BI 175: Genomes, Identities, and Societies
3 Credits/Spring 2018

Professor:
Dr. Dee Denver
Professor
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Office: 2000 Cordley Hall

Room and Time:
LINC 307, Tue/Thu 10:00-11:20
Additional professor availability: after class and during mid-class breaks (quick questions), or by appointment.

Course Overview:
When someone says, “It’s in my DNA”, what does that mean? Does your DNA define you? Is genetics all about ‘hardwired’ biological differences? Or does DNA also tell stories of unity? This course will offer students the opportunity to explore the relationships among DNA, humans, and the societies in which they evolve. The course will be divided into four units. In Unit 1 (Week 1), students will learn about interdisciplinary approaches and ‘systems’ thinking, as applied in biology and the social sciences. In Unit 2 (Weeks 2-4), the class will focus on concepts in eugenics. We will examine historical and contemporary case studies, focusing on examples in Oregon, the USA, and other parts of the world. In Unit 3 (Weeks 5-7), we will dissect the relative roles of genetics and society in defining racial and gender categories, and associated implications. In Unit 4 (Weeks 8-10), we will study modern advances in biotechnology and their applications in genetic testing and genome editing. We will delve deep into the societal implications of these new technologies.

Course Structure:
Each 80-minute class will be subdivided into two sections, with distinct learning activities taking place in each 30-40-minute section. A ~5-minute break will separate the two sections. On Tuesdays, the first class section will usually start with a mini-lecture by the professor along with small-group discussions focused on study questions related to the mini-lecture topic. After the break, students will usually engage in News Read and Reflect (‘News R&R’) individual activities, focused on current news stories about genomes, identities, and societies. On Thursdays, the first class section will usually start with a mini-lecture along with different kinds of small-group activities. After the break, the class will usually have ‘Book Club’ discussions focused on assigned readings from the two main books assigned for the course (see below).

This course fulfills the Baccalaureate Core requirement for the Difference, Power, and Discrimination category. It does this by integrating biological and social science perspectives on the nature of differences and discrimination among individuals in societies.
OSU Baccalaureate Core Difference, Power, and Discrimination (DPD) Learning Objectives

Students in this course shall:

1. Explain how difference is socially constructed,

   Student achievement of DPD Learning Objective 1 will be assessed in Weeks 5-7 discussions and during Book Club sessions during Weeks 6-10.

2. Using historical and contemporary examples, describe how perceived differences, combined with unequal distribution of power across economic, social, and political institutions, result in discrimination, and

   Student achievement of DPD Learning Objective 2 will be assessed in Weeks 2-7 discussions, during Book Club sessions during Weeks 6-10, and in the E1 essay.

3. Analyze ways in which the interactions of social categories, such as race, ethnicity, social class, gender, religion, sexual orientation, disability, and age, are related to difference, power, and discrimination in the United States.

   Student achievement of DPD Learning Objective 3 will be assessed in Weeks 5-7 discussions, during Book Club sessions during Weeks 6-10, and in the E2 essay.

Course Learning Objectives

Students in this course shall:

4. Describe how genetic information encoded in DNA contributes to biological traits,

   Student achievement of Course Learning Objective 4 will be assessed in Weeks 1-5 discussions and during Book Club sessions during Weeks 1-5.

5. Explain the differences between genetically-encoded biological traits and socially-constructed categories, and

   Student achievement of Course Learning Objective 5 will be assessed in Weeks 1-10 discussions, during Book Club sessions during Weeks 1-5, and in the E2 essay.


   Student achievement of Course Learning Objective 6 will be assessed in Weeks 1-10 discussions, and in the Student Presentation during Weeks 9 & 10.

General Expectations

- Regular attendance and active participation in class activities and discussions.
- Brave, civil dialogue.
  - Honest, genuine, open communication.
  - Respect for different ways of thinking, values that differ from your own. The use of language during class that is intentionally harmful to others will not be tolerated, and has the potential to negatively impact the course grade.

Required Learning Resources

1. Noble, Denis. 2006. The Music of Life. Oxford University Press (New York, NY). This book will be the focus of Book Club sessions during Weeks 2-5. A Google Books preview (includes Ch. 1) can be found here.

3. Additional readings and other online information sources as assigned.

**Course Grading:**

**Class Engagement and Participation: 30%**

- **Students are expected to define individual self-expectations for engagement in a mini-essay (E0).** Must be 2-3 pages (double-spaced 11pt Arial or similar) and define 2 or 3 distinct and specific expectations. (5%)
- **Students are expected to be regularly present, and to arrive on time to class.** (10%)
- **Students are expected to be active and civil participants in class discussions and activities.** (15%)

**Main Essays: 40%**

Individual Students will compose two reflective essays.

- **E1: Eugenics on Earth (15%).** Students will perform research and write about historical eugenics laws and policies specific, targeting a country or region of the world outside of the USA. Must be 4-5 pages (double-spaced 11pt Arial or similar), cite 5 or more sources, and follow other guidelines set out during class.
- **E2: DNA, Me, & We (25%).** Students will write an essay describing their understanding of how their genetic and societal contexts contribute to their senses of ‘self’. Must be 8-10 pages (double-spaced 11pt Arial or similar), cite 10 or more sources, and follow other guidelines set out during class.

**Book Club Questions: 10%**

Each individual student will prepare and share two Book Club question based on that week’s assigned book reading. Each of the two weekly questions must be on distinct topics, and refer to specific passages from the assigned reading (provide quotation). Book Club questions are submitted to the professor through Canvas (under Assignments), and are due every week by Wednesday at 12:00 noon, starting in Week 2 and continuing through Week 10.

**Student Presentations: 20%**

Student teams will perform research on current developments in genetic technologies and provide short slide presentations to the class (during Weeks 9 & 10).

**University and Departmental Policies**

**Student Code of Conduct:**

Students in this class will be expected to follow the guidelines set forth in the Oregon State University Student Code of Conduct document: [http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/code-of-conduct-uploadedmay2018.pdf](http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/code-of-conduct-uploadedmay2018.pdf)

**Classroom Behavior:**

The classroom should be a place of dignity, civility and respect. At OSU, a number of behaviors, such as interaction with cell phone devices and always being late for class, are considered disruptive behaviors. For the sake of all students taking the class, talking
during lectures should be kept to a bare minimum, cell phones and pagers should be turned off before entering the classroom.

**Students with Disabilities:**
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at [http://ds.oregonstate.edu](http://ds.oregonstate.edu). DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

**Initial Online Resources**

**Systems Thinking**

**Eugenics**
- [Eugenics online exhibit](http://ds.oregonstate.edu) from the University of Virginia, Claude Moore Health Sciences Library. 2004.
Eugenics in Oregon

- Lawrence, Cera R. Oregon State Board of Eugenics, entry from The Embryo Project Encyclopedia, Arizona State University. 2013.
- Freeman, Josh. Oregon Anti-Sterilization League, Online entry from The Oregon Encyclopedia. 2018.

Eugenics @OSU

- Oregon Digital, Historical Images of Oregon State University. Entry for Nathan Fasten.
- Archives West, Nathan Fasten Collection 1930.

Dissecting Categories


Biotechnologies