

Syllabus for AMS-ANT-BIO 220 *Racing Through Genetics*, Spring 2020**Class times and location**

Tues 10:00-11:50, Thurs 10-10:50 in **HSSC N1116**

Instructors**Professor Katya Gibel Mevorach**

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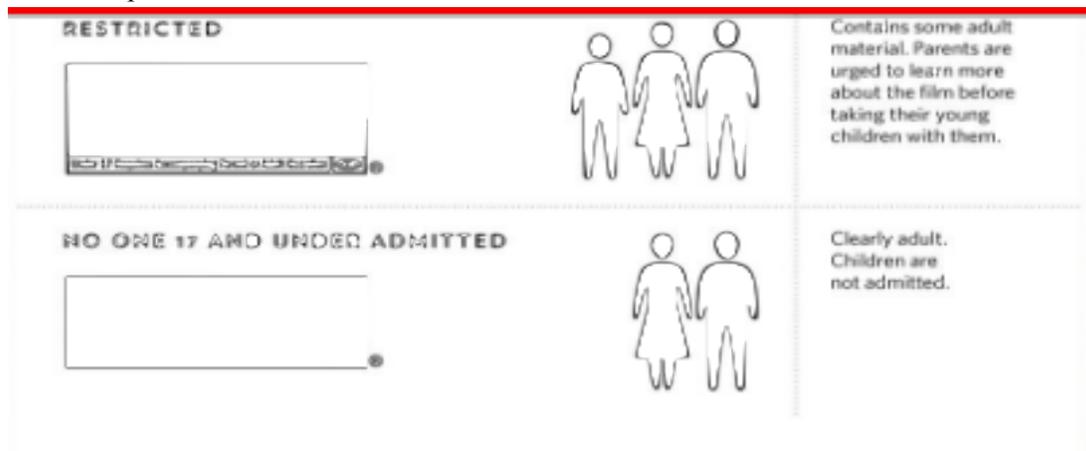
Greggjol@grinnell.edu

Office hours: Mon/Thurs 2:30-3:30

Individual appointments may be scheduled

Mature Course Content

This course is designed for mature audiences willing and able to view, discuss and engage with complex messy, sometimes violent, uplifting and empowering US American socio-political and cultural experiences.

**Course description**

In this course we will explore the role that science has played in the construction of race and ways that racial classifications are used in the academic and popular arena. We will draw on cases of the eugenics movement from the early 1900s and current applications of modern genetic technology such as genetic testing and the new field of pharmacogenetics, using genetic information to guide personalized medicine. Students will consider genetic determinism in light of what is known about biology and historicize concepts based in science including meanings acquired when invoked to support judicial, political and social policies. Challenges and opportunities posed by applications stemming from contemporary genomics will be considered.

Learning goals

Students will gain an appreciation of an interdisciplinary approach to a topic by considering biological and anthropological resources.

- Appreciation that the practice of biology is conducted in a societal context

- Appreciation of knowing historic contexts and identification of social and historical dimensions of biology practice
 - Use primary and secondary literature to historicize the concept of “race” as a classificatory system. Assignments highlight the production of criteria for categories, the roles of legislative policies and academic scholarship which cumulatively help shape *perception* and *conception* (ways of seeing and thinking) and their impact on individual *and* collective attitudes and behaviors
- Cultivate awareness of *what we see*, how we come to see and *why* – identify premises and preconceptions
- Identify *criteria for differentiating* population groups
- Gain appreciation of terminological debates and their impact on research
- Evaluating the relevance of social contexts to biological problems and the social and ethical implications of biological research
- Careful reading of texts from different disciplines
- Effective communication and collaboration
- gain experience with acquisition of new information,
- reading for models of excellent scholarship,
- taking reading and classroom notes with reflections
- attentiveness to linkages with current events and other college courses (heightened awareness or attentiveness for intersections).

Reading Assignments

Reading assignments can be found on Library database, PWeb site or links in the online syllabus (on PWeb). You are responsible for being familiar with Assigned and Supplementary Documents on PWeb.

Course work

A wide variety of formats of coursework will be graded. Oral and written communication skills will be emphasized. Some assigned work will be collaborative. Students are encouraged to collaborate and converse about the readings, classroom discussions, documentaries and supplementary material. Journal entries may reference or be influenced by these conversations although each student is responsible for writing their own entries. Always clearly acknowledge contributions to your work. Consulting with writing and reading labs is encouraged as is meeting with reference librarians. We are mediators – responsibility to prepare, engage and discuss is up to you.

Grading scheme

Reading journal entries	30%
In class quizzes and other short-assignments	20%
Active participation	20%
Final reflection paper	30%

Reading Journal: purposeful comprehension, retention, application

Every student must outline reading assignments and keep a reading journal. Reading notes should be brought to class (bring your readings for class to the Tues and Thursday sessions)– think of them as your GPS for class discussion.

Each journal entry consists of notes from each reading assignment(s), films to be viewed on your own, as well as periodic requests for fact-gathering and information searches. Weekly entries may incorporate comments or reflections about insights & ideas provoked by what you have learned from class discussion, other classes and conversations outside both. Occasionally prompts to include responses to specific questions or assignments may be provided during class.

Weekly journal entries combine outlines, reading notes and may include reflections – but they are **not** composed essays). For each item assigned, also include a brief (1 paragraph or less) summary written in your own voice. **Note: estimate writing is 4-8 pages a week. As with any journal, date each entry.**

What to do with Profs Comments? *You* are in charge of *your education* and *therefore you are responsible* for carefully reading our feedback and addressing questions or invitations for further comment in the next journal.

Format of entries:

- Upload should be in Word doc.
 - Standard 12 pt Font, 1-inch Margins, number pages (p. 1, p.2; ...until the last page for the semester). Please name files: Last name date journal: Gregg-Jolly 1-29-20 Week 2 journal, for example. Do not include any special characters in the file name. ***PRINT OUT ALL YOUR JOURNALS - THEY WILL BE DUE IN YOUR STAMPED SELF-ADRESSED PACKET AT THE END OF THE SEMESTER.***

Deadlines:

- *Reading Notes are to be uploaded according to the posted p-web assignments by 2pm on designated Fridays.*

Active Participation in Class Discussion: be an active learner

Class discussion represents an exchange of ideas. It is a conversation among peers. Each student is responsible for coming prepared to lead an impromptu class discussion. To this end, it is important to remember: **intellectual collaboration represents a conversation not consensus;** Shared perspectives as well as differences of opinion further our own understanding of a topic. Critical thinking and an engaging exchange of ideas depends on listening carefully to another person's perspective and responding respectfully. The focus should be specifically on what and why there are points of agreement or disagreement -- how is one interpretation different and in what ways should it be valued as more or less persuasive?

All discussions need to be situated within or grounded by the context of assigned readings. These may be supplemented with (not substituted by) outside sources.

Always come prepared to lead a class discussion or to discuss one or more passages: this is why *bringing your reading notes is very important.*

Reading notes should include:

- (1) What are the main points?
- (2) Identify key passages.
- (3) What is the significance of the work?
- (4) What is the logic behind the author's discussion?

- (5) What should we remember from the materials and why?
- (6) How does the reading relate to previous readings, events in the news, and themes of this course?

Final Reflection Paper 30%

The Reflection Paper identifies “what I learned” in the course: this exercise requires a review of your class notes, journal entries, readings and assignments completed for the course; consider the imperative of definitions and the necessity of mapping out the logic and criteria of population categories; in what ways has your appreciation about arguments over *racing* people evolved during the semester? You may incorporate comments about intersecting learning moments outside class.

Deadline:

- Final Reflection Paper and Pioneerweb uploaded journal entries are due by 9am Wed 13 May -- **without exception**.
- Submit **all** your Journals **and** Final Reflection Paper inside a **pre-stamped, self-addressed, unsealed envelope!** Envelopes should be placed in designated box in Academic Support Office HSSC S2321.

Envelope center: To: your name and address /upper left-hand corner: From....
Grinnell College, Grinnell IA 50112

Do **not** use campus mail envelopes as your packets will be returned from off campus via US Postal Service. [Priority Flat Rate recommended – make sure to take your tracking receipt!!]



Accommodations

If formal accommodations need to be made to meet your specific learning or physical abilities, please contact one of the Professors as soon as possible to discuss appropriate accommodations. Please also contact the Coordinator for Disability Resources, John Hirschman, located on the 3rd floor of Goodnow Hall (x3089) and discuss your needs. We will work together to ensure this class is as accessible and inclusive as possible. See Guidelines for Recording on PWeb.

WEEKLY ASSIGNMENTS (*subject to change)

Before the first day

- Pre-assignment due at start of class Tues 21 Jan

WEEK 1 Introduction and Terminology**Tues 21 Jan**

- Review materials from pre-class assignment

Thurs 22 Jan

In preparing your comments for discussion and writing your reading notes, relate the information in these articles to the questions: How is genetics used and mis-used in making racial categories -and what difference does that make?

- Read: Francis S Collins. “What we do and don't know about 'race', 'ethnicity', genetics and health at the dawn of the genome era.” *Nature* 26 Oct. 2004 ppS13 - S15. <https://www.nature.com/articles/ng1436>
- Read: Charmaine Royal “My Genome, My Identity, My Health” *Science* 11 Feb. 2011. Pp 690-691. <https://science.sciencemag.org/content/331/6018/690.3/tab-article-info>
- Read: “Slave Descendant Fights Race Listing” *New York Times* 1982. <https://www.nytimes.com/1982/09/15/us/slave-descendant-fights-race-listing.html>
- Read: Yudell, Roberts, DeSalle, Tishkoff. “Taking race out of human genetics: engaging a century-long debate about the role of race in science” *Science* 2016. <https://science.sciencemag.org/content/351/6273/564>

WEEK 2 Making Categories [Official Census, Population categories]

Tues 28 Jan – CLASS PRESENTATION - this is a complicated assignment and requires full team work – do not wait until Monday to begin working on it

THE ASSIGNMENT Reading and Census/Population Categories Assignment for class

(Team work before class – Team findings will be reported in class) –

The readings linked below are written and published for “the public.” Unfortunately, very few people take the time to read them, this includes academics, activists as well as politicians and providers of health care. However, *YOU will happily take up this challenge and carefully read all. This is an assignment that will take old-fashioned patience and self-discipline. This is not an exercise in skimming: you are accountable for acquiring close familiarity with the information and their histories.*

- Your full findings will be included in this week’s journal.

Official US Census Using both links from the official US Census below, please note **enumerator instruction** for each decennial census between 1790 and 2010: identify categories which remain over time, categories which appear and then disappear, and categories which change.

- Journal: Write down the difference between questions for country of origin, ethnicity, race, appearance. For instance: What happens between U.S. Census 1850 – 1930? What is different in census question of 1900 and 2010?
- [Link to US Census: Measuring Race and Ethnicity Across the Decades: 1790-2010](#)
- [Link to US Census: Topic of Race](#)
- [Link to US Census: Index of Questions](#)
- [Link to Federal Register: Standards for maintaining, collecting, and presenting federal data on race and ethnicity](#)

Around the world: National population data - Computer Lab assignment.

Teams of 2 will look at official categories for national population data of different countries and changes over time where possible. How do these compare to the U.S.?

- (i) Are there population categories?
- (ii) Are the categories defined? Criteria
- (iii) What explanations or guidelines are provided?
- (iv) How do “your” country categories compare to US Census Race & Ethnicity categories?
- (v) *In sum: how do your countries differentiate population groups?*

Thurs 30 Jan

Virginia Racial Integrity Act

Place this legislative act on a timeline along with other state and federal legislative policies presented in the *Race: Power of An Illusion* from your pre-course assignment.

- Read: [Virginia Racial Integrity Act of 1924](#) and [its resolution 2001](#):
- Read: Yolanda Moses “Why Do We Keep Using the Word Caucasian” *Sapiens* 1 Feb 2017. <https://www.sapiens.org/column/race/caucasian-terminology-origin/>
- Read: Villarosa, L. “[Myths about physical racial differences were used to justify slavery – and are still believed by doctors today](#)” *NYTimes Magazine* August, 14, 2019
- In class: Harpers cartoon

WEEK 3 Using Biology for Making Groups

Tues 4 Feb

- Read: Nancy Leys Stepan, Read: “[Race and Gender: The Role of Analogy in Science](#).” *Isis*, Vol. 77, No. 2 (Jun., 1986), 261-277. ([PDF version](#))

In Class

- Genetics and Society video on [Race Under the Microscope: Biological Misunderstandings of Race](#), 04:21 minutes

Thurs 6 Feb

- Read: Chapter 1 (Genetic Complexity in Human Disease and Behavior) and Chapter 2 (Genetics in Society, Society in Genetics) in Alper, J. S., C. Ard, A. Asch, J. Beckwith, P. Conrad, L.N. Geller. *The Double-Edged Helix: Social Implications of Genetics in a Diverse Society*. The Johns Hopkins University Press, Baltimore, MD 2002. [course e-reserve]
- Terms to review: allele, haplotype, epigenetics, SNP, genetic determinism
 - Resource: “[Talking Glossary of Genetic Terms](#)”
The National Human Genome Research Institute (NHGRI) created the Talking Glossary of Genetic Terms to help everyone understand the terms and concepts used in genetic research. In addition to definitions, specialists in the field of genetics share their descriptions of terms, and many terms include images, animation and links to related terms.
- Journal: This week’s journal entries should include a reflection on “genetic determinism” and complexity of “genetic” traits.

WEEK 4 Conceptualizing Human Variation**Tues 11 Feb**

- Read: [UNESCO Four statements on the race question \(PDF\)](#), 1969.
- Journal: **Bring your answers to class** for the following questions (these should be uploaded to PWeb as part of this week’s Journal Entry):
 - Identify the members & their disciplinary affiliations; what are the differences between the statements?
 - How is the word, concept, classification and category given attention in each statement?
 - What are the political contexts of 1950, 1951, 1964 and 1967, that frame each statement?
- Read: Panofsky, Donovan “[Genetic Ancestry Testing Among White Nationalists: From Identity Repair to Citizen Science](#)” *Social Studies of Science*. 49 (5) 653-681. 2019
- In Class Film: *The Brotherhood of Man*

Read:

<https://socialwelfare.library.vcu.edu/issues/discrimination/influence-controversy-races-mankind-brotherhood-man/>

Thurs 13 Feb

- Read: Weiss and Lambert, “[What Type of Person Are You? Old-Fashioned Thinking Even in Modern Science.](#)” *Cold Spring Harb. Perspect. Biol.* September 1, 2015.
- Read to help understand the Weiss & Lambert 2014 article: Weiss and Long. “[Non-Darwinian estimation: My ancestors, my genes’ ancestors](#)” *Genome Res.* 2009. 19: 703-710.

WEEK 5 Review**Mon 17 Feb**

- Submit any questions you have while reviewing material for the quiz by 8am

Tues 18 Feb

- Review material covered so far. Come to class prepared to explain links between each element of the pre-course assignment and material we have covered in class. Be very **specific** and pay special attention to links that would not have been obvious before your deeper understanding of the ways racial categories are constructed and used.

Thurs 20 Feb Quiz 1**WEEK 6 Failure of a biological guarantee for categorization****Tues 25 Feb**

- Read transcript and **bring print copy of your detailed typed outline** of Stuart Hall Lecture, “[Race, the Floating Signifier \[PDF\].](#)”

In Class:

- Viewing & Discussion Stuart Hall, “Race: The Floating Signifier.”

Thurs 27 Feb.

- Revisit readings from 13 Feb.
 - Weiss and Lambert, “[What Type of Person Are You? Old-Fashioned Thinking Even in Modern Science.](#)” *Cold Spring Harb. Perspect. Biol.* 2014.
 - Weiss and Long “[Non-Darwinian estimation: My ancestors, my genes’ ancestors](#)” *Genome Res.* 2009. 19: 703-710.
- Read: Pääbo “[The Human Condition – A Molecular Approach.](#)” *Cell.* 2014 Mar 27; 157(1):216-26. **Focus on pages 220-222:** “Comparisons among modern humans.”

WEEK 7 Human Variation**Tues 3 Mar**

- **Read very carefully and bring to class an outline** of Templeton’s analysis of the possibility of human subspecies using the threshold (geographic) and the lineage (time/evolution) approaches.
Alan Templeton, Read: “[Biological Races in Humans](#),” *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*. Volume 44, Issue 3, September 2013, Pages 262–271.

Thurs 5 Mar

- Read: Maglo, Mersha and Martin, “[Population Genomics and the Statistical Values of Race: An Interdisciplinary Perspective on the Biological Classification of Human Populations and Implications for Clinical Genetic Epidemiological Research](#)” *Front. Genet.*, 17 February 2016. **Focus:** Figure 1, relation to Templeton, reviewing challenges of the “cluster” approach to defining populations.
- Read: Zimmer, C. “Genes for Skin Color Rebut Dated Notions of Race, Researchers Say” *New York Times*, 10/12/17
<https://www.nytimes.com/2017/10/12/science/skin-color-race.html>
- Watch: Evelyn Hammonds “[The Problem with Skin Color](#)”.

WEEK 8 Eugenics**Tues 10 Mar**

- Explore [Image Archive on the American Eugenics Movement](#).
- Nuremberg Laws on Citizenship and Race (What? When? Where were these laws passed?) <https://www.jewishvirtuallibrary.org/the-nuremberg-laws>
 - What were the specific racial categories introduced by the Nuremberg Laws and their criteria?
 - What date were these laws introduced?
 - List all the countries in which the law was implemented (n.b. not just in Europe).
https://www.yadvashem.org/holocaust/about/outbreak-of-ww2-anti-jewish-policy/north-africa-and-middle-east.html#narrative_info
 - Who was affected?
 - What year were these laws overturned?

** Answers to above questions should be in journal –

In Class

- Alain Resnais, *Night and Fog (Nuit et brouillard)*, France 1955. [More info and comments about the film Night and Fog on The Criterion Collection](#).

- Read: Azoulay K. G. (2003). “[Not an innocent pursuit: the politics of a ‘Jewish’ genetic signature.](#)” *Dev. World Bioeth.* 3 119–126.
10.1046/j.1471-8731.2003.00067.x [PubMed] [Cross Ref]

Thurs 12 Mar

- Read: [3 Generations, No Imbeciles, Virginia, Eugenics & Buck v. Bell](#) (please review information under each of the tabs on the left : Intro, Origins, Buck v. Bell, Influence and Epilogue).
- Read: Paul Lombardo “[Eugenic Sterilization Laws](#)”, Image Archive on the American Eugenics Movement.
- **Read & Outline** the [U.S. Supreme Court decision in BUCK v. BELL, 274 U.S. 200 \(1927\)](#). (Click and read both the Syllabus and the Case – its short but each sentence is of importance) – see <https://teachingamericanhistory.org/library/document/buck-v-bell/>

Fall Break (13 – 30 Mar)

WEEK 9 Racing and Health

Tues 31 Mar

- Read: Warwick Anderson. “[Teaching 'Race' at Medical School: Social Scientists on the Margin.](#)” *Social Studies of Science*, 38, 5, [Special Issue: Race, Genomics, and Biomedicine] (Oct., 2008), 785-800.
- Read: Tsai “[How Racism Makes us Sick: The Medical Repercussions of Segregation.](#)” in-Training (19 January 2015).
- Watch: “[Science, Pseudo-science, Canon and Belief](#)” Simons Institute Evelynn Hammonds, the first 28 minutes

In class

- Work with group to identify topics for primary literature assignment due April 9.

Thurs 2 Apr

- Watch: “[W.E.B. Du Bois and the Challenge to Scientific Racism](#)” Evelynn Hammonds. UMBC lecture 2014.

REQUIRED CONVOCATION: 11:00 a.m. JRC101

- Professor Evelynn Hammonds: Chair, Department of History and Science and Barbara Gutmann Rosenkrantz Professor of the History of Science and of African and African American Studies, Harvard University.
- Professor Alan Templeton: Charles Rebstock Professor of Biology, Washington University

BIOLOGY SEMINAR: 4 p.m. Noyce 2022

Professor Alan Templeton ““Do Human Races Exist? The Answer From Modern Genetics”

WEEK 10**Tues 7 Apr**

- Read: Stephanie M. Fullerton, Joon-Ho Yu, Julia Crouch, Kelly Fryer-Edwards, and Wylie Burke “[Population description and its role in the interpretation of genetic association.](#)” *Hum Genet.* 2010 March; 127(5): 563–572.
- Read: Vitti et al, “[Human evolutionary genomics: ethical and interpretive issues \[PDF\]](#)” *Trends In Genetics.* 2012 Mar; 28(3):137-45.

Thurs 9 Apr

- **PRESENTATIONS** Ways Racial Categories are Used and Represented in the Primary Scientific Literature

WEEK 11 Catch up and review**Tues 14 Apr****In Class:**

- Vence Bonham, J.D, “[Genetics and Race](#)” (36 min):
- Vence Bonham, J.D, Senior Advisor to the Director on Societal Implications of Genomics Genetics and Race: [Science Reporters' Seminar on Genome-Wide Association Studies.](#) 2007

Thurs 16 Apr Quiz 2**WEEK 12 “Taking AIM”****Tues 21 Apr**

- Read: Yu, Joon, Taylor, J., Edwards, K., and Fullerton, S. “[What are our AIMS? Interdisciplinary Perspectives on the Use of Ancestry Estimation in Disease Research.](#)” *AJOB Primary Research*, 3, 4 (2012), pp 87-97
- Read: Gannett, L. “[Biogeographical Ancestry and Race.](#)” *Stud Hist Philos Biol Biomed Sci.* 2014 Sep;47 Pt A:173-84.
- Read: Shim JK, Ackerman SL, Darling KW, Hiatt RA, Lee SS. “[Race and ancestry in the age of inclusion: technique and meaning in post-genomic science.](#)” *Journal of Health and Social Behavior.* December 2014 55: 504-518.

Thurs 23 Apr

- Read: Shim, Alam, Aouizerat. “[Knowing Something versus feeling different: The effects and non-effects of genetic ancestry on racial identity](#)” *New Geneti Soc* 2018

WEEK 13 Public policy and ethics related to categorization and contemporary genetics**Tues 28 Apr**

- Read: 2000, United States Public Law 106-525, "[Minority Health and Health Disparities Research and Education Act \[PDF\]](#).”
- Read: DOE “[Exploring Genetics Issues Relevant to Minority Communities](#)” 2003. (PDF)
- Read: US HHS [\[PDF\] Guidance on Data Collection Standards for Race, Ethnicity, Sex](#), OMB Standards for Classification of Federal Data on Race and Ethnicity.

Thurs 30 Apr

- Possible Guest – In class - Revisit the [Minority Health and Health Disparities Research and Education Act \[PDF\]](#). Alternative, short presentations relating course material to campus events.

WEEK 14 Impact of racism on the genome? And course wrap-up**Tues 5 May**

Epigenetics and genome modifications.

- Read: Meloni, M. (2017) “[Race in an epigenetic time: thinking biology in the plural](#),” *The British Journal of Sociology*.

Thurs 7 May – Last Day

- Assignment [read carefully]: Acknowledgments to peers. *Please prepare an appreciation statement to be read in class: what was your contribution to your peers and what do you take away from your peers? Deadline:*

REMINDER:

- *Final Reflection Paper and Pioneerweb uploaded journal entries are due by 9am Wed 13 May -- without exception.*
- *Submit all your Journals and Final Reflection Paper inside a pre-stamped, self-addressed, unsealed envelope! Envelopes should be placed in designated box in Academic Support Office HSSC S2321.*
- *Do not use campus mail envelopes as your packets will be returned from off campus via US Postal Service. [Priority Flat Rate recommended - make sure to take your tracking receipt!!]*