

Race, Ethnicity and Gender in Biology and Medicine
Thursday 2 – 3:30 PM
York 3010
BILD 95 1 unit Section 776343
Class Meets: April 4, 11, 18, 25, May 2, 9, 16

Instructors:

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Course Overview: This discussion-based course will examine the practice and philosophy of science from a multicultural perspective, the historical use and misuse of science in biomedical research and social policies, and issues of race and medicine in a post-genomic age. Disease case studies will help us explore these themes in more depth. The last 2 sessions of the class will be reserved for presentation and discussion of ethical issues that arise throughout the course.

Topics Covered:

20th century science and the myth of objectivity – April 4. One of the hallmarks of 20th century scientific discourse is the assumption that science is "pure" and devoid of the subjectivity implicit in other disciplines. This assumption has informed the increasingly powerful position that scientists have in public discourse and in policy decisions. Here we will examine this modern concept of objectivity, its roots, and its implications. This lecture, and indeed this course, will challenge this concept of objective science and through examination of case studies and interactive engagement, we will deconstruct our own concepts of objectivity. Finally, case studies will be used to explore empirical examples of scientific discoveries in which the "objective" and "subjective" collide to generate unexpected and sometimes problematic outcomes.

Historical Perspective: The Use of Science to Institutionalize Discrimination – April 11. The late 19th century saw the development of a social movement known as eugenics, which claimed that the human race could be improved by getting rid of so-called "undesirables" and multiplying so-called "desirables". By applying theories of genetic inheritance to social problems, eugenicists established programs aimed both at preventing life as well as promoting reproduction of groups seen as more fit. How and why did these programs gain popular support in society? Is eugenics a relic of the past or is our ability to manipulate genomes simply a modern-day version of this movement? We will explore the answers to these questions as well as others related to public trust and mistrust of biomedical research.

Race and Medicine in the Post-Genomic Age – April 18. How do our genomes reflect our identity and predict our destiny? Are there limitations to what our DNA can tell us? In this section, we will discuss how having the Human Genome sequenced has impacted our understanding of race and may be changing the practice of medicine. We will also explore whether the medical advances afforded by genetic sequencing have benefited all populations equally, what safeguards exist to protect individuals as access to our own

genome sequences becomes easier than ever before, and what some of the personal, societal and ethical questions raised by this unprecedented access may be.

Diabesity: A case study examining the role of genetic testing for preventable diseases - April 25. Almost everyone knows someone who is obese and/or has diabetes. It is no secret that these debilitating diseases can affect life expectancy and quality of life, that they are more prevalent in some communities, and that they can be very expensive to manage. Environment and lifestyle can influence the onset and severity of these diseases but genetic factors also affect predisposition and treatment. Should everyone get genetic testing? We will discuss how genetic factors have the potential to influence diagnosis, prevention and treatment of obesity and diabetes, and then further explore the ethical, practical, and policy issues raised by genetic testing.

Our Brains, Our Behaviors, Our Selves? - May 2. Great advances in our understanding of the human brain's structure and functioning are taking place, yet some of its critical and defining features, like intelligence, consciousness, empathy and logical thinking, are not, or are barely, understood. Yet stereotypes are common and varying cognitive abilities are often assigned to race, gender or class. In this period, we will discuss how genetic and environmental influences are considered to affect intelligence, how stereotyping affects behavior, how biases in biomedical research can lead to inequality and exclusion in mental healthcare, and how diversity enhances the intelligence and problem-solving capacity of groups attacking complex problems.

Student Presentations – May 9, 16