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## ANTY 510.01: Seminar in Human Variation and Evolution

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**Anthropology 510**  
**Seminar in Human Variation and Evolution**  
**Fall, 2013**  
**Tuesdays 2:10-5pm in SS 238**

**Contact Information**

Instructor: Meradeth Snow  
Email: meradeth.snow@mso.umt.edu  
Office: 219 Social Sciences  
Office hours: Mondays 2-5pm, and by appointment

**Course Texts**

Crawford, Michael.

2007 Anthropological Genetics: Theory, Methods, and Applications. Cambridge University Press.

Relethford, John

2003 Reflections of our Past: how human history is revealed in our genes. Westview Press.

**Course Description**

This course is designed to explore the historical and current theories that form the foundation for biological anthropology, and specifically molecular anthropology. We will be covering many broad topics that are central to current anthropological research, and viewing how molecular anthropology has allowed us to refine our understanding of modern humans and our evolution.

The class will combine presentations and discussions by students in a seminar format. Lectures/presentations and discussions are intended to furnish a means for students to learn what practicing biological anthropologists do and highlight some of the major questions in the field of molecular anthropology today. They also allow for student to hone skills in public speaking and lecture preparation that will aid them in future employment.

**Course Goals**

There are three main goals for this course:

1. Develop skills and experiences that are necessary for professional academic development.
2. Develop knowledge regarding the major issues, questions, theories, and methods in the field of molecular and biological anthropology.
3. Develop fundamental research, reading, and writing skills.

**Course Grade Breakdown**

Leading discussion	40% (broken down evenly between times)
Research Paper	35%
Participation in discussion	25%

## **Course Requirements**

Leading discussion: One of the most valuable tools you can leave college and graduate school with is the ability to put together and deliver a lecture for peers, colleagues, or students. To that end, I will be providing a list of topics to discuss and you will be required to sign up for at least two. Topics will be centered on molecular anthropology, and should be something that you are remotely interested in.

Your presentation should include:

- A general overview of what the topic is and what it entails
- Rundown of particularly onerous jargon
- Discussion of relevant background or foundation ideas
- Where the topic currently sits in terms of research
- Conflicts or debates within the field

In preparation for each lecture, I will provide the class with a list of relevant readings from the textbook and journal articles. Everyone is required to read the assigned readings. Those who are presenting should use the list as a jumping-off point to delve further into the topic through articles, books, and other available resources.

Keep in mind that your presentation should be interactive and engaging for fellow students.

Research paper: you will be required to write a paper on the migration and peopling of a particular region/country (nothing so broad as the peopling of the Americas, but something more reasonable, such as the peopling of Ireland). Again, it is preferable that you chose a region that you personally find interesting. A region of choice should be chosen by the fourth week of class, and submitted to your instructor at that time. Duplicate topics between students will not be allowed, so choosing early is in your favor.

Your topic should address the prehistoric and historic migration into a particular area. You are welcome to utilize information gathered through multiple lines of evidence, but the bulk of your research should address the genetic/molecular evidence. Through your research, you should form an argument regarding the peopling of the region, and use your paper to support this theory, while noting the possibility of other ideas.

The paper itself should be ten full pages in length, 12pt Times font, with one-inch margins, double spaced. The ten pages do not include your Works Cited, which should be in AAA format. Papers are due on the last day of class; late papers will not be accepted.

During our final meeting, each student will be asked to present their research briefly to the class. You will be asked to note the main source of evidence for your argument, as well as your conclusion of how individuals arrived and settled in the area you researched.

Participation: In order to be prepared for each lecture, you should read all of the assigned readings before class, and take notes. While reading, pay particular attention to the main questions being asked, what theoretical background is being addressed, terms and concepts, and any critical omissions or questions regarding the work.

In order to obtain full participation credit, you will need to *submit a short paragraph or bulleted list that reviews each of the assigned readings and provides two possible discussion questions for each.*

### **Code of Academic Misconduct**

With regard to academic dishonesty, this class has a zero-tolerance policy and will promptly deal with any acts of academic dishonesty (cheating, plagiarism, or unauthorized help on assignments, etc.) according to university policy. For further information on what falls into these categories see: [http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php). If you have questions or concerns, please feel free to contact the instructor.

### **Students with Disabilities**

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). “Reasonable” means the University permits no fundamental alterations of academic standards or retroactive modifications. (For other options see <http://www.umt.edu/disability>).

<b>Week &amp; Date</b>	<b>Topic</b>	<b>Book Readings</b>
1. August 27	Introduction & Scheduling	Crawford chapter 5 Relethford chapter 1
2. September 3	Basic DNA introduction	Genetics Handout
3. September 10	History of Molecular Anthropology (including PCR, sequencing, etc.)	Crawford chapter 1 & 6 & 9
4. September 17	Paper topics must be chosen. DNA catch-up and possible hands-on time	
5. September 22	Mitochondria & Y-chromosome	
6. October 1	Ancient DNA	Crawford chapter 8
7. October 8	African Diaspora	Crawford chapter 12 Relethford chapter 2 & 3
8. October 15	Neanderthal aDNA & admixture	Crawford chapter 13 Relethford chapter 4
9. October 22	Molecular clock	
10. October 29	Human concept of “race”	Crawford chapter 2
11. November 5	Selection on modern humans	Crawford pg 462
12. November 12	Next-generation sequencing & emerging technologies	Crawford chapter 10
13. November 19	Personal Genome Analysis & ethics	
14. November 26	Work on your papers independently—no class	
15. December 3	Student Presentations on Papers	

Molecular Clock \_\_\_\_\_

African Diaspora \_\_\_\_\_

mtDNA Eve & Y-chromosome diversity \_\_\_\_\_

Ancient DNA \_\_\_\_\_

Neandertal DNA & admixture \_\_\_\_\_

Human Concept of Race \_\_\_\_\_

Selection on modern humans \_\_\_\_\_

Next-generation sequencing \_\_\_\_\_

Personal Genome Analysis and Ethics \_\_\_\_\_