

ANTHROPOLOGY 349C
HUMAN VARIATION
SPRING 2017

COURSE INFORMATION: Unique #31385, 31390, 31395, 49445, and 49450

COURSE INSTRUCTOR: Dr. Deborah Bolnick
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COURSE DESCRIPTION:

This course explores the biological variation found in our species, and places our knowledge of human biodiversity within a historical, scientific, and social context. In the first part of the course, we'll survey the ways that scientists have studied and made sense of human biological variation over the last several centuries, and then consider conceptions of race in detail. We will discuss debates about whether race is a biological or social construct, and explore how the social realities of race and racism can have biological consequences. In the second part of the course, we will cover some basic principles of genetics and evolutionary theory, and examine the genetic, physical, and behavioral traits found in our species. We'll 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 discuss how studies of human variation have impacted society in the past and present. For all topics (especially controversial ones!), we'll 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, evaluate, and interpret scientific studies of human variation. You will also improve your writing and critical thinking skills. The course is open to any student with sophomore standing or above.

WRITING FLAG:

This course carries the Writing Flag. Writing Flag courses are designed to provide experience with writing in an academic discipline. In this class, you can expect to write regularly, complete substantial writing projects, and receive feedback from your instructors to help you improve your writing. You will also have the opportunity to revise one reading response based on this feedback. You should expect a substantial portion of your grade to come from written work. Writing Flag classes meet 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 21** 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 **April 4** 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 **Monday, May 15 (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 (21%).** The research paper (7-8 pages, double-spaced) will allow you to explore a relevant topic of your choice in more detail. A research paper proposal (4%) is due on **March 9**. Students will exchange drafts of their research papers in discussion sections during the week of **April 11-15** and get/give feedback in discussion sections during the week of **April 17-21** (2%). The final research paper (15%) is due on **May 2**. Detailed instructions for the paper will be handed out in February.
5. **Class Participation and Reading Responses (14%).** 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 before class (via Canvas). Writing prompts will be provided a week before each reading response is due. 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 to revise and resubmit one of your reading responses (response #2) based on this feedback, with your grade for that response based on the revised response.
6. **Genetics Problem Set (5%).** This take-home assignment will be due on **March 28**.

COURSE WEBSITE:

Class information, handouts, and a discussion forum will be available at the course website on Canvas (<http://canvas.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. Articles and book excerpts will be available in PDF form on the course website.

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. It will be difficult to perform well if you do not attend classes regularly.
2. Do not use your cell phone, send emails, visit websites, or play games during class.
3. No audio or video recording of any lecture or class activity is permitted without my prior written approval. The materials used in this class — including, but not limited to, exams, handouts, Powerpoint slides, and homework assignments — are copyright protected works. Any unauthorized copying of class materials is a violation of federal law and may result in disciplinary actions being taken against you. Sharing class materials without my specific, written approval may also be a violation of the University's Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This

includes, among other things, uploading class materials to websites for the purpose of sharing those materials with other current or future students.

4. This course addresses a number of sensitive topics, including race, ethnicity, sex, gender, sexual orientation, and violence. Students are expected to maintain civility in the classroom at all times. We welcome and encourage you to express your ideas, and to listen carefully to others even when your ideas differ. You may disagree with the opinions and perspectives of others in this class, including classmates, instructors, and the authors of assigned readings, and we encourage discussion about points of disagreement. However, we expect you to remain polite and respectful even during heated debates, and will not tolerate aggressive or hateful behavior in the classroom.
5. Please let us know if you have any problem that is preventing you from performing satisfactorily in this class.

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. Students should notify Dr. Bolnick in advance of a missed assignment or test whenever possible. Please note that **we will not give extra credit assignments**, so you should pay close attention to exam dates and assignment due dates.

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, 3) complete at least two of the reading responses, and 4) receive the equivalent of a D or higher in this class.

Attendance: We do not formally take attendance, but 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.

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. If a

student's written work closely mimics that of another student, academic dishonesty may be suspected. Cheating and plagiarism will be reported to the Dean of Students, and the penalty may include failure of the course and University disciplinary action. For more information, see <http://www.lib.utexas.edu/services/instruction/learningmodules/plagiarism> and http://deanofstudents.utexas.edu/sjs/acint_student.php.

If students wish to use Facebook, Twitter, Google Documents, or other internet resources to collaborate or share anything related to this course, the TA and instructor must be invited to join the group to monitor for academic dishonesty. If students do not notify the TA and instructor and we discover the group on our own, all group administrators and participants will be considered in violation of the academic honor code and will be reported to the Dean of Students for collusion.

Note: Assignments in this course may be processed by TurnItIn, a tool that compares submitted material to an archived database of published work to check for potential plagiarism. Other methods may also be used to determine if a paper is the student's original work. Regardless of the results of any TurnItIn submission, the instructor will make the final determination as to whether or not a paper has been plagiarized.

ACCOMODATIONS:

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>, 512-471-6259 (voice), or 512-410-6644 (video phone). Please notify Dr. Bolnick as soon as possible of any accommodations 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.

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.

SAFETY AND 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. Emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency. 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>.

RELEVANT RESOURCES AT UT AUSTIN:

The University of Texas at Austin has numerous resources for students to provide assistance and support for your learning:

- (1) Sanger Learning and Career Center: <http://lifelearning.utexas.edu/>
- (2) Undergraduate Writing Center: <http://uwc.utexas.edu/>
- (3) Counseling & Mental Health Center: <http://cmhc.utexas.edu/>
- (4) Vick Center for Strategic Advising and Career Counseling: <http://ugs.utexas.edu/vick>
- (5) Student Emergency Services: <http://deanofstudents.utexas.edu/emergency/>

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
1/17	Introduction	
1/19	<i>Race: The Power of an Illusion</i> , Episode 1 (film) <i>READING: HBV</i> chapter 1	
DS	<i>No Discussion Sections This Week</i>	
1/24	Science and the Study of Human Variation <i>READING: Marks</i> (2009), Marks (1996)	
1/26	History of Human Variation Studies, Part 1 <i>READING: *Marks</i> (1995) chapters 1 and 3	
DS	<u>Discussion:</u> Race, Biology, and History <i>READING: *Morning</i> (2008), *Beinart (2013), *Borenstein (2015)	RR #1 due
1/31	History of Human Variation Studies, Part 2 <i>READING: Marks</i> (1995) chapters 4 and 6	
2/2	Problems with the Racial View of Human Diversity <i>READING: *Goodman</i> (1995), Barbujani (2005)	
DS	<u>Discussion:</u> Race and Forensics <i>READING: *Sauer</i> (1992), *Goodman (1997), *Risher (2009)	RR #2 due
2/7	Race as a Social Construct <i>READING: Fish</i> (1995), Lee (1993), Vega (2014), Vox video (2015); <i>optional: Karklis & Badger</i> (2015)	
2/9	<i>Unnatural Causes</i> , Episode 1 (film) <i>READING: *Sullivan</i> (2013)	
DS	<u>Discussion:</u> Structural Racism, Health, and Biology <i>READING: *Gravlee</i> (2009)	
2/14	Race and Disease in Sociohistorical Context <i>READING: Williams & Wyatt</i> (2015), Kahn (2007)	
2/16	Race and Racial Profiling in Medicine <i>READING: Satel</i> (2002), Hoberman (2005), Brooks (2015)	
DS	Review for Exam 1; Research Paper Instructions	Revised RR #2 due
2/21	Exam 1	Exam 1
2/23	Folk Heredity and Eugenics <i>READING: Marks</i> (1995) chapter 5, Sinnott & Dunn (1925)	
DS	Genetic Basis of Human Variation <i>READING: HBV</i> chapter 2	
2/28	DNA, Mutation, and Genetic Variants <i>READING: HBV</i> chapter 2 (review) and pp 198-209	
3/2	From DNA to Phenotype	
DS	<u>Discussion:</u> Metaphors and Genetic Essentialism <i>READING: *Nelkin & Lindee</i> (1995)	RR #3 due

Date	Topic and Readings	Important Dates
3/7	Population Genetics <i>READING: HBV chapter 3</i>	
3/9	Evolutionary Forces and Genetic Variation I	Paper Proposal Due
DS	Evolutionary Forces and Genetic Variation II	
3/13-17	<i>NO CLASS (Spring Break)</i>	
3/21	Population History and Human Variation <i>READING: HBV pp 210-236 and chapter 13</i>	
3/23	<i>First Peoples: Africa</i> (film)	
DS	<u>Discussion</u> : Microevolution Case Studies <i>READING: *Check (2006) or *Halverson & Bolnick (2008) or *Bollongino et al. (2013)</i>	RR #4 Due
3/28	Simple Genetic Traits: Blood Group Variants <i>READING: HBV pp 99-116</i>	Problem Set Due
3/30	Simple Genetic Traits: Hemoglobin Variants <i>READING: HBV pp 133-137 and chapter 7</i>	
DS	Review for Exam 2	
4/4	Exam 2	Exam 2
4/6	<i>Cracking the Code of Life</i> (film)	
DS	<u>Discussion</u> : Contemporary Eugenics and Ethics <i>READING: *Harmon (2006), *Hayden (2011), *Stein (2012), *de Lange (2014)</i>	RR #5 Due
4/11	Complex Traits: Skin, Eye, and Hair Color Variation <i>READING: HBV chapter 12</i>	
4/13	Human Plasticity	Paper Draft Due
DS	<u>Discussion</u> : Franz Boas and Cranial Plasticity <i>READING: *Sparks & Jantz (2002), *Sparks & Jantz (2003), *Gravlee et al. (2003)</i>	
4/18	Complex Traits: Human Body Form <i>READING: HBV chapter 10 and pp 260-280</i>	
4/20	Complex Traits: Temperature and Altitude Adaptations	
DS	<i>READING: HBV pp 280-290</i> Research Paper Peer Review and Writing Tips	
4/25	Complex Traits: Behavioral Variability and Athletic Ability <i>READING: HBV pp 344-348, Marks (1995) pp 237-243, Berkowitz (1996)</i>	
4/27	Intelligence, IQ, and Political Behavior <i>READING: HBV pp 354-363, Cohen (2002)</i>	
DS	<u>Discussion</u> : Popular Perceptions of Behavioral Genetics <i>READING: *Hayden (2013)</i>	RR #6 Due
5/2	Sex and Gender Differences <i>READING: Fausto-Sterling (2012), Ainsworth (2015), Sapolsky (2015), Ripley et al. (2005)</i>	Final Paper Due
5/4	Deviance, Criminality, and Aggression <i>READING: Clark & Grunstein (2000), Sapolsky (1997)</i>	
DS	<u>Discussion</u> : Biological Basis of Sexual Orientation <i>READING: *LeVay & Hamer (1994), *Byne (1994), *Sample (2014), *Balter (2015), *Yong (2015)</i>	RR #7 Due

Date	Topic and Readings	Important Dates
5/15	Final Exam (2-5 pm)	Final Exam

PDFS AND WEBSITE LINKS ON THE COURSE WEBSITE:

- 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.
- Marks J. 1995. *Human Biodiversity: Genes, Race, and History* (Chapters 1 and 3-6). 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.
- Borenstein E. 2015. Dzhokhar Tsarnaev was 'black' in Russia. Is he white in America? *Washington Post*. January 8.
- 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.
- Vega T. 2014. Census considers how to measure a more diverse America. *The New York Times*, July 1.
- VOX. 2015. The myth of race, debunked in 3 min. www.youtube.com/watch?v=VnfKgffCZ7U (optional)
- Karklis L, Badger E. 2015. Every term the census has used to describe America's racial and ethnic groups since 1790. *The Washington Post*, November 4. www.washingtonpost.com/news/wonk/wp/2015/11/04/every-term-the-census-has-used-to-describe-americas-racial-groups-since-1790/
- 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.
- Williams DR, Wyatt R. 2015. Racial bias in health care and health: challenges and opportunities. *Journal of the American Medical Association* 314:555-556.
- Kahn J. 2007. Race in a bottle. *Scientific American* 297:40-45.
- Satel S. 2002. I am a racially-profiling doctor. *New York Times Magazine* May 5.
- Hoberman J. 2005. The primitive pelvis: the role of racial folklore in obstetrics and gynecology during the twentieth century. In: Forth CE, Crozier I, editors. *Body Parts: Critical Explorations in Corporeality*. Lanham: Lexington Books. pp.85-103.
- Brooks KC. 2015. A silent curriculum. *Journal of the American Medical Association* 313:1909-1910.

- 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.
- 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.
- Stein R. 2012. Genome sequencing for babies brings knowledge and conflicts. *National Public Radio*, December 3. Click on "Listen to the Story" at: www.npr.org/blogs/health/2012/12/03/165272373/genome-sequencing-for-babies-brings-knowledge-and-conflicts
- de Lange C. 2014. Meet your unborn child – before it's even conceived. *New Scientist*, April 9.
- Sparks CS, Jantz RL. 2002. A reassessment of human cranial plasticity: Boas revisited. *PNAS* 99:14636-14639.
- Sparks CS, Jantz RL. 2003. Changing times, changing faces: Franz Boas's immigrant study in modern perspective. *American Anthropologist* 105:333-337.
- Gravlee CC, Bernard HR, Leonard WR. 2003. Boas's changes in bodily form: the immigrant study, cranial plasticity, and Boas's physical anthropology. *American Anthropologist* 105:326-332.
- Berkowitz A. 1996. Our Genes, Ourselves? *BioScience* 46:42-51.
- 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.
- Hayden EC. 2013. Taboo genetics. *Nature* 502:26-28.
- Fausto-Sterling A. 2012. *Sex/Gender: Biology in a Social World*. New York: Routledge. pp 3-11.
- Ainsworth C. 2015. Sex redefined. *Nature* 518:288-291.
- Sapolsky R. 2015. Caitlyn Jenner and our cognitive dissonance. *Nautilus*, September 3. nautil.us/issue/28/2050/caitlyn-jenner-and-our-cognitive-dissonance
- Ripley A et al. 2005. Who says a woman can't be Einstein? *Time* 165:50-61.
- 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.
- 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.
- Sample I. 2014. Male sexual orientation influenced by genes, study shows. *The Guardian*, February 13.
- Balter M. 2015. Can epigenetics explain homosexuality puzzle? *Science* 350:148.
- Yong E. 2015. No, scientists have not found the 'gay gene'. *The Atlantic*, October 10.