

ANTHROPOLOGY 332: MODERN HUMAN VARIATION

SPRING 2016 – 3 CREDITS

INSTRUCTOR: Dr. Britney Kyle
EMAIL: Britney.Kyle@unco.edu
PHONE: 970-351-1745

OFFICE: Candelaria 2056
OFFICE HOURS: M 11am-1:30pm, W 11am-12pm,
W 1:30-3pm, and by appointment

CLASS TIME AND LOCATION: MWF 9:05-9:55am, Candelaria 1190

REQUIRED TEXTS:

- (1) The Immortal Life of Henrietta Lacks by Rebecca Skloot. 2011. Broadway. ISBN 978-1400054189
- (2) Why Some Like it Hot: Food, Genes, and Cultural Diversity by Gary Paul Nebhan. 2004. Island Press. ISBN 9781597260916
- (3) Missing Microbes: How the overuse of antibiotics is fueling our modern plagues by Martin J. Blaser. 2015. Picador. ISBN 978-1250069276
- (4) Additional readings will be posted on Blackboard

RECOMMENDED TEXT (ON RESERVE AT THE LIBRARY):

Human Biological Variation by James H. Mielke, Lyle W. Konigsberg, and John H. Relethford. 2011. Second edition. Oxford University Press. ISBN 978-0-19-538749-7

COURSE DESCRIPTION:

Humans are culturally and biologically variable. This course explores biocultural variation in modern humans in order to examine how and why modern humans have adapted to their cultural and physical environments. In this course, you will learn why humans look and act differently from one another and identify which variations result from genes, culture and/or diversity in the environment of growth. This course is divided into three units. First, we will examine the genetic basis for variation in skin color, body proportions, and other physical adaptations. You will see that this is the result of adaptation toward various environments in human evolutionary history. Second, we will look at dietary adaptations. We will examine what humans are supposed to eat and discuss the ways that the social, political, and economic factors often make eating correctly difficult. Finally, we will examine coevolution between humans and various diseases and identify why people are variable in their susceptibility to genetic, infectious, and metabolic diseases.

COURSE LEARNING OBJECTIVES:

- Students will be able to explain the adaptive significance of human variation on exams and in their final paper, including how variation between humans results from genetic adaptations due to geographic and temporal variability in our environments.
- Students will recognize which aspects of human variation are the result of genetic differences and which are the result of cultural differences, including social, economic, and political variation. This will be demonstrated in class discussions and on exams.
- Students will be able to evaluate the validity of anthropological hypothesis using material, genetic, and geophysical evidence in assignments and reading discussions conducted in class.
- Students will be able to relate class material to other academic disciplines and their own lives, and will demonstrate this in class discussions and on course evaluations.

DEPARTMENTAL LEARNING OUTCOMES:

This course addresses several of our department learning goals: knowledge of advancements in physical anthropologists' understanding of human biological evolution, skill at using the scientific method in addressing problems of human evolution, and skill at critical thinking about issues in human evolution.

INSTRUCTOR-STUDENT COMMUNICATION:

Students should not hesitate to contact the instructor with any questions, comments, or concerns. The instructor may be reached at the email address and office above. If the instructor's office hours conflict with your schedule then you should contact the instructor to schedule a special appointment.

CLASS NEWS AND CANCELLATION:

In case of unexpected instructor absences, the information will be posted on the **Blackboard website**. This site should be consulted in the event of inclement weather to check for possible class cancellations or delays. Changes or cancellation of office hours will also be posted on Blackboard.

STUDENTS WITH DISABILITIES:

Any student requesting disability accommodation for this class must inform the instructor by giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

ACADEMIC MISCONDUCT:

Cheating, plagiarism, forgery, and all other forms of academic misconduct are unacceptable in this course, and at UNC. You should familiarize yourself with the UNC Student Code of Conduct: <http://www.unco.edu/dos/pdf/StudentCodeofConduct.pdf>. Lack of knowledge of these requirements will not be viewed as an excuse for noncompliance. Cheating, plagiarism, and forgery will result in a zero for that assignment.

COURSE REQUIREMENTS:

Exams: There are two exams. The second of these is the final, and will be due on **Friday, May 6th at 1:15pm**. Exams are **not** cumulative. The exams consist of essay questions that cover material from the lectures, videos, **readings** and discussions. Exams will be take home. Late exams will be accepted at the instructor's discretion in cases of unforeseen circumstances such as illness or family emergency, but **only if the legitimacy of the absence is adequately documented** (doctor's excuse, accident report, etc.) **AND the instructor is contacted within 24 hours of the examination due date**.

Assignments and Quizzes: Five primary assignments/quizzes will be given during the course of the semester (due dates indicated in bold on the syllabus). Additionally, reading quizzes and/or discussion questions in response to readings will be given if the instructor perceives that students are not doing the required readings.

Argumentative Paper: Choose your own topic and write a paper about one facet of your evolutionary history (or another course topic that interests you). Focus on a single trait related to nutrition, disease, or morphology (i.e., sickle-cell trait, lactase persistence, etc.). Include specific genes (if known), their geographic distribution, variation within and between populations, and environmental adaptations that influence the distribution of this trait. Describe your phenotype, as well as those of your ancestors (recent and/or distant). Discuss what you think will happen to the distribution of this trait in the future and possible reasons this distribution may change. Papers should center around a central thesis statement. They should also be approximately **5-6 pages, double-spaced** and include **terminology and discussion of concepts learned throughout the course**. All papers should be typed, Times New Roman, 12-point font, with one inch margins. A rubric with grading criteria for reports will be posted at least three weeks prior to the due date. You will be allowed to revise your paper for an additional 5% on your paper grade. Attach my comments to your revised draft.

Lesson Plans: You can choose to work in pairs, or individually, to develop a lesson-plan for K-12 teachers. You will give a practice presentation of this lesson in class (date on syllabus) and then will revise the lessons based upon peer feedback. If your lesson plan is of sufficient quality, and you consent, I will post your lesson plan online for real K-12 teachers to use. You will be evaluated based upon the quality of your lesson, and on a write-up of what K-12 students should get out of your lesson.

Attendance and Participation: It is important to attend class regularly in order to do well in this course. Lectures will undoubtedly cover material that is not found in the texts. If you miss a lecture for whatever reason, lecture notes will not be provided. All absences must be officially documented with a doctor's excuse, accident report, etc. In the event that you cannot provide such documentation, the absence will be considered unexcused and will affect your participation score. In-class assignments cannot be "made-up" if the absence is unexcused. If you need to leave a lecture early, it is essential that you discuss this with the instructor **BEFORE** class begins. Attendance may be taken at the **beginning or end** of each lecture.

One of the best ways to retain thoughts and information is by articulating them; therefore participation is required to attain the full credit for this portion of your grade. Please remain on topic when asking/answering questions. This is a class of mutual respect, and if this respect is violated, the instructor reserves the right to deduct participation points (see clause below for expectations of respect).

GRADING PROCEDURES:

Late assignments/papers will be **docked by 10% for every calendar day** that they are late, ie. one day, 10%, two days 20%. Final grades are based on a standardized scale using the total number of points available for the course. No extra credit will be offered. Please do not call the Anthropology office regarding grades. Contact your instructor directly.

Grade Breakdown for Course Requirements

Assessment	% Final grade
Exams (equal weight)	40
Assignments	15
Argumentative Paper	20
Lesson Plan	20
Attendance and Participation	5

GRADING SCALE

<u>Percentage</u>	<u>Letter Grade</u>	<u>Quality Points</u>
93-100	A	4.000
90-92	A-	3.667
88-89	B+	3.334
83-87	B	3.000
80-82	B-	2.667
78-79	C+	2.334
73-77	C	2.000
70-72	C-	1.667
68-69	D+	1.334
63-67	D	1.000
60-62	D-	0.667
0-59	F	0.000

PHILOSOPHY OF GRADING:

I do not give grades; students earn their grades. Your final grade is your responsibility. The only legitimate reason to change a grade is if there was a mistake in grading. Any questions about grading must be discussed with the instructor within the first week following the exam/assignment.

The following is a schedule of the major topics that will be covered in this class. It should be considered tentative and may be modified during the course of the semester as determined by factors such as student progress and amount of class discussion.

Week	Topics Covered		Readings
1	M 1/11	<i>The History of Human Classification</i>	
	W 1/13	<i>Basic biology</i>	Lieberman Ch. 7
	F 1/15	<i>Genetic Basis for Life – DNA</i>	Read chapters 2-4 in Stanford et al., 2013 as necessary (on blackboard)
2	M 1/18	No Class – Happy Martin Luther King Day!	
	W 1/20	<i>Cell Division: Mitosis and Meiosis</i>	
	F 1/22	<i>The Four Forces of Evolution</i>	Wade, 2010
3	M 1/25	<i>Natural Selection</i>	Williams and Nesse, 1991; Weiss and Buchanan, 2003
	W 1/27	<i>The Evolution of Human Skin, Hair, and Eye Color</i> · Concordant and discordant characteristics Vocabulary Quiz	Jablonski and Chaplin, 2002
	F 1/29	<i>Heritability of the Cephalic Index / Body proportions / Physical fitness</i>	Lieberman Chs. 9 and 10
4	M 2/1	<i>Cancer</i>	IUPUI Cancer Sheet; Chow, 2010
	W 2/3	<i>Medical Ethics: Discussion of the Immortal Life of Henrietta Lacks</i> Reading discussion questions due	Finish Skloot, 2011
	F 2/5	<i>How far have we come? Inequality in America and Epigenetics</i> <i>Epigenetics Video</i>	Cloud, 2010
5	M 2/8	<i>A Place at the Table video</i>	
	W 2/10	<i>Discussion of economic and social factors affecting diet</i> · Food stamp challenge passed out	Whyte, 2009
	F 2/12	<i>Discussion of the food stamp challenge / What should we be eating? / Dietary Guidelines</i> Paper topic and thesis statement due	Gifford, 2002; Marantz et al., 2008
6	M 2/15	<i>Nutritional Adaptations</i>	Gadsby, 2004; Wrangham, 2009
	W 2/17	<i>Obesity / The Thrifty Gene Hypothesis</i> <i>Is sugar toxic? 60 Minutes Video</i> Food stamp challenge write-up due · The balance between caloric and nutritional needs	Chakravarthy and Booth, 2004
	F 2/19	<i>Evaluation of fad diets</i> · Caloric intake/expenditure records passed out	Nabhan – Intro; Grierson, 2003; Pollan, 2006
7	M 2/22	<i>Lactose Intolerance, Alcoholism, and Microevolution</i>	Nabhan – Chs. 1 and 2
	W 2/24	<i>Practice presentation of nutrition lessons</i> · Meet with me to discuss nutrition lessons	
	F 2/26	<i>Super tasters – PTC</i> Paper outlines due	Nabhan – Chs. 4 and 5
8	M 2/29	<i>Metabolic syndrome</i>	Nabham Chs. 7 and 8; Halberstein, 1999

Week		Topics Covered	Readings
	W 3/2	<i>Anthropometry</i> Caloric intake/expenditure records due	Anthropometry handout
	F 3/4	<i>Discussion of Why Some Like it Hot... / What should we be eating? A reevaluation</i>	Finish Nabham, 2004
	M 3/7	Midterm Exam passed out	
9	W 3/9	<i>Hox genes</i> PBS Video: Consummate proof of Darwinian evolution	Angier, 1993
	F 3/11	HLA system and mate choice Midterm Exam due	Geary et al., 2004
10	M 3/14 - F 3/18	Spring Break - No Classes	
	M 3/21	<i>Humans and Disease - Inheritance of genetic disorders</i> <i>PKU / X-linked conditions / Hemophilia</i>	Start reading Blaser, 2015
11	W 3/23	<i>Sickle-cell anemia and Fauvism</i>	Nabhan Ch. 3
	F 3/25	<i>Tay-Sacs, Cystic Fibrosis, etc.</i> Argumentative paper due	Diamond, 1991
	M 3/28	<i>Non-disjunction errors and teratogens</i>	Nash, 2002
12	W 3/30	<i>Intro to infectious diseases</i> <i>Infectious disease video – NBC Learn</i> · Cultural vs. biological traits activity · How many people do you come into contact with each day?	
	F 4/1	<i>The Vaccine War Video (PBS Frontline)</i> · Video Worksheet	
	M 4/4	<i>Combatting Infectious disease</i>	
	W 4/6	<i>HIV/AIDS</i> Video: HIV Immunity Evolution (PBS) Paper revision due (optional)	Salzberg, 2011
13	F 4/8	<i>ABO blood system and disease/ Rh and other blood group systems</i>	Naish, 2011
	M 4/11	<i>Summary of Infectious Disease</i> Lesson Plan Outline due	
	W 4/13	Video: Cracking Your Genetic Code (NOVA) Video worksheet	
14	F 4/15	No Class – AAPA conference – Work on lesson plans	
	M 4/18	Lesson Plan Presentations in class	
	W 4/20	Lesson Plan Presentations in class	
15	F 4/22	<i>Consequences of altering the microbiome</i>	
	M 4/25	<i>Autoimmune diseases (Celiac's Disease in Nabham Ch. 6)</i>	
	W 4/27	<i>The microbiome: Discussion of Missing Microbes</i> Reading discussion questions due	Finish Blaser, 2015
16	F 4/29	<i>Are we still evolving?</i> Lesson Plans Due Final Exam passed out	Lovejoy and Barsyte, 2011; Lieberman Ch. 13
	F 5/6	Exam 2 - Friday, May 6th - 10:45am-1:15pm	
17			

Respect: In this class the expectation is of mutual respect. The instructor will show respect for students. Students will show respect for the instructor, any guests and one another. Some examples of respect include (but are not limited to):

- Listening when others talk.
- Not having conversations with others while someone is talking.
- Not browsing the internet, chatting online or texting during class.
- Limiting interruptions. This means turning off your cell phone when you come to class or putting it on the silent mode.
- Entering the room quietly when you are late.

Take time to record the name, email address, and/or phone number of at least 2 students in the class that you can contact regarding missed notes and class information.