

WS 285
INTRODUCTION TO THE BIOLOGY OF DIFFERENCE
SPRING 2013

Professor: Dr. Laura Briggs

Classes on: Tuesday (Hasbrouck Lab Add 126) 4-5:15

Thursday (Library 25) 4-5:15

Office Hours: Tuesday, Thursday 3-3:50, Bartlett 208C

Email: ljbriggs@wost.umass.edu

Teaching Assistant: Josefa Scherer

Office Hours:

Email: jscherer@schoolph.umass.edu

I. COURSE DESCRIPTION

How do we account for the many similarities and differences within and between human populations? Axes of human “difference”— sex, gender, race, class, sexuality, religion, nationality, etc. – have profound consequences. These differences shape not only group affiliation and identity but are often correlated with colonial and national histories, with organization of societies such as socioeconomic status, professions, work mobility, as well as stereotypes about personal traits and behaviors. Debates around questions of nature and nurture have raged on for several centuries. The biological sciences have been very important in the history of differences. Scientists have contributed to bolster claims that differences are determined by our biology – such as research on sex and racial differences, notions of the “gay” gene, math abilities, spatial ability etc. Conversely, scientists have also contributed to critiquing claims of difference – claims of the existence of “race” and racial differences, claims about differences amongst sexes, genders and sexualities. How do we weigh these claims and counterclaims?

In this course, we will explore both popular and academic writings - their understandings, debates and critiques of “difference.” We examine these categories systematically to evaluate claims of difference. We will begin with a historical overview of biological studies on “difference” to trace the differing understandings of the “body” and the relationship of the body with identity, behavior and intellectual and social capacity. We will then examine contemporary knowledge on differences of sex, gender, race, class, and sexuality. We will use several case studies to explore how scientific and experimental knowledge is produced. What is good data? How do we “know” what we know? The course will take up a range of claims about difference, their purpose and their consequences to examine what these studies of “difference” can tell us – exploring both what they tell us and what they do not. Using literature from biology, women’s studies, and science studies, we will examine the biological and cultural contexts for our understanding of “difference.” The course will give students the tools to analyze scientific studies, to understand the relationship of nature and culture, science and society, biology and politics.

This course will be organized into Tuesday lecture/discussions and Thursday group projects with

Thursday meetings in the team-based learning classroom in the basement of the W.E.B. DuBois library. We will assign you into groups in the first week, and these will be your groups for the rest of the semester. This has a number of advantages over traditional learning, and some disadvantages. First of all, life is a team project, from households and families to workplaces and communities, and if you have children or co-workers or neighbors, you have or will have randomly assigned members on your team. Best to start building skills in these directions. Second, we all spend a lot of effort in traditional classrooms to suppress web surfing and chattiness; in the TBL classroom, that's what we'll be building on. Third, we are smarter in groups—we can build synergistically on what we collectively know to answer bigger questions. Each TBL assignment is designed around a bigger question than I would assign for homework, and to build skills with digital materials.

There are two major problems in team-based learning that we will all need to work against. One is politeness. A lot of people would rather be likeable than right in group work, and this makes the group collectively less “right.” The second is the free-loader problem, where those who contribute nothing can still benefit from the work of the broader group. We will talk in class about how the structure of the course will work to mitigate these two problems.

Finally, a note. The assignments on this syllabus are provisional. Neither your professor nor your TA has taught in the TBL classroom before, and assignments may change to reflect what we all learn together from experience about what works in that space and what does not.

II. COURSE READINGS

Text: Anne Fausto-Sterling, *Sex/Gender: Biology in a Social World*

Dorothy Roberts, *Fatal Invention: How Science, Politics, and Big Business Re-create Race in the Twenty-first Century* (New York: New Press, 2012).

III. COURSE REQUIREMENTS

Reading assignments must be completed by the class period for which they were assigned. *Online quizzes* will give you credit for having done so. There will be 10 of these over the semester, and we will drop two, giving you the opportunity to have two absences—or simply bad days—without penalty.

For an absence to count as excused, you must submit an official certification as well as a 2-page summary of the week's readings.

You are responsible for knowing when assignments are due and handing them in on time. Dates of major writing assignments are in this syllabus. Other assignment details will be given in your discussion sections. Absence from these sections on the day the assignment is due is no excuse for not handing in the assignment on time. It is each student's responsibility to find out about assignments from someone in your discussion group or from your Teaching Assistant.

Videos and guest lectures are part of the class material and students are responsible for knowing the material.

We will follow all university policies on issues of Academic Honesty, Grading, Attendance, Examinations, and Absences due to Religious Observance.

Assignments and Grades

Weekly quizzes. (20%) You can take the quiz online between Friday morning and Thursday by class time. You must take the quiz before class to be eligible for the group work. If you show up in class with it not done, you will be seated separately to read and take the quiz.

Group work. (30%) You will receive a weekly grade for your group's work. It will be based on (1) 30% on the results of your group quiz, (2) the quality of the product or presentation as a whole, and (3) you group's evaluation of your contribution (which can raise or lower your grade compared to the group grade).

If you are absent on a Thursday, you get a 0 for that day's work, which can only be made up under exceptional circumstances (if you must miss class for unavoidable reasons email Josefa for a make-up assignment. She will make the determination of whether you can submit a make-up, and what that will be). You can drop one (1) low grade for group work in the first 8 weeks of class.

Midterm projects. (20%) There will be two midterm projects that you will do with your team. Each one will take two weeks to complete.

Reading blog. (10%). You will write a blog post every third week on the reading for the previous week of about 750 words (3 paragraphs) each, which can also address how it relates to what's happening in the world. Cite sources according to online conventions; [“in Dorothy Roberts' *Fatal Intervention*, she argues that(p. 58). A recent article in the *New York Times* (with a hyperlink to the article).] It can be live or not.

N.B. From 1/22-1/31, Josefa will be available during office hours to set up a wiki or blog.

Final project (20%): Each team will produce a website about the biology of difference. The topics addressed in this class are often ripped from the headlines and the blogosphere. For this website, you will be invited to address questions that matter in a relevant forum—that is, you are invited to put up a live website, not just drop something into the grading machine. The site can speak to questions addressed by the course, and/or those that exceed the course material but are relevant to it.

Academic Honesty

Academic dishonesty destroys trust and the good-faith work of teaching and learning. Students who get stressed about their grades or having enough time to complete an assignment are sometimes tempted to cheat—to download sections of a paper from the Internet, to borrow quotes or ideas from other students or published sources. Don't. It's not worth it. Chances are

good you will be caught and will fail the assignment or the course. (See the UMass policy on sanctions and procedures on Academic Honesty, http://www.umass.edu/dean_students/codeofconduct/acadhonesty/#D) Cite *all* your sources, all the time.

Helping someone else cheat is an offense as serious as cheating yourself. Although it is always appropriate to discuss the course material and assignments with each other, inside and outside class, it is *not* appropriate to collaborate on the writing of actual sentences, except in assignments specifically identified as group projects.

If an instructor finds that a student has violated the University's Academic Honesty Policy, the instructor has the right to lower the student's grade, or even to fail the student for the course. Students have the right to appeal such a grade penalty by an instructor. The University Academic Honesty Board, which must be notified by instructors of any grade penalty, reviews all student appeals. The Board may sustain or recommend modification of the penalty given by the faculty member, or may recommend sanctions exceeding those originally given, such as suspension or expulsion from the University. The Board may also recommend sanctions for offenders who have committed multiple violations of the Academic Honesty Policy but who have not appealed the faculty members' decisions.

Accommodation Policy Statement

If you have learning or other disabilities, it is my goal and that of the Disability Services to ensure that you have reasonable accommodations that minimize the impact of that disability on your learning or your ability to demonstrate what you have learned in the context of assignments. It is your choice whether to disclose the nature of your disability to me; you can simply access services through Disability Services (<http://www.umass.edu/disability/current.html>) and ask me to work with that office to provide appropriate accommodations. However, you do need to let me know that you will need accommodation at or near the beginning of the semester, well in advance of any assignments. If we agree on a modified timeline for the completion of assignments or alternative formats, you are still responsible for completing assignments in a timely way and attending class.

Ground Rules

This class is **75 minutes** and we expect you to remain for the entire period. Latecomers and those who begin to pack 5 minutes before the class period disrupt the class for everyone.

Although we will invite you to go online—a lot—in the Thursday class meeting, we also expect “digital hygiene”: Facebook, Twitter, cell phone calls are not appropriate in either class meeting.

Make up assignment will only be given to students who have a medical or other certified excuse or unavoidable conflict. Ignorance of this rule will not constitute a valid excuse.

Week-by-week schedule

1. The “naturalness” of gender difference really, really matters to us: pink and blue children

Tuesday 1/22: Introduction to the course and to team-based learning.

Thursday 1/24: Sex and Gender

Read: AFS ch. 1

Caster Semenya

<http://4castersemenya.blogspot.com/>

<http://bullybloggers.wordpress.com/2009/09/08/the-unforgivable-transgression-of-being-caster-semenya/>

Lisa Eliot, “Under the Pink or Blue Blankie,” In *Pink Brain, Blue Brain*, Mariner 2009, 55- 102

2) *Ms.* magazine on the J.Crew (non)incident:

<http://msmagazine.com/blog/blog/2011/04/13/j-crews-toenail-painting-ad-causes-pink-scare/>

3) Fox news on the J.Crew incident

<http://www.foxnews.com/us/2011/04/11/jcrew-ad-showing-boy-pink-nail-polish-sparks-debate-gender-identity/>

4) a store clerk who observed a gender-panic moment and a big brother:

<http://sweetupndown.tumblr.com/post/15242399360/dear-customer-who-stuck-up-for-his-little-brother>

Assignments:

1. t-RAT

2. With your group, make a list of three theories about the relationship of sex and gender that are evident in one or more of these five pop culture, and create a presentation for the class to explain the three using the whiteboard, Prezi, or Powerpoint.

3. Turn in group evaluation form. Don’t forget to evaluate your own participation.

(Going forward, items 1 and 3 will be assumed to be part of every Thursday’s assignment, and won’t be listed subsequently).

2. What is sex?

1/29--Ch. 2, 3 AFS

Riley on marketing

<http://pinkisforboys.wordpress.com/>

the "genderless baby" turns 1:

<http://www.thestar.com/news/article/1105515--the-genderless-baby-who-caused-a-storm-of-controversy-in-2011?bn=1>

Watch: Howard Reingold’s mini-course on crap detection, <http://bit.ly/oM0BKZ>

1/31—Groups will be randomly assigned to do one, two, or three below.

Assignment 1: Find websites for three children’s stores (one can be Babies ‘r Us). Look at their “gender neutral” stuff. Is AFS right? Is it difficult, nigh on impossible, to raise a gender-neutral baby? What is the argument of JeongMee Yoon’s website? Is this how it should be? Working with your group, figure out what you collectively think should be possible for child-rearing

swag, and sketch how you would design the website for *your* store or vision, and turn it in (could be a URL, could be a couple of paragraphs of written description, or could be something else).

Assignment 2: Using the library databases, find out: who is John Money? Specifically, use the “for further reading” section in the back of chapter 2 and find *articles* (so not the books listed) by two of the authors. Your group will turn in three paragraphs answering the following questions:

1. Who is John Money, what did he do, and why did he become in/famous?
2. The citation to one article you found, and a summary of its contents
3. Ditto for the second article.

Assignment 3: Using google and online sources, answer the questions above, using at least two different websites.

Deadline to have blog site set up.

3. Eugenics and the Biology of Race

Tuesday- 2/5--Roberts *Fatal Invention*, Introduction, Ch. 1, 2; pp.1-54.

Richard Hayes, “The Science and Politics of Genetically Modified Humans” *World Watch*, July/August 2002, 11-12.

Recommended Reading: “Race in Western Scientific History”

Thursday 2/7 Using Prezi, Powerpoint, or other software, produce a presentation of 10 slides or more explaining either (1) the historical development of the biology of race, or (2) eugenics. Groups will be randomly assigned to one or the other topic.

Thursday

4. What is science? Science denialism

2/12: Tuesday

vaccines

http://www.wired.com/magazine/2009/10/ff_waronscience/all/

global warming

<http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>

in class exercise: boxes of science

2/14

Assignment: develop a blog post with the consensus position of your group on vaccines or global warming (each group will be assigned one or the other) taking account of counter-arguments. Make sure you answer all the following questions, devoting one or more paragraphs to each: What evidence is there for the different positions? Is one more credible than another? Why or why not? What values do you bring to this assessment, and how do they shape your analysis of the evidence.

Genetics of Race

Tuesday-2/19- No class Monday Schedule.

Roberts, chs. 3-4, pp. 55-104

2/21—HGDP and Racial Disparities Activities

Brains

2/26--read AFS chapter 4

Rebecca Jordan-Young, *Brainstorm: The Flaws in the Science of Sex Differences*, intro, chapter 1 and chapter 7

2/28--Activity 1:

Explore some of the research on the normal development of the human brain at <http://www.changingbrains.org/>. How are the fundamental assumptions shaping this work different from those discussed in Jordan-Young? Using images and evidence, post to you group blog making an argument about the difference between the “born that way” paradigm explored in Jordan-Young’s critique, and the neuroplasticity paradigm in changing brains.

Activity 2:

Biomedicine and the Question of “Equality”—Changes at NIH

3/5—Steven Epstein, “Beyond Inclusion, Beyond Difference: The Biopolitics of Health,” in Whitmarsh and Jones, eds., *What’s the Use of Race?: Modern Governance and the Biology of Difference* (Cambridge, MA: MIT Press, 2010)

Roberts, Chapter 5

3/7—Find 2-3 articles from popular sources that posit a genetic reason for health disparities between races or sexes (at least one of each). How carefully do they weigh the social versus potential genetic causes?

Race and Health Disparities

3/12—Roberts, Chapter 6 (Breast cancer, stress, toxic neighborhoods)

Nancy Krieger, “The Science and Epidemiology of Racism and Health: Racial/Ethnic Categories, Biological Expressions of Racism, and the Embodiment of Inequality—an Ecosocial Perspective,” in Witmarsh and Jones, *What’s the Use of Race?*

Gerald Tortora and Sandra Grabowski, “An Introduction to the Human Body,” In *Principles of Anatomy and Physiology*, 10th ed., John Wiley & Sons, 2003. 1-11.

3/14—exercise

*******Spring Break March 16-24*******

3/26—Roberts, Chapters 7 and 8—“Personalized Medicine,” Pharmacoethnicity, and BiDiI

3/28-- respond to Robert Woods Johnson RFP

4/2—Roberts, Chapters 9-10 (Reproduction and Racial Roots)

Gerard Tortora and Sandra Grabowski, "Reproductive System," *Principles of Anatomy and Physiology*, Wiley, 2003: 1012-1027.

4/4—continue working on 3/28 project

4/9—Roberts, Chapters 11-12 (Genetic Surveillance, Mass Incarceration, and the New Jim Crow)

Ruth Bleier, "Sociobiology, Biological Determinism and Human Behavior," In *Science and Gender: A Critique of Biology and Its Theories on Women*, Pergamon Press, 1984, 15-48

4/11—You are a group of researchers working for a member of President Obama's cabinet. Write a 5 pp. white paper on behalf of your cabinet member, advising Obama on what recent science and social science tell us about one or the other of the following questions:

--What are the sources of crime and how should we prevent it

--Should the administrative branch of the US government be promoting same-sex marriage? Why or why not?

4/16 AFS chapter 6 (homosexuality) and 7 (groups vs. individuals)

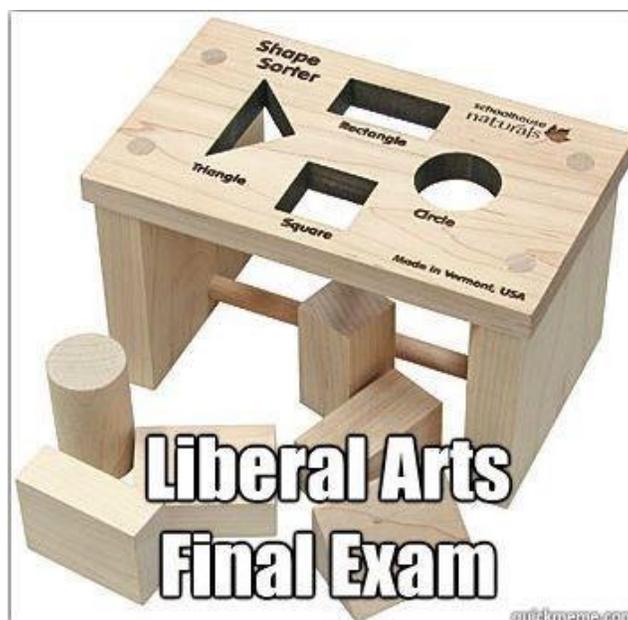
4/18—continue working on project for 4/11

4/22 AFS chapter 8 (Pink and Blue Forever) and 9 (The Developmental Dynamics of Pink and Blue)

4/24—start final project

4/30—Read AFS, Epilogue: The Future of Gender (and Sex)

May 6—Final Group Project Due



Courtesy of UMass Memes

Looking for that easy liberal arts class? You came to the wrong place. (P.S. You won't find it at UMass).

Liberal arts classes aren't easy, they're different. Especially at the 100-200 level, science, math, and engineering classes emphasize specific knowledge, and demand a lot of studying, memorizing, and practice problems in homework. That's part of what we are doing here, but not all of it.

In this class, you will be constructing knowledge and analysis based on evidence. You will be asked to think about your values, to understand how societies and cultures work, to assess the role of other people's values and cultural background in producing scientific knowledge. This is not an argument against scientific knowledge, far from it. It is an argument for more and better scientific knowledge, knowledge that takes into account the ways the cultural values of its creators shape outcomes.

People who think liberal arts classes are as easy as playing with toddler toys usually don't do well in them, because they aren't good at understanding the skill sets that they teach—and assess students on. To get a good grade in this class, you will need to (1) learn information. (2) Understand and evaluate arguments based on their use of evidence. (3) In discussion with others, decide what you believe about those arguments, staying open to the possibility that you may get your mind changed. (4) Learn how to make your own arguments effectively and persuasively.

That's not easy. But it matters. It's how we build democracy. And it's also what you need to get a job.