History of Science 1113: Science, Nature, and Society: Historical Perspectives
Fall 2014
Dr. Jared Buss
M W 1:30-2:45
Kaufman Hall 140
Jared.s.buss-1@ou.edu
Office hours: M W 3:00-4:00, 616 PHSC (or by appointment)

Course Description:

This course offers a broad overview of key themes and issues in the history of science. We will explore the relationships between knowledge about the natural world and cultural beliefs that have changed over time. Overall, this course investigates the claim that science is “objective” by examining the history of science, technology, race, politics, gender, and war. The goal of the course is to view science as a product of a historical context. How did beliefs about the natural world (and the cosmos) reflect the cultures that embraced or debated those ideas/beliefs? Could similar connections be made today?

Required Books:

Mary Shelley, Frankenstein or The Modern Prometheus: The 1818 Text (Oxford’s World Classics) – Make sure your version says something like “the 1818 text.” You don’t want to use the 1831 revised version

Aldous Huxley, Brave New World (1932), not to be confused with Brave New World Revisited (1959)

*Other reading assignments will be posted on D2L.

Course Grades (1000 points total):

Attendance/Participation: 100 points
Midterm: 250 points
First Paper: 200 points
Second Paper: 200 points
Final: 250 points

Writing Assignment 1 (Due 10/1)

Write a 4-5 page critical analysis of Frankenstein. This essay should relate the themes of the novel to our course, while discussing the historical context. Overall, the paper should relate the book to course material, as presented in lectures and discussions. It should not be a “book report” or a summary of the text. Rather, you should think of the novel as a historical document. What does it reveal about the period in which it was written? What does it teach us about the past? How does it illustrate popular hopes or fears surrounding
science and technology? How does Shelley’s critique of a “mad scientist” relate to other popular representations of scientists in the nineteenth century?

**Writing Assignment 2 (Due 11/3)**

Write a 4-5 page analysis of *Brave New World*. As with the first writing assignment, this essay should relate the themes of the novel to course material. How does the novel reflect the historical period in which it was written? What made the novel a “classic”? How do the characters and “message” of the book relate to our course? What does the book teach us about the past? This essay should incorporate lecture material on science and race, especially the history of eugenics.

**A Note on Attendance:** Attendance is mandatory and will be recorded. In general, I will be more sympathetic to students who seek excused absences prior to the missed class. Please try to be punctual. It is distracting to both students and the instructor when many students arrive late. Also, please remember to turn all cell phones off.

**A Note on Assignments:** All reading/watching assignments should be done prior to class. So, if an assignment is listed for a Wed., it should be done prior to that class meeting.

**Accommodations:** Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so that we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

Also, it is the policy of the University to excuse absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required class work that may fall on religious holidays.

**Academic Integrity:** Please be aware of the seriousness of plagiarism. It is imperative that you acknowledge all sources. Plagiarism is defined as the unacknowledged use of specific ideas, arguments, or extended passages from any source. It is an extremely serious academic offence (to say nothing of the moral issues involved); you may wish to consult the Student Code for penalties. For your convenience, the Provost has created a comprehensive website on academic integrity at [http://www.ou.edu/integrity](http://www.ou.edu/integrity).

**Course Schedule:**

**Week 1: Course Introduction and Themes**

Mon 8/18: Course introduction

Wed 8/20: Themes in the history of science  

**Week 2:** “The” Scientific Revolution of the 17th Century
Mon 8/25: From the “Dark Ages” to the Renaissance

**Mini-Assignment:** Write a list of 10 things that you associate with the “Dark Ages.” These topics can be from films or television programs.

Wed 8/27: Copernicus, Galileo, and the “revolution” in astronomy

**Assigned reading:** Galileo, “The Starry Messenger,” 23-58

**Week 3:** The Legacies of Alchemy and Astrology

Mon 9/1: No class (Labor Day)

Wed 9/3: Alchemy, astrology, and the influence of “occultist” sciences

**Assigned reading:** Bowler and Morus, “Magic and Mechanism,” 33-39 and “Chemistry Unreformed?” 57-61

**Week 4:** Into the Enlightenment

Mon 9/8: Case study: The life and times of Sir Isaac Newton

**Assigned reading:** B & M, “Let Newton Be!” 46-53

Wed 9/10: The “Enlightenment” and the “public sphere” of the 18th century

**Assigned reading:** Immanuel Kant, “What is Enlightenment,” (about 5 pages)

**Week 5:** Controversies and Debates

Mon 9/15: Case study: The life and writings of Voltaire

**Assigned reading:** none

Wed 9/17: The plurality of worlds and the history of science fiction

**Begin reading Frankenstein**

**Week 6:** Into the Nineteenth Century

Mon 9/22: The Industrial Revolution, Mary Shelley, and the romantic critique

Wed 9/24: Science, gender, and the history of medicine

**Finish Shelley by Friday**

**Week 7:** Popular Science and the Circulation of Texts

Mon 9/29: Science, public controversies, and the circulation of texts, part 1

Wed 10/1: Science, public controversies, and the circulation of texts, part 2

**First PAPER DUE**
Week 8: Darwinian Astronomy and the Turn of the Century

Mon 10/6: Percival Lowell and the discovery of Martians!
**Assigned reading:** Excerpt from Lowell, “Conclusion,” in *Mars* (1895)

Wed 10/8: Collective hopes and dreams for a brave, new century (plus review)
**Assigned reading:** none

Week 9: Midterm and the Great War

Mon 10/13: Science, technology and the Great War
**Assigned reading:** none, study for midterm

Wed 10/15: **MIDTERM EXAM**

Week 10: Science and Race

Mon 10/20: The roaring and reactionary 1920s
**Begin Huxley**

Wed 10/22: The history of American and British eugenics

Week 11: Nazi Science and the Holocaust

Mon 10/27: *Berlin, Symphony of a Great City* (with lecture commentary)

Wed 10/29: Nazi science and the Holocaust
**Note:** Finish Huxley by Thursday

Week 12: “Big Science” and Postwar Dreams

Mon 11/3: Science, technology, and the Second World War
**Note:** Second Paper Due

Wed 11/5: Postwar hopes and dreams
**Assigned reading,** Paul Boyer, “Atomic cars, artificial suns, cancer-curing isotopes,” in *By the Bomb’s Early Light*, 109-121

Week 13: The Space Age and Counter-cultural Reactions to “Big Science”

Mon 11/10: The “Space Age”
**Assigned reading:** Howard McCurdy, “Making Space Flight Seem Real,” in *Space and the American Imagination*, 29-52

Wed 11/12: The counter-cultural rebellion and the 1960s
Assignment: Watch *Dr. Strangelove, Or How I Learned to Stop Worrying and Love the Bomb* (about an hour and a half)

**Week 14:** Popular Science and the 1970s

Mon 11/17: Dreams of cultural rebirth in space  
**Assigned reading:** W. Patrick McCray, “Introduction: Visioneering Technological Futures,” in *The Visioneers*, 1-19

Wed 11/19: Carl Sagan and his *Cosmos* (Discussion)  
**Assignment:** Watch episode 1, “The Shores of the Cosmic Ocean,” of Carl Sagan’s original *Cosmos* (on Youtube). Come prepared to discuss this program

**Week 15:** Utopian or Dystopian Horizons?

Mon 11/24: From the Space Age to the Cyber Age (Discussion)  
**Assignment:** none

Wed 11/26: No class (Thanksgiving break)

**Week 16:** Dead Week

Mon 12/1: Final Review  

Wed 12/3: No class

**Final:** Wed. Dec. 10th, 8:00 am – 10:00 am (Our room, Kaufman 140)