Class Attendance &amp; Participation</td>
<td>20%</td>
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<tr>
<td>Lab Write-Ups (3 @ 5% each)</td>
<td>15%</td>
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<tr>
<td>Presentation of Research Proposal</td>
<td>10%</td>
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<tr>
<td>Res. Question/Hypotheses <em>(Due: 5/18)</em></td>
<td>15%</td>
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<tr>
<td>Research Proposal <em>(Due: 6/8)</em></td>
<td>40%</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. 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. Please bring a notification letter from Disability Services outlining your accommodations.

### Class Schedule:

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<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Required Readings</th>
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<tr>
<td>3/30</td>
<td>Introduction to the Course</td>
<td>1) Little &amp; Kennedy 2010</td>
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<td></td>
<td>Research in Biological Anthropology &amp; Research Design</td>
<td>2) Hailman &amp; Strier 2006 Chapter 1</td>
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<td>Biological anthropology; Biocultural and evolutionary perspectives; Ultimate vs. proximate questions</td>
<td>3) Day &amp; Gastel 2006 Chapters 1 &amp; 37</td>
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<tr>
<td>4/6</td>
<td>Anthropological Histories &amp; Scope, Ethical Issues, and Proposal Writing</td>
<td>1) Hailman &amp; Strier 2006 Chapter 2</td>
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<td>What makes a project <em>anthropological</em>?</td>
<td>2) Bernard 2006 Ch. 4</td>
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<td>Ethics, scientific integrity, and professional responsibility</td>
<td>3) Ethical Issues (Pick <em>One</em>: Stinson 2005; Larsen &amp; Walker 2005; Nash 2005)</td>
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<td>Research design; Theory; Field vs. laboratory issues; Literature-based data analysis; Picking a research topic &amp; writing a research proposal</td>
<td>4) Leonard et al. 2003</td>
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<td>4/13</td>
<td>Paleoanthropology: Taxonomy/Systematics</td>
<td>1) Day &amp; Gastel 2006 Ch. 5</td>
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<td><em>Guest Lecture by Dr. Melanie Chang (UO Anthropology)</em></td>
<td>2) TBA</td>
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<td>Dr. Snodgrass will be in Minneapolis attending the Human Biology Association/American Association of Physical Anthropologists meetings</td>
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<td>4/20</td>
<td>Collecting Behavioral Data</td>
<td>1) TBA</td>
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<td><em>Guest Lecturer: Dr. Larry Sugiyama (UO Anthropology)</em></td>
<td>2) Sugiyama 2004</td>
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<td><em>(Write-up due in class next week)</em></td>
<td>3) Madimenos et al. 2011</td>
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<td>Take home project: Accelerometry (complete 1 day of activity monitoring)</td>
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<tr>
<td>Date</td>
<td>Topic</td>
<td>Readings</td>
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| 4/27  | Human Energetics: Resting Metabolism, Physical Activity, and Total Daily Energy Expenditure  
      *(Write-up due in class next week)*  
      Calorimetry; Oxygen consumption; Basal metabolic rate; Heart rate monitoring; Accelerometry | 1) Snodgrass 2011  
      2) Day & Gastel 2006 Ch. 4  
      3) Snodgrass et al. 2005 |
| 5/4   | Cardiovascular, Metabolic, and Skeletal Health  
      *(Write-up due in class next week)*  
      Blood pressure, Hemoglobin; Plasma lipids; Glucose & Diabetes; Cardiovascular risk; The metabolic syndrome; Respiratory function; Bone density  
      **Take home project:** Collect salivary cortisol samples at home  
      *(3 times per day for 2 days)* | 1) Dressler 2007  
      2) McDade et al. 2007  
      3) Ice & James 2007 |
| 5/11  | The Human Social Environment: Qualitative & Quantitative Methods  
      **Guest Lecturer: Dr. Heather McClure (OR Social Learning Center)**  
      Ethnography; Questionnaires; Community-based participatory research; Cultural consensus analysis  
      **Biomarkers**  
      Biomarkers of health and physiology; Minimally invasive techniques; Dried blood spots & saliva samples; Stress biomarkers; Cortisol, CRP, & Epstein-Barr Virus antibodies  
      *(Annotated bibliography due for graduate students today)* | 1) McClure et al. 2010  
      2) Wali 2007  
      3) McDade 2001 |
| 5/18  | Skeletal Biology: Human Skeletal Variation  
      **Guest Lecturer: Dr. Stephen Frost (UO Anthropology)**  
      Osteometrics; Craniometrics; 3D morphometrics  
      *(Research question & hypotheses due today—for everyone)* | 1) Marcus & Corti 1996  
      2) Day & Gastel 2006 Chapter 31  
      3) Meredith 2010 Introduction |
| 5/25  | Bioanthropology Data Analysis  
      Dealing with data; Basic data analyses; Pilot research and power analyses  
      **Guest Lecturer: Dr. Frances White (UO Anthropology)** | 1) TBA  
      2) Day & Gastel 2006 Ch. 27 |
| 6/1   | Presentation of student research proposals  
      *(5 minutes per presentation for undergrads; 10 minutes per presentation for grad students)* | No assigned readings |

**Research Proposal Due:** Wednesday, June 8 @ 5pm
REQUIRED READINGS

Week 1 (March 30)


Week 2 (April 6)


Read at least one of the following on ethical issues in biological anthropology:


Week 3 (April 13)


TBA

Week 4 (April 20)

Bernard HR. 2006. Direct and indirect observation (Ch. 15). In: Research Methods in Anthropology: Qualitative and Quantitative Approaches. Altamira press, pp. 413-450.


**Week 5 (April 27)**


**Week 6 (May 4)**


**Week 7 (May 11)**


Wali A. 2007. *A Practical Introduction to Participatory Action Research (PAR) for Communities and Scholars*. Field Museum.


**Week 8 (May 18)**


**Week 9 (May 25)**

TBA