Course Description:

This course presents the history of the interaction between American science and its cultural setting from the colonial period to the present. The lectures, readings, and discussions will deal with a variety of issues, including the nature of science in British North America, when the colonies were largely dependent on Europe for their structural and conceptual guidelines; the creation of new scientific institutions and the emergence of a professional scientific community in the United States; the changing cultural authority of science; the impact of major scientific theories on American cultural life; the emergence and development of the human sciences; and the development of significant links between science and technology.

Course and Hub Objectives:

Through their examination of the relationship between science and American culture, students in HI302 will

1. Learn how to analyze historical narratives, develop and evaluate interpretations based on historical evidence derived from primary and secondary sources, and construct and critically examine historical arguments [Historical Consciousness].
2. Learn how to situate primary source material within an appropriate historical context [Historical Consciousness].
3. Be able to demonstrate a knowledge of major scientific ideas, practices, and institutions, as well as how and why those ideas, practices, and institutions changed over time [Historical Consciousness].
4. Be able to draw on a number of major concepts commonly used in the social sciences and apply those concepts in addressing the questions relating to scientific norms and practices and the interactions of both scientists—as individuals and as members of larger networks--and scientific institutions with the larger currents of American culture from the colonial era to the present. Those concepts will include professionalization, secularization, cognitive dissonance, technological determinism, institutional competition, race, gender, cultural authority, and modernization [Social Inquiry I].
Undergraduate Students

Assigned Work:

The written work in the course consists of a MIDTERM EXAMINATION, which is tentatively scheduled for March 21, a RESEARCH PAPER (see below), and a FINAL EXAMINATION, scheduled on May 8 from 12:30 to 2:30. One half of the final examination will deal with material presented after the midterm examination, and the other half will be “comprehensive” (that is, it will require students to draw on material that was addressed throughout the entire course).

Grading:

The following formula will be used to compute the course grade:

- Midterm Examination: 20%
- Research Paper: 40%
- Final Examination: 40%

Students must complete all assigned work in order to pass the course.

Attendance:

Students are expected to attend class regularly and are responsible for all material covered in class. Attendance on days when class discussions are scheduled is especially important.

Required Reading:

- Sinclair Lewis, Arrowsmith [ISBN 9780451530868]

Other readings, hereafter abbreviated as BL, will be posted on the course website: http://learn.bu.edu.

Students should obtain the editions of the books listed above. This will facilitate discussions by ensuring that everyone will be referencing the same page numbers.
Films:

The films listed below will provide additional insight concerning some of the themes discussed in this course (all are available through Netflix).

   *Planet of the Apes* (1968) [Week 6]
   *Blade Runner* (1982) [Week 9]
   *Altered States* [Week 13]

Research Paper:

Undergraduate students are required to write a paper dealing with an important individual, episode, or controversy in the history of the interaction of science and American culture. This paper should draw on a substantial body of primary source material (i.e., several books and articles) and employ secondary sources to provide background and context for an analysis of the primary sources. Students should secure approval of their topic from the instructor by the end of the fourth week of the term (FEBRUARY 14).

The paper should be 8-10 typed, double-spaced pages in length. Students are required to **SUBMIT TWO COPIES** of their papers. One copy will be returned to the student. The paper is **DUE APRIL 18. All papers must be submitted in hard copy; electronic versions will not be accepted.**

Papers are welcome at any point in the semester through the due date, but late papers are not accepted except in cases of serious and unforeseeable misfortune.

IMPORTANT: The penalties for plagiarism and other academic misconduct can be— and properly should be— very severe. Students should consult the University Academic Conduct Code (bu.edu/academics) if they are unsure of official standards.

All ideas, as well as quoted or closely paraphrased material within a paper, must be clearly attributed to the source from which they are taken. Feel free to check with the instructor if you have any questions about this.

**Paper Grading Rubric:**

A research paper in the “A” range:

- Is written in lucid, occasionally even graceful, prose that flows freely.
- Is clearly organized.
- Is thoroughly researched.
- Displays insightful analysis and freshness of thought.
- Contains few, if any, errors of grammar or punctuation.
- Presents a perceptive and persuasive argument.
A research paper in the “B” range:
Possesses most of the qualities of an “A” paper but is somewhat less ambitious and successful in its overall framing, structure, and/or execution.
Displays a command of the material but is more modest in aim.

A research paper in the “C” range:
Displays problems in formulating and sustaining a central argument.
Is written in prose that is marred by a sizable number of errors of grammar or punctuation.
Seems rather perfunctory in its description, analysis, and choice of detail.

A research paper in the “D” range:
Generates prose that has little to do with the ostensible subject of the paper.
Lacks any discernible organization.
Is largely unsupported by evidence or argument.
Is carelessly written, with little attention to grammar, punctuation, or appropriate syntax.

A research paper in the “F” range:
Dramatically fails to conform to the requirements of the assignment.
Seems utterly oblivious to the need for argument or evidence.
Appears to display little effort and little knowledge of course materials.

Graduate Students

Assigned Work:

The written work in the course for graduate students consists of a RESEARCH PAPER (see below), and a FINAL EXAMINATION, scheduled on May 8 from 12:30 to 2:30. Graduate students are invited but not required to take the midterm examination.

Graduate Research Paper:

Graduate students are required to write a research paper dealing with some aspect of the history of the relationship between science and American culture. The paper should be 12-15 typed, double-spaced pages in length. The topic for this paper should be approved by the instructor by FEBRUARY 14. The research paper is DUE MAY 2.
Students are required to SUBMIT TWO COPIES of their research papers. One copy will be returned to the student.
Grading:

The course grade for graduate students who opt to take the midterm examination will be based on the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Midterm Examination</td>
<td>10%</td>
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<tr>
<td>Book Reviews</td>
<td>20%</td>
</tr>
<tr>
<td>Research Paper</td>
<td>40%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>30%</td>
</tr>
</tbody>
</table>

The course grade for graduate students who do not choose to take the midterm examination will be based on the following formula:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Book Reviews</td>
<td>20%</td>
</tr>
<tr>
<td>Research Paper</td>
<td>40%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>40%</td>
</tr>
</tbody>
</table>

*Graduate students must complete all assigned work in order to pass the course.*

Required Reading:

In addition to the readings assigned to undergraduates, graduate students should read the secondary works listed below. They are required to write a two-page, double-spaced book review of two of these works. They may choose which of these books to review. The reviews are due on the dates listed in parentheses.

- Daniel Patrick Thurs, *Science Talk: Changing Notions of Science in American Culture* (Feb. 7)
- Robert V. Bruce, *The Launching of Modern American Science, 1846-1876* (Feb. 28)
- Ronald E. Martin, *American Literature and the Universe of Force* (March 26)
- Eva S. Moskowitz, *In Therapy We Trust: America’s Obsession with Self Fulfillment* (April 23)

**Reading Assignments, Discussion Sections, and Written Assignments**

**Week 1 (January 22-25)**

Reading: I. Bernard Cohen, “The New World as a Source of Science for Europe” (BL)
Week 2 (January 28-February 1)


Week 3 (February 4-8)

Reading: Sally Gregory Kohlstedt, “Parlors, Primers, and Public Schooling: Education for Science in Nineteenth-Century America” (BL); Thomas Jefferson, selections from *Notes on the State of Virginia* (BL)

Week 4 (February 11-15)

Reading: Stephen Jay Gould, “American Polygeny and Craniometry before Darwin” (BL); Peter McCandless, “Mesmerism and Phrenology in Antebellum Charleston: ‘Enough of the Marvelous’” (BL)

February 14: DISCUSSION: Readings from Weeks 1-4

Week 5 (February 18-22)

February 19: NO CLASS (MONDAY SCHEDULE IN EFFECT)


Week 6 (February 25-March 1)

Reading: David Mislin, “‘According to His Own Judgment’: The American Catholic Encounter with Organic Evolution, 1875-1896” (BL); Marc Swetlitz, “American Jewish Responses to Darwin and Evolutionary Theory, 1860-1890” (BL)

Week 7 (March 4-March 8)

Reading: Irvin G. Wyllie, “Social Darwinism and the Businessman” (BL); Henry Adams, “The Tendency of History” (BL)

March 9-March 17 Spring Recess
Week 8 (March 18-22)

**March 19** DISCUSSION: Readings from Weeks 5-7 and Review for Midterm Examination

**March 21** MIDTERM EXAMINATION

Week 9 (March 25-29)

Reading: Sinclair Lewis, *Arrowsmith*

Week 10 (April 1-5)

Reading: John B. Watson, “Psychology as the Behaviorist Views It” (BL); Claudia Roth Pierpont, “The Measure of America” (BL)

Week 11 (April 8-12)

Reading: John Carson, “Army Alpha, Army Brass, and the Search for Army Intelligence” (BL)

Week 12 (April 15-19)

Reading: P. W. Bridgman, “The New Vision of Science” (BL)

**April 18** DISCUSSION: Readings from Weeks 9-12

**April 18** UNDERGRADUATE RESEARCH PAPERS DUE

Week 13 (April 22-26)


Week 14 (April 29-May 2)

Reading: Thomas S. Kuhn, *The Structure of Scientific Revolutions*; Ronald L. Numbers, “The Creationists” (BL); Steven Pinker, “On Science” (BL)
May 2 DISCUSSION: Readings from Weeks 13-15 and Review for Final Examination

May 2 GRADUATE RESEARCH PAPERS DUE

Conspectus of Lectures

The lecture topics for this course often do not fit neatly into fifty-minute segments. Accordingly, students should understand that the topics listed below may be covered during more than one session:

Science in the New World
Science and Religion in Colonial America
Common Sense Realism and the Baconian/Newtonian Tradition
Doing Science, 1820-1870
Supporting and Diffusing Science
The Problem of Race and the Origin(s) of Humanity
Theories of Mind, 1800-1870
Discovering the Laws and Processes of Nature
Medical Science before “Scientific Medicine”
Evolution Comes to America
Darwinism and Religion in America: Protestantism as a Case Study
The Cultural Authority of Science in America, 1870-1920
Sciences of Society
Science, Determinism, and Human Nature
Science and Technology in Agriculture and Industry
Popular Celebrations of Science
The Making of a Biological Power
American Medical Science, 1870-1920
The American Physical Sciences Come of Age
The Emergence and Development of Scientific Psychology
Genetics and Eugenics
The Salience of Environment and Culture
Some Cultural Implications of Technology
The Psychologizing of America
The Natural Sciences Between the World Wars
Science as Source of Cognitive Ideals and Relativist Realities
Science Fiction as Prophecy and Myth
Freudianism in America
Scientists and the Bomb
Science and Democratic Culture, 1940-1960
Science and the “Sexual Revolution” in Modern America
The Environmental Impulse
Modern Critiques of Evolution: From Scientific Creationism to Intelligent Design
The “Cognitive Revolution” and Humanistic Psychology
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NOTE: The above schedule and assignments are subject to change by the instructor.