ANTHROPOLOGY 349C

HUMAN VARIATION

SPRING 2014

COURSE INFORMATION: Unique #31755, 31760, 31765, and 31770
MW 9-10 am, CLA 0.112 (lecture)
T 2-3, W 12-1, Th 2-3, or F 11-12, SAC 5.172 (discussion sections)

COURSE INSTRUCTOR: Dr. Deborah Bolnick
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Office Hours: SAC 4.148, MW 1-2 pm *or by appointment*

TEACHING ASSISTANTS: Rick Smith
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Jaime Mata-Míguez
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Office Hours: SAC 4.166, F 9-11 am *or by appointment*

COURSE DESCRIPTION:

This course surveys the biological variation within and between human populations. After covering the basic principles of genetics and evolutionary theory, we will examine the genetic, physical, and behavioral traits found in our species. We will consider these traits from an anthropological and scientific perspective, and discuss the evolutionary and cultural processes that have shaped these traits. We will also explore how culture can influence our understanding of human biology, and we will discuss how studies of human variation have impacted society in the past and present. For all topics (especially controversial ones!), we will examine the scientific data and evaluate how the data have been interpreted in scientific journals and the popular press.

This class will be a mixture of lecture and discussion, and you will learn to understand and evaluate scientific studies of human variation. You will also improve your writing and critical thinking skills in this class.

WRITING FLAG:

This course carries the Writing Flag. Writing Flag courses are designed to give students experience with writing in an academic discipline. In this class, you can expect to write regularly during the semester, complete substantial writing projects, and receive feedback from your instructor and TA to help you improve your writing. You will also have the opportunity to revise two of your reading responses (#2 and #6) based on this feedback. You should expect a substantial portion of your grade to come from your written work. Writing Flag classes meet the Core Communications objectives of Critical Thinking, Communication, Teamwork, and Personal Responsibility, established by the Texas Higher Education Coordinating Board.

COURSE REQUIREMENTS:

1. **Exam 1 (20%).** The first exam on **February 17** will cover material presented in the lectures, discussions, films, *and* readings. The exam may include multiple choice, matching, short answer, and essay questions.

2. **Exam 2 (20%).** The second exam on **March 31** will cover material presented in the lectures, discussions, films, *and* readings following the first exam. Exam format will be similar to that of the first exam.

3. **Final Exam (20%).** The final exam on **Saturday, May 10 (2-5 pm)** will be comprehensive, but with an emphasis on material covered in the last third of class (after Exam 2). Exam format will be similar to that of the midterm exams.

4. **Research Paper (20%).** The research paper (7-9 pages, double-spaced) will allow you to explore a relevant topic of your choice in more detail. A research proposal, paper outline, and annotated bibliography (5%) are due on **March 3**. The research paper (15%) is due on **April 14**. Detailed instructions for the paper will be handed out in February.

5. **Class Participation and Reading Responses (16%).** This portion of your grade will be based on your participation in class activities and discussions. On discussion days, you are expected to have read the assigned readings BEFORE coming to class, and you will turn in a short (1 page, double-spaced) response to the readings in class. Reading responses will be graded based on the thought and effort put into the assignment, and will give you the opportunity to receive some informal feedback on your writing. You will have the opportunity revise and resubmit two of your reading responses (#2 and #6) based on this feedback, with your grade for those responses based on the revised response.

6. **Genetics Problem Set (4%).** This take-home assignment will be due on **March 24**.

COURSE WEBSITE:

Class information, handouts, and a discussion forum will be available at the course website on Blackboard (http://www.courses.utexas.edu). Course updates will also be sent to your university e-mail account. Please check both regularly.

REQUIRED READINGS:

1. Mielke, James H., Lyle W. Konigsberg, and John H. Relethford. 2010. *Human Biological Variation*. Second edition. Oxford University Press.
2. Course reader from Speedway Printing (715 West 23rd Street, 478-3334).

CLASSROOM POLICIES:

Every student has the right to learn and the responsibility to not deprive others of their right to learn. In order for you and your fellow students to get the most out of this class, please abide by the following policies: (1) Attend all classes and arrive on time whenever possible. (2) Do not use your cell phone, send emails, visit websites, or play games during class. (3) Please let us know if you have any problem that is preventing you from performing satisfactorily in this class.

FEEDBACK POLICY:
We will periodically ask for feedback on your learning, including through anonymous surveys. It's important for us to know your reaction to what we do in class, so please respond to these surveys and help us create an effective environment for teaching and learning.

GRADING POLICIES:
If an assignment is turned in late, the assignment grade will be lowered by 10% for each day that the assignment is late. If a serious issue (i.e. illness, family death, etc.) arises that may prevent you from attending class, turning in an assignment on time, or taking an exam, contact Dr. Bolnick by e-mail or phone as soon as possible to discuss an assignment extension or to schedule a make-up exam.

Final letter grades will be assigned using the following scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%). Plus/minus grades will be assigned.

Re-grading Policy: If you believe that an exam or assignment has been graded incorrectly, submit a written request for a re-grade to Dr. Bolnick within one week of when the graded exam or assignment was returned. The written request should include an explanation of your position and be attached to the graded exam or assignment. If you suspect that a simple addition error was made, speak to the instructor or TA to have the error corrected.

Credit/No-Credit Policy: To receive credit for this course if you enrolled on the pass/fail basis, you must 1) take the three exams, 2) turn in a paper proposal and research paper, and 3) receive the equivalent of a D or higher in this class.

Academic Dishonesty: Each student in this course is expected to abide by the University of Texas Honor Code. Any work submitted by a student in this course for academic credit must be the student's own work. You are encouraged to study together and to discuss information with other students. You can give or receive "consulting" help, but one student should never have possession of a copy of all or part of the work done by someone else (in electronic or paper form). Should copying occur, both the student who copied work from another student and the student who gave material to be copied will automatically receive a zero for the assignment. Similarly, you must do your own work during exams. Any collaborative behavior during exams will result in failure of the exam. Any cheating or plagiarism will be reported to the Dean of Students, and the penalty may also include failure of the course and University disciplinary action. For more information, see http://deanofstudents.utexas.edu/sjs and http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism.

Accommodations: Students with disabilities or a chronic illness may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities at http://www.utexas.edu/diversity/ddce/ssd, 471-6259 (voice), or 232-2937 (video phone). Please notify Dr. Bolnick as soon as possible of any accomodations that will be needed.

Religious Holy Days: By UT Austin policy, you should notify Dr. Bolnick of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, exam, or assignment in order to observe a religious holy day, we will give you an opportunity to complete the missed work within a reasonable time after the absence.

Attendance: We do not formally take attendance, but we are aware of who comes to class and who does not. Attendance is necessary to earn points for class participation, and consistent attendance can help raise your grade if you end up with a borderline final grade. Whether or not you come to class, you are responsible for keeping up with what happens in class.

EMERGENCY EVACUATION POLICY:

Occupants of UT buildings are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of these evacuation policies:
(1) Familiarize yourself with exits to the classroom and building. The nearest exit may not be the one you used when you entered the building. (2) If you require assistance to evacuate, inform the instructor in writing during the first week of class. (3) In the event of an evacuation, follow the instructor's directions. (4) Do not re-enter a building unless you're given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.

BEHAVIOR CONCERNS ADVICE LINE (BCAL):

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

SCHEDULE OF TOPICS, READINGS, AND IMPORTANT DATES:

DS = discussion section; *HBV* = Mielke et al. textbook; RR = Reading Response

* indicates readings that must be completed BEFORE the week's discussion section

Date	Topic and Readings	Important Dates
1/13	Introduction	
1/15	Science and the Study of Human Variation	
	READING: Marks (2009), Marks (1996)	
DS	*Race: The Power of an Illusion*, Episode 1 (Film)	
	READING: *HBV* chapter 1, Dupré (2008)	
1/20	*NO CLASS (Martin Luther King Jr. Day holiday)*	
1/22	History of Human Variation Studies I	
	READING: *Marks (1995) chapters 1 and 3	
DS	Discussion: Race, Biology, and History	**RR #1 due**
	READING: *Morning (2008), *Beinart (2013)	
1/27	History of Human Variation Studies II	
	READING: Marks (1995) chapters 4 and 6	
1/29	Problems with the Racial View of Human Diversity	
	READING: *Goodman (1995), Barbujani (2005)	
DS	Discussion: Race and Forensics	**RR #2 due**
	READING: *Sauer (1992), *Goodman (1997), *Risher (2009)	
2/3	Race as a Social Construct	
	READING: Fish (1995), Lee (1993), Yen (2011)	
2/5	Race, Disease, and the Social Determinants of Health	
	READING: *Sullivan (2013)	
DS	Discussion: Structural Racism, Health, and Biology	
	READING: *Gravlee (2009)	
2/10	*Race: The Power of an Illusion*, Episode 3 (Film)	
2/12	Race and Medicine	
	READING: Satel (2002), Kahn (2007)	
DS	Review for Exam 1; Research Paper Instructions	
2/17	**Exam 1**	**Exam 1**
2/19	Folk Heredity and Eugenics	
	READING: Marks (1995) chapter 5, Sinnott & Dunn (1925)	
DS	Genetic Basis of Human Variation	
	READING: *HBV* chapter 2, Ramagopalan et al. (2007)	
2/24	DNA, Mutation, and Genetic Variants	
	READING: *HBV* chapter 2 (review) and pp 198-209	
2/26	From DNA to Phenotype	
DS	Discussion: Metaphors and Genetic Essentialism	**RR #3 due**
	READING: *Nelkin & Lindee (1995)	

Date	Topic and Readings	Important Dates
3/3	Population Genetics *READING*: *HBV* chapter 3	**Research Proposal & Bibliography Due**
3/5	Evolutionary Forces and Genetic Variation I	
DS	Evolutionary Forces and Genetic Variation II	
3/10-14	*NO CLASS (Spring Break)*	
3/17	Population History and Human Variation *READING*: *HBV* pp 210-236 and chapter 13	
3/19	Simple Genetic Traits: Blood Group Variants *READING*: *HBV* pp 99-116	
DS	Discussion: Microevolution Case Studies *READING*: *Check (2006) *or* *Halverson & Bolnick (2008) *or* *Bollongino et al. (2013)	**RR #4 Due**
3/24	Simple Genetic Traits: Hemoglobin Variants *READING*: *HBV* pp 133-137 and chapter 7	**Problem Set Due**
3/26	Complex Traits: Skin, Eye, and Hair Color Variation *READING*: *HBV* chapter 12	
DS	Review for Exam 2	
3/31	**Exam 2**	**Exam 2**
4/2	*Cracking the Code of Life* (film)	
DS	Discussion: Contemporary Eugenics and Ethics *READING*: *Harmon (2006), *Hayden (2011), *Stein (2012)	**RR #5 Due**
4/7	Human Plasticity	
4/9-11	*NO CLASS (Instructor and TAs at the AAPA Meeting)*	
4/14	Complex Traits: Human Body Form *READING*: *HBV* chapter 10 and pp 260-280	**Paper Due**
4/16	Complex Traits: Temperature and Altitude Adaptations *READING*: *HBV* pp 280-290	
DS	Discussion: Popular Perceptions of Behavioral Genetics *READING*: *Hayden (2013)	**RR #6 Due**
4/21	Complex Traits: Behavioral Variability and Athletic Ability *READING*: *HBV* pp 344-348, Marks (1995) pp 237-243, Berkowitz (1996)	
4/23	Sex and Gender Differences *READING*: Hall (1991), Ripley et al. (2005), *Fausto-Sterling (2012)	
DS	Discussion: Biological Basis of Sexual Orientation *READING*: **HBV* pp 348-353, *LeVay & Hamer (1994), *Byne (1994)	**RR #7 Due**
4/28	Intelligence, IQ, and Political Behavior *READING*: *HBV* pp 354-363, Cohen (2002)	
4/30	Deviance, Criminality, and Aggression *READING*: Clark & Grunstein (2000), Sapolsky (1997)	
DS	Discussion: Biological Origins of Violence *READING*: *Thornhill & Palmer (2000), *Begley (2009)	**RR#8 Due**
5/10	**Final Exam (2-5 pm)**	**Final Exam**

REFERENCE ON THE WEB:

Stein R. 2012. Genome sequencing for babies brings knowledge and conflicts. *National Public Radio*, December 3. Click on "Listen to the Story" at: http://www.npr.org/blogs/health/2012/12/03/165272373/genome-sequencing-for-babies-brings-knowledge-and-conflicts

COURSE READER CONTENTS:

Marks J. 2009. *Why I Am Not a Scientist: Anthropology and Modern Knowledge*. Berkeley: University of California Press. pp 1-24.

Marks J. 1996. The anthropology of science part II: scientific norms and behaviors. *Evolutionary Anthropology* 5:75-80.

Dupré J. 2008. What genes are and why there are no genes for race. In: Koenig BA, Lee SS, Richardson SS, editors. *Revisiting Race in a Genomic Age*. New Brunswick: Rutgers University Press. pp 39-55.

Marks J. 1995. *Human Biodiversity: Genes, Race, and History*. Aldine de Gruyter.

Morning A. 2008. Reconstructing race in science and society: biology textbooks, 1952-2002. *American Journal of Sociology* 114:S106-S137.

Beinart P. 2013. Are the Tsarnaevs White? *The Daily Beast*. April 24.

Goodman AH. 1995. The problematics of "race" in contemporary biological anthropology. In: Boaz NT, White LD, editors. *Biological Anthropology: The State of the Science*. Bend, OR: International Institute for Human Evolutionary Research. pp 215-239.

Barbujani G. 2005. Human race: classifying people vs understanding diversity. *Current Genomics* 6:215-226.

Sauer NJ. 1992. Forensic anthropology and the concept of race: if races don't exist, why are forensic anthropologists so good at identifying them? *Social Science and Medicine* 34:107-111.

Goodman AH. 1997. Bred in the bone? *The Sciences* March/April: 20-25.

Risher MT. 2009. Racial disparities in Databanking of DNA profiles. *Gene Watch* 22(3-4):22-24.

Fish JM. 1995. Mixed Blood. *Psychology Today* Nov/Dec:55-80.

Lee SM. 1993. Racial classifications in the US census: 1890-1990. *Ethnic and Racial Studies* 16:75-94.

Yen H. 2011. Census seeks changes in how it measures race. Aug 8.

Sullivan S. 2013. Inheriting racist disparities in health: epigenetics and the transgenerational effects of white racism. *Critical Philosophy of Race* 1:190-218.

Gravlee CC. 2009. How race becomes biology: embodiment of social inequality. *American Journal of Physical Anthropology* 139:47-57.

Satel S. 2002. I am a racially-profiling doctor. *New York Times Magazine* May 5.

Kahn J. 2007. Race in a bottle. *Scientific American* 297:40-45.

Sinnott EW, Dunn LC. 1925. The problems of eugenics. In: *Principles of Genetics: An Elementary Text, with Problems*. New York: McGraw-Hill Book Co. pp 402-415.

Ramagopalan SV, Knight M, Ebers GC, Knight JC. 2007. Origins of magic: review of genetic and epigenetic effects. *British Medical Journal* 335:1299-1301.

Nelkin D, Lindee MS. 1995. The powers of the gene. In: *The DNA Mystique.* New York: W.H. Freeman and Co. pp 1-16, 38-57.

Check E. 2006. How Africa learned to love the cow. *Nature* 444:994-996.

Halverson MS, Bolnick DA. 2008. An ancient DNA test of a founder effect in Native American ABO blood group frequencies. *American Journal of Physical Anthropology* 137:342-347.

Bollongino R, Nehlich O, Richards MP, Orschiedt J, Thomas MG, Sell C, Fajkosova Z, Powell A,

Burger J. 2013. 2000 years of parallel societies in Stone Age Central Europe. *Science* 342:479-481.
Harmon A. 2006. Couples cull embryos to halt heritage of cancer. *New York Times*, Sept. 3.
Hayden EC. 2011. Fetal gene screening comes to market. *Nature* 478:440.
Hayden EC. 2013. Taboo genetics. *Nature* 502:26-28.
Berkowitz A. 1996. Our Genes, Ourselves? *BioScience* 46:42-51.
Hall RL. 1991. Sex differences, biocultural. *Encyclopedia of Human Biology, Vol 6*. pp 845-852.
Ripley A et al. 2005. Who says a woman can't be Einstein? *Time* 165:50-61.
Fausto-Sterling A. 2012. *Sex/Gender: Biology in a Social World*. New York: Routledge. pp 3-11.
LeVay S, Hamer DH. 1994. Evidence for a biological influence in male homosexuality. *Scientific American* May:44-49.
Byne W. 1994. The biological evidence challenged. *Scientific American* May:50-55.
Cohen MN. 2002. An anthropologist looks at "race" and IQ testing. In: Fish JM, editor. *Race and Intelligence: Separating Science from Myth*. Mahwah: Lawrence Erlbaum Associates. pp 201-224.
Clark WR, Grunstein M. 2000. The genetics of aggression. *Are We Hardwired? The Role of Genes in Human Behavior*. Oxford: Oxford University Press. pp. 157-175.
Sapolsky RM. 1997. *The Trouble with Testosterone, and Other Essays on the Biology of the Human Predicament*. New York: Simon and Schuster. pp. 339-342.
Thornhill R, Palmer CT. 2000. Why men rape. *The Sciences* January/February:30-36.
Begley S. 2009. Why do we rape, kill, and sleep around? *Newsweek* (June 29):52.