

ANTH 263: Beyond the Genome

Prof. Amy L. Non
Wed 11am-1:50pm
SSB 269 (Spiro Library)

Contact Info:

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Course Summary:

The aim of this graduate seminar is to explore recent topics related to human evolution and health in modern and ancient populations, using data beyond traditional genetics. These data include various levels of epigenetic regulation (DNA and histone modifications, micro and non-coding RNAs), telomeres, the microbiome (ancient and modern), hormonal influences on the genome (e.g. cortisol, oxytocin), and gender-biased selection in reproductive success under stressful environments. The course will be in seminar format, in which students will lead discussion on articles each week, and participate in short weekly writing assignments. While learning these topics, students will develop analytical and critical thinking skills through reading, interpreting, and critiquing some of the most recent and unique studies in the field of biological anthropology.

Course design: This seminar course is designed for graduate students who are interested in human evolution, human health, and molecular anthropology. Students from all colleges and departments are welcome to enroll. A limited number of upper level undergraduates may enroll by petition. The course format is mainly discussion with substantial student participation. Lectures will be supplementary only in order to provide necessary introductory or background material.

Course expectations:

Students are expected to learn about molecular data supporting theories of human evolution and human health. At the end of the course, I expect students will have developed strong critical and analytical reading skills, and a detailed knowledge of the latest findings in molecular anthropology. This class will require comprehension and analysis of current scientific publications. Students will be expected to write short (~150 word) summaries or responses to directed questions on all reading assignments to facilitate discussion each week, and each student will lead a discussion or two on a research article from the course syllabus (which will include bringing in outside literature on the topic). Students will be expected to write either a) a mini grant proposal, or b) a detailed course syllabus on the topic of their choice from the course (other than on the topic in which they led discussion). Some knowledge of genetics and basic molecular biology is expected.

Students will be graded on participation in class discussions (30%), responses to short weekly writing prompts (20%) leading class discussions (20%), and their final grant/syllabus (30%).

In converting your numerical average to a letter grade, fractions will be rounded to the nearest whole number and the following scale will apply:
94-100%=A, 90-93=A-, 87-89%=B+, 83-86%=B, 80-82=B-, 77-79%=C+, 73-76=C, 70-72%=C-, 67-69%=D+, 63-66=D, 60-62%=D-, < 60%=F.

Reading Material:

Reading assignments will be in the form of scientific articles that will be assigned and posted online each week. Students will have a voice in the range of topics discussed. Each week I will assign 1 or 2 articles, and the student leading discussion will choose one additional article.

Participation

Participation is required of all students and will be based on each student's contribution of original comments and thoughtful questions to the class. This includes comments to the whole class, as well as small group discussions. Students are not graded on the brilliance of their statements, but on their willingness to talk, a demonstration that the assigned material was read, and the originality of their comments. Simply showing up for class does not constitute participation. Remaining silent in class means that the highest grade a student can receive is a C. If a student misses class, he/she will miss the opportunity to gain participation credit for that day. A student can have one unexcused absence without penalty to their participation grade.

The afternoon (by 5pm) on the day before each class, *~150 word responses to short writing prompts for each assigned journal article* for that day's class will be posted in the class website. These responses will facilitate class discussions the following day.

Leading class discussion

Each student will lead a discussion or two of assigned article(s). The student does not need to use Power Point. Leading class discussion can be as creative as a student desires, including activities such as debates or games that a student can assign to the class, as long as the material of the assigned article(s) are covered. Regardless of whether a student is leading discussion, all students will read all articles in the syllabus and be prepared to participate in class discussions of the articles. Students will sign up for days they would like to lead discussion by the second week of class (only one student may sign up for each article).

Useful websites:

- Useful information is provided by several websites:
- <http://www.ncbi.nlm.nih.gov/PubMed> - National Library of Medicine database of over 11 million journal articles dating back to the 1960s
- <http://www.genome.gov/glossary.cfm> NIH-maintained glossary of genetic terms

Class attendance policy: Because the class format is mainly discussion, it is very difficult to make up missed classes by borrowing notes, etc. Therefore, students expected to attend all classes and to arrive on time. Participation grade will be diminished if students miss classes (each student is allowed 1 free miss without penalty). Computers are allowed in class, so you can access the readings or look up facts relevant to discussion, but if they are used to check email or surf the web, this will change. Class discussions/lectures cannot be recorded in any manner without special permission. All cell phones must be turned off during class.

Strategies for success:

It is important to complete all the readings on time and it is best to do the readings throughout the week. In this way, you have time to think about and process the information during the week and in between different readings. Ideally, you would read some every night of the week. The amount of reading material is modest, particularly for an anthropology course. This is because it is expected that you will **re-read anything you do not understand** the first time. During your reading, you should **take copious notes** and these notes will form the basis of the responses you must turn in for every article.

Ask for help in taking notes, comprehending the material, or preparing any of the assignments – I am available during office hours, you can schedule an appointment outside of office hours, and I am always available by email.

Accommodations for students with disabilities: Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to Faculty (please make arrangements to contact me privately) and to the OSD Liaison at the Global Health Program in advance so that accommodations may be arranged. <https://disabilities.ucsd.edu/students/index.html>

Academic Integrity

All UCSD students are required to adhere to the Policy on Integrity of Scholarship. Please take the time to read the Policy found here: <http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>. The policy applies to all work done in this class. All written assignments should be your own work. **Plagiarism or cheating will result in an “F” for the assignment and may be reported to the Academic Integrity Office for further action.**

COURSE SCHEDULE

Available in a separate document on online; contains reading assignments and important deadlines.