Genetics & Society (SOCI 138)

FA 2025. Tuesday and Thursday, 9:30am-10:50am in Center Hall 113.

Professor Daniel Navon (dnavon@ucsd.edu)
Office hours: Tues 11:15am-12:15pm and Thurs 12-1pm in SSB 492. Schedule here.

TAs: Carline Petronis (cpetronis@ucsd.edu).
Office hours: Tues 2-3pm and Weds 12-1pm in SSB 450 or via Zoom. Schedule here.
Mariana Lopez (mslopez@ucsd.edu).
Office hours: Mon 9:30-10:30am via Zoom and Tues 1-2pm in SSB 427.

For well over a century now, genetics has powerfully shaped how we think about human difference. This class will explore the many ways in which genetics research and technologies have informed public understanding and policy on topics like disability, reproduction, rare disease, intelligence, sociality, delinquency, personal identity, and race and ethnicity in the United States. We will also see how social forces shape genetics research itself and discuss controversies surrounding gene patenting, forensic science, and genetic testing for disease, risk, and ancestry. Readings will be drawn from the genetics literature, popular culture, and the social sciences. By the end of the class, students will possess the critical knowledge base to understand the enormous promises and potential pitfalls of contemporary genetics and genomics.

Assessment

Assessment for the class will consist of several reading response memos, class participation, a midterm exam, and a final paper *or* exam. The breakdown of final grades will be as follows:

Reading response memos: 35% of your grade. Each week, except for Week 5, you may submit a 250–400-word Reading Response Memo via the Assignments page on Canvas. They will be worth 5 points each and graded pass/fail. Only your highest *seven* memos will count. You must submit your memos by 11:59pm each Wednesday. Late memos will lose one point (of five) per day, with no exceptions (remember, you may skip two). To confirm Commencement of Academic Activity, you must submit your first memo by the end of Week 2. All memos must briefly summarize at least one reading *starred with an asterisk* (*) in the syllabus for that week and present a question, critique, or comment for discussion. You may also engage other readings.

Midterm exam: 25% of your grade. This exam will be held in class on Thursday of Week 5. It will consist of multiple-choice questions, short answer questions, and one short essay. The exam will cover both readings and lecture materials. You may bring one double-sided page of notes.

Final exam *or* paper: 40% of your grade. The final exam will take a similar form to the midterm. It will be held during our scheduled time of 8am on the Thursday of exam week (12.11.25). Students wishing to write a research paper on a relevant topic instead of the exam should consult me via email and/or office hours by the end of Week 6. If your topic is approved, you may write a final paper of around 10 double-spaced pages due by the start of our final exam.

Extra credit for class and office hours participation: 2-3 additional points will be available for outstanding participation in class or engagement during professor or TA office hours.

Readings
All texts are available on Canvas. I recommend setting up a VPN to access online readings off campus. See instructions here. Please let me know if you have trouble accessing the readings.

Some readings will contain technical genetics terms. I strongly recommend that you consult publicly available resources like Wikipedia or the NIH/NHGRI glossary.

Classes held via Zoom or asynchronously
I will post a video to our Media Gallery on Canvas in lieu of our Thursday Week 2 class. We will let you know in advance if any other sessions need to be held on Zoom or asynchronously.

Course policies

Laptops: Electronic devices may only be used in the first two rows or with my permission.

Cheating and plagiarism: Students are expected to do their own work and to cite sources according to established norms as outlined in the UCSD Policy on Academic Integrity. The policy can be found here. FAQs page on what counts as cheating can be found here. Cheaters will receive a failing grade on the assignment or exam and/or the entire course. They may also be referred for additional disciplinary action elsewhere at UCSD. Generative AI may be used for research but not writing. If you are unsure about what is considered either plagiarism or cheating, please ask.

Missing/late exams and assignments: Failure to turn in your take-home exams or final paper on time without a valid excuse will result the deduction of one half-letter grade for every day (or part thereof) after the deadline. Excuses communicated after the deadline will only be accepted in exceptional circumstances.

Contesting grades: You may contest any grades by sending the assignment or exam to me. However, please note that this may result in a lower grade than the one given by the course TA.

Struggles with the class: If you are having trouble with any aspect of the class, including deadlines, it is always best to contact me as soon as possible. That way we can address the problem before you have fallen too far behind or lost too many points from your final grade.

We understand that these are challenging times, and that many of you are facing extraordinary external pressures. Please reach out to us if you need help connecting to campus resources, be it for mental health services, food security, or anything else.

Disability accommodations
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). Students are required to present their AFA letters to Faculty (please contact me privately) and to the OSD Liaisons in the Sociology Department in advance so that accommodations may be arranged. We will do everything we can to make this course as inclusive and supportive as possible.

Weekly themes and readings (* indicates readings suitable for response memos)

Week 1: Introductions

Tuesday, 9.30.25: Intro to the class, and what do we mean by 'gene'?

- Recommended: * Keller, Evelyn Fox. 2002. *The Century of the Gene*. Harvard University Press. Introduction and Chapter 2.

Thursday, 10.2.25: Historical origins and the telling case of Sickle Cell

- *Wailoo, Keith. 2017. "Sickle Cell Disease—a History of Progress and Peril." *N Engl J Med* 376(9):805–7.
    - Recommended: *Mayr, Ernst and William Provine. 1981. "The Evolutionary Synthesis." *Bulletin of the American Academy of Arts and Sciences* 34(8):17–32.

Week 2: Eugenics

Tuesday, 10.7.25: Origins and early debates

NO CLASS—LECTURE POSTED TO THE MEDIA GALLERY ON CANVAS

- * Paul, Diane B. 1995. *Controlling Human Heredity, 1865 to the Present*. Humanities Press. Chapters 1-3.
    - Recommended: * Galton, Francis. 1904. "Eugenics: Its Definition, Scope, and Aims." *American Journal of Sociology* 10(1):1–6.

Thursday, 10.9.25: Nightmare and unraveling

- * Kevles, Daniel J. 1998. *In the Name of Eugenics: Genetics and the Uses of Human Heredity*. Cambridge, MA: Harvard. Chapter VII.
- * Stern, Alexandra Minna. 2005. *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America*. Berkeley: University of California Press. Chapters 3 and 4.
    - Recommended: Shoichet, Catherine E. 2020. "The US Has a Horrifying History of Forced Sterilizations. Some Fear Hysterectomies in ICE Custody Could Be a New Chapter." *CNN*, September 16.
    - Buck v. Bell, 274 U.S. 200 (1927). US Supreme Court Ruling.

Week 3: DNA, chromosomes, and the rise of modern medical genetics

Tuesday, 10.14.25: From eugenics to the new human genetics

- * Comfort, Nathaniel. 2014. *The Science of Human Perfection: How Genes Became the Heart of American Medicine*. Reprint edition. Yale University Press. Chapters 5 and 6.

Thursday, 10.16.25: The rise of medical genetics and "geneticization"

- * Lindee, M. Susan. 2008. *Moments of Truth in Genetic Medicine*. The Johns Hopkins University Press. Chapter 4.
- * Hedgecoe, Adam M. 2001. "Geneticization: Debates and Controversies." in *eLS*.
    - Recommended: * McKusick, Victor A. 1993. "Medical Genetics." *JAMA: The Journal of the American Medical Association* 270(19):2351–56.

Week 4: Behavior genetics, intelligence, and criminality

Tuesday, 10.21.25: Behavior genetics, race, and IQ

- * Panofsky, Aaron. 2014. *Misbehaving Science: Controversy and the Development of Behavior Genetics*. Chicago: University of Chicago Press. Chapter 3.
- * Gould, Stephen Jay. 1994. "Curveball." *The New Yorker*, November 28, 139–49.
    - Recommended: Turkheimer, Eric, Kathryn Paige Harden, and Richard E. Nisbett. 2017. "Charles Murray Is Once Again Peddling Junk Science about Race and IQ." *Vox*, May 18.

Thursday, 10.23.25: Genetics, sex, and criminality

- * Richardson, Sarah S. 2013. *Sex Itself: The Search for Male and Female in the Human Genome*. University of Chicago Press. Chapter 5.
    - Recommended: Brown, W. M., W. H. Price, and P. A. Jacobs. 1968. "Further Information on the Identity of 47,XYY Males." *British Medical Journal* 2(5601):325–28.
    - Beckwith, Jon and Jonathan King. 1974. "The XYY Syndrome: A Dangerous Myth." *New Scientist (1971)* 64(923):474–76.
    - Kingsbury, Kathleen. 2009. "Which Kids Join Gangs? A Genetic Explanation." *Time*, June 10.

Week 5: Review and Midterm Exam

Tuesday, 10.28.22: Review session

Thursday, 10.30.22: Midterm exam

Week 6: Testing newborns and fetuses for genetic diseases

Tuesday, 11.4.25: Newborn screening

- *Timmermans, Stefan and Mara Buchbinder. 2013. *Saving Babies? The Consequences of Newborn Genetic Screening*. Chicago: University of Chicago Press. Chapters 1-2.
    - Recommended: Knoppers, Bartha M., Karine Sénécal, Pascal Borry, and Denise Avard. 2014. "Whole-Genome Sequencing in Newborn Screening Programs." *Science translational medicine* 6(229):229cm2–229cm2.

Thursday, 11.6.25: Prenatal testing and geneticization (again)

- *Parens, Erik and Adrienne Asch. 2003. "Disability Rights Critique of Prenatal Genetic Testing: Reflections and Recommendations." *Mental Retardation and Developmental Disabilities Research Reviews* 9(1):40–47.
    - Recommended: *Lippman, Abby. 1991. "Prenatal Genetic Testing and Screening: Constructing Needs and Reinforcing Inequities." *American Journal of Law & Medicine* 17:15.
    - Navon, Daniel. 2022. "New Prenatal Genetic Screens Pose Underappreciated Ethical Dilemmas." *Scientific American*.

Week 7: Culture, identity, and race

Tuesday, 11.11.25: Genetics, popular culture, and 'biosocial' identity

- *Nelkin, Dorothy and M. Susan Lindee. 2004. *The DNA Mystique: The Gene as a Cultural Icon*. University of Michigan Press. Introduction and Chapter 6.
- *Hacking, Ian. 2006. "Genetics, Biosocial Groups & the Future of Identity." *Daedalus* 135(4):81–95.

Thursday, 11.13.25: Genetics of race and ethnicity

- *Wailoo, Keith. 2013. "Who Am I? Genes and the Problem of Historical Identity." Pp. 13–19 in *Genetics and the Unsettled Past: The Collison Between DNA, Race, and History*, edited by K. Wailoo, A. Nelson, C. Lee. New Brunswick: Rutgers University Press.
- Cooper, Richard S., Jay S. Kaufman, and Ryk Ward. 2003. "Race and Genomics." *New England Journal of Medicine* 348(12):1166–70.
    - Recommended: *Fullwiley, Duana. 2007. "The Molecularization of Race: Institutionalizing Human Difference in Pharmacogenetics Practice." *Science as Culture* 16(1):1–30.
    - Bolnick, Deborah A. et al. 2007. "The Science and Business of Genetic Ancestry Testing." *Science* 318(5849):399.
    - *Nelson, Alondra. 2008. "Bio Science Genetic Genealogy Testing and the Pursuit of African Ancestry." *Social Studies of Science* 38:759–83.

Week 8: Genomics, postgenomics, and the politics of ownership

Tuesday, 11.18.25: From the human genome project to postgenomics and epigenetics

- Collins, Francis S. 1999. "Medical and Societal Consequences of the Human Genome Project." *New England Journal of Medicine* 341(1):28–37.
- *Rose, Hilary and Steven Rose. 2013. *Genes, Cells and Brains: The Promethean Promises of the New Biology*. Verso Books. Chapter 1.
- Watters, Ethan. 2006. "DNA Is Not Destiny: The New Science of Epigenetics | DiscoverMagazine.com." *Discover Magazine*, November 22.

Thursday, 11.20.25: Owning genes and cell lines

- *Skloot, Rebecca. 2011. *The Immortal Life of Henrietta Lacks*. New York: Broadway Books. Excerpt.
- Callaway, Ewen. 2013. "Deal Done over HeLa Cell Line." *Nature* 500(7461):132–33.
- Liptak, Adam. 2013. "Justices, 9-0, Bar Patenting Human Genes." *The New York Times*, June 13.
    - Recommended: "Henrietta's Tumor." *Radiolab* 2009.
    - Andrews, Lori B. 2002. "Genes and Patent Policy: Rethinking Intellectual Property Rights." *Nature Reviews Genetics* 3(10):803–8.

Week 9: Genetic testing and rare disease

Tuesday, 11.25.25: Genetic testing—screening, rare disease, and direct-to-consumer

- *Mnookin, Seth. 2014. "One of a Kind." *The New Yorker*, July 21.
- Rochman, Bonnie. 2012. "Why Cheaper Genetic Testing Could Cost Us a Fortune." *Time*, October 26. Retrieved December 21, 2012.
- Harmon, Amy. 2007. "After DNA Diagnosis: 'Hello, 16p11.2. Are You Just Like Me?'" *The New York Times*, December 28.
    - Recommended: *Skomorowsky, Anne. 2016. "The X-Factor in Infertility and Neurological Health." *Scientific American*, March 1.

Thursday, 11.27.25: Thanksgiving—no class!

Week 10: Review, cutting-edge developments, and the charge of a new eugenics

Tuesday, 12.2.25: New genetic technologies and a new eugenics?

- *Duster, Troy. 2003. *Backdoor to Eugenics*. Routledge. Chapter 7 and Afterword.
- Baltimore, David et al. 2015. "A Prudent Path Forward for Genomic Engineering and Germline Gene Modification." *Science* 348(6230):36–38.
- Pollack, Robert. 2015. "Eugenics Lurk in the Shadow of CRISPR." *Science* 348(6237):871–871.

Thursday, 12.4.25: Wrap up, review, and the genetics of sociality

- *Darwin, Charles. 1874. *The Descent of Man*. Chapter IV and V.
- *Lehrer, Jonah. 2012. "Kin And Kind." *The New Yorker*, March 5.