

# BIOL/PHIL 322H Science and Human Values

Fall 2007

Tuesdays & Thursdays 11:00 a.m.-12:15 p.m. in O'Connell 239

**Instructor:** (Prof.) Zanja Yudell

**Office Hours:** O'Connell 234: M 1-3, T 1:30-5, W 10-12

**Phone:** 898- 5884

**E-mail:** [zyudell@csuchico.edu](mailto:zyudell@csuchico.edu)

**Instructor:** (Prof.) John Mahoney

**Office Hours:** O'Connell 233: M 10-11, W 11-12, R 12:30-1:30 or by appointment

**Phone:** 898-4767

**E-mail:** [jmahoney@csuchico.edu](mailto:jmahoney@csuchico.edu)

*Western societies are characterized, at least in part, by their commitment to scientific discovery and innovation. Consequently, we face a need to understand the nature of relationships between science, empirical facts and human values, and nature and culture. In this course, we explore various ways of conceptualizing these relationships by closely considering evolution and its possible significance for ourselves, as well as the role that science plays in a democratic society like our own.*

*BIOL/PHIL 322H is an optional course in the upper-division general education Honors theme (Theme H). Class format combines lecture, film, discussion, and student presentation.*

## COURSE REQUIREMENTS

*Students in this course are REQUIRED to read the assigned material PRIOR to coming to class. You will be assigned a reading question to be answered on WebCT BEFORE the next class period. You should also bring a printed copy of you Reading Question answer to class. This is you admission ticket to class. Students will be called upon to share their reading responses with their classmates.*

### *Course Materials:*

Appleman, Philip, editor. 2001. *Darwin: Texts, Commentary*, 3rd edition. New York and London: W. W. Norton.

Richards, Janet R. 2004. *Human Nature after Darwin: A Philosophical Introduction*, Routledge.

A reader, combination paper/electronic (VISTA)

All books are or will be available for purchase at the AS Bookstore. There may be additional books or articles assigned as required reading. Any such books or articles will be available for

purchase at the AS Bookstore, placed on reserve at Meriam Library, or posted to VISTA.

**Student learning objectives** for this course are intended to:

- encourage investigation by a variety of perspectives, including both scientific and value-based perspectives.
- incorporate, build upon, and nurture effective reading, writing, thinking, listening and speaking skills, the fundamental links between these skills, and the ethical obligations that attend the use of these skills.
- integrate significant humanities content, particularly in the areas of philosophical analysis and philosophy of science.
- integrate significant content from the behavioral and social sciences, particularly in the areas of psychology and sociology.
- integrate significant scientific content, particularly with respect to the biological sciences.

### ***Grading for Course:***

Grading will be based on a percent scale with, 93-100 = A, 90-92 = A-, 87-89 = B+, 83-86 = B, 80-82 = B-, 77-79 = C+, 73-76 = C, 70-72 = C-, 67-69 = D+, 60-66 = D, < 60 = F, and U (unauthorized incomplete).

Final grades for the course will be assigned as follows:

- 5%** Science News Watch (every Tuesday)
- 15%** Class Preparation and Participation (Reading questions) and Homework Assignments
- 20%** **Two** Tests worth **10%** each
- 20%** Final Examination
- 30%** **Two (2)** Essays ( approximately 1250 words) worth **15%** each
- 10%** Class presentation

### ***Specific Instructions for Assignments:***

#### **Science News Watch (5%)**

Students will be assigned to monitor various media sources, NGOs, and science journals throughout the semester. Before Tuesday class students will submit via VISTA a report of a relevant issue. Please bring a printed copy of your Science News Watch to class. During the first ten or fifteen minutes of the class, some students will be called upon to report their findings and respond to questions. We might collectively add some science and philosophy blogs to this list of sources.

#### **Class Preparation & Participation & Assignments (15%)**

Points will be earned for quality of admission ticket Reading Question responses (submitted via

VISTA), class attendance and participation. You will be allowed to miss 2 Reading Question responses during the semester. Responses will **ONLY** be accepted on time and in VISTA (not by email or paper copy). There will no Reading Questions on Exam days.

### **Two Tests (each worth 10%)**

Tests will be held during the first 25 minutes of class. Test questions will cover material from lectures and assigned readings since the last test and up to the material from the readings assigned for that day.

### **Two (2) Essays (each worth 15%)**

Essay must be approximately 1250 words. Dates when essays are due are highlighted with a box on the reading schedule. Essays **must** be handed in **directly** to one of the instructors or their department offices. No responsibility will be taken for papers delivered by other means (under doors, electronically, *etc.*). Late papers will be **must** be delivered to the Honors Office, and time stamped by office staff. **Instructors will not personally accept late papers.** Each late paper will be penalized with 0.75 points (out of an available total of 15 points) deducted for every (work) day past the deadline. **Note** VISTA handout on Paper Writing Advice.

### **Class presentation (10%)**

In the last month and a half of the semester, everyone will have to make a presentation on one of five discussion topics. Each presenter will form a team with one partner, and there will be two teams for each discussion, each team arguing opposing sides of the discussion issue. Prior to the presentation, each team will have to meet with one of the two instructors to discuss their presentation. The instructors will model a discussion prior to the first student presentations, and a more detailed rubric will be handed out then.

• **Plagiarism will not be tolerated: students who submit essays that include plagiarized material will be assigned an F in the course and reported to Student Judicial Affairs.** Note that this policy is not subject to alteration or negotiation. See the attached document, "What is Plagiarism and Why Is It Important?", for more information on the definition and nature of plagiarism.

### **Final Examination (20%)**

The final examination will be held during the final examination period. The final will be a comprehensive examination that covers material from lectures, assigned readings, films, and presentations for the entire semester.

**There are no EXTRA credit assignments in this course!!!**

**Only in extreme circumstances and with approved documentation will examinations be rescheduled, extensions on essay assignments be granted, or class participation requirements be modified.**

## **CLASS SCHEDULE**

**FALL SEMESTER 2007**

|                             | <b>Tuesday</b>   | <b>Thursday</b>   |
|-----------------------------|--|---|
| <b>Week 1</b><br>Aug 22, 24 | <b>Introduction to the course</b>  | <b>Evolution: Scientific Thought Just Before Darwin</b><br>de Beer, <i>Biology Before the Beagle</i> (1964) [App 33-39]<br>Malthus, <i>Essay on the Principle of Population</i> (1798) [App 39-40]<br>Paley, <i>Natural Theology</i> (1802) [App, 41-44]<br>Lamarck, <i>Zoological Philosophy</i> (1809) [App, 44-49] |
| <b>Week 2</b><br>Aug 29, 31 | Lyell, <i>Principles of Geology</i> (1830-33) [App 49-52]<br>Herschel, <i>The Study of Natural Philosophy</i> (1830) [App, 52-57]<br>Whewell, <i>Astronomy &amp; General Physics . . .</i> (1833) [App, 57-61]<br>Wallace, <i>On the Tendency of Species . . .</i> (1858) [App, 61-64] | <b>Selections from Darwin's Work</b><br><i>The Voyage of the Beagle</i> (1845) [App 67-81]<br><i>On the Tendency of Species to Form Varieties</i> (1858) [App 82-87]<br>Mayr, <i>Who is Darwin ?</i> (1991) [App 23-29]   |
| <b>Week 3</b><br>Sep 5, 7   | <b>The Origin of Species</b> (1859) [App 95-135]   | <b>The Origin of Species</b> ( <i>continued</i> ) [App 135-174]   |
| <b>Week 4</b><br>Sep 12, 14 | <b>Exam 1</b><br><b>The Descent of Man</b> (1871) Introduction [App 175-177], Natural Selection [App 200-213], Principles of Sexual Selection [App 230-243], Summary and General Conclusion [App 243-254]  | <b>Social Darwinism</b><br>Hofstadter, <i>The Vogue of Spencer</i> (1955) [App 389-395]<br>Carnegie, <i>The Gospel of Wealth</i> (1900) [App 396-398]<br>Kropotkin <i>Mutual Aid</i> (1902) [App 398-403]   |
| <b>Week 5</b><br>Sep 19, 21 | <b>Neo-Darwinian Synthesis</b><br>Bowler, <i>The Evolutionary Synthesis</i> (1984) [App 319-25]<br><b>The Human Genealogy</b><br>Kuper (1994) <i>The Chosen Primate</i> [App 326-35]<br>Tattersall (1997) <i>Out of Africa Again and Again ?</i> [App 335-42]                          | Dawkins, <i>River Out of Eden</i> [pp 31-57] Africa and her progenies   |
| <b>Week 6</b><br>Sep 26, 28 | Gould (1999) <i>The Human Difference</i> [App 342-44]<br><b>Punctuated Equilibrium</b><br>Gould (1991) <i>On Punctuated Equilibrium</i> [App 344-49] Eldredge (1995) <i>The Great Stasis Debate</i> [App 349-55]   | Readings TBA  |
| <b>Week 7</b><br>Oct 3, 5   | Readings TBA   | <b>Essay 1 due</b><br><b>Selected videos of Dawkins and Gould</b>   |
| <b>Week 8</b><br>Oct 10, 12 | <b>Exam 2</b><br>Richards, <i>HNAD</i> , Chapter 1: The Theory (4-24)  | Richards, <i>HNAD</i> , Chapter 2: The skeptics (25-50)   |

|   |  |  |
|---|--|--|
| <b>Week 9</b><br>Oct 17, 19                             | Richards, <i>HNAD</i> , Chapter 3: Internecine strife (51-86)  | Richards, <i>HNAD</i> , Chapter 4: Implications and Conditionals (87-99) |
| <b>Week 10</b><br>Oct 24, 26                            | Richards, <i>HNAD</i> , Chapter 5: Biology as Destiny (100-125)  | <b>Student Discussion/Presentation</b>                                   |
| <b>Week 11</b><br>Oct 31, Nov 2                         | Richards, <i>HNAD</i> , Chapter 6: Blameless Puppets (126-153)   | <b>Student Discussion/Presentation</b>                                   |
| <b>Week 12</b><br>Nov 7, 9                              | Richards, <i>HNAD</i> , Chapter 7: Selfish Genes & Moral Animals (154-183); Nowak et.al., <i>The Arithmetics of Mutual Help</i> (1995) [App 403-408] | <b>Student Discussion/Presentation</b>                                   |
| <b>Week 13</b><br>Nov 14, 16                            | Richards, <i>HNAD</i> , Chapter 8: The end of ethics (184-211)   | <b>Student Discussion/Presentation</b>                                   |
| <b>Week 14</b><br>Nov 28, 30                            | Richards, <i>HNAD</i> , Chapter 9: Onwards & Upwards (212-258)   | <b>Essay 2 due</b><br><b>Student Discussion/Presentation</b>             |
| <b>Week 15</b><br>Dec 5, 7                              | Richards, <i>HNAD</i> , Chapter 10: The Real Differences (259-270)   | <b>Student Discussion/Presentation</b>                                   |
| <b>FINAL EXAM: Thursday December 20, 10:00-11:50 AM</b> |  |  |

## What is Plagiarism and why is it Important?

(Produced by Writing Tutorial Services, Indiana University, Bloomington, IN)

In college courses, we are continually engaged with other people's ideas: we read them in texts, hear them in lecture, discuss them in class, and incorporate them into our own writing. As a result, it is very important that we give credit where it is due. Plagiarism is using others' ideas and words without clearly acknowledging the source of that information.

To avoid plagiarism, you must give credit whenever you use

- another person's idea, opinion, or theory;
- any facts, statistics, graphs, drawings--any pieces of information--that are not common knowledge;
- quotations of another person's actual spoken or written words; or
- paraphrase of another person's spoken or written words.

### How to Recognize Unacceptable and Acceptable Paraphrases

Here's the ORIGINAL text, from page 1 of *Lizzie Borden: A Case Book of Family and Crime in the 1890s* by Joyce Williams et al.:

*The rise of industry, the growth of cities, and the expansion of the population were the three great developments of late nineteenth century American history. As new, larger, steam-powered factories became a feature of the American landscape in the East, they transformed farm hands into industrial laborers, and provided jobs for a rising tide of immigrants. With industry came urbanization the growth of large cities (like Fall River, Massachusetts, where the Bordens lived), which became the centers of production as well as of commerce and trade.*

Here's an UNACCEPTABLE paraphrase that is plagiarism:

The increase of industry, the growth of cities, and the explosion of the population were three large factors of nineteenth century America. As steam-driven companies became more visible in the eastern part of the country, they changed farm hands into factory workers and provided jobs for the large wave of immigrants. With industry came the growth of large cities like Fall River where the Bordens lived which turned into centers of commerce and trade as well as production.

What makes this passage plagiarism? The preceding passage is considered plagiarism for two reasons:

- the writer has only changed around a few words and phrases, or changed the order of the original's sentences.
- the writer has failed to cite a source for any of the ideas or facts.

If you do either or both of these things, you are plagiarizing.

Here is an ACCEPTABLE paraphrase:

Fall River, where the Borden family lived, was typical of northeastern industrial cities of the nineteenth century. Steam-powered production had shifted labor from agriculture to manufacturing, and as immigrants arrived in the US, they found work in these new factories. As a result, populations grew, and large urban areas arose. Fall River was one of these manufacturing and commercial centers (Williams 1).

## **What is Plagiarism and why is it Important? (page 2)**

Why is this passage acceptable? This is acceptable paraphrasing because the writer:

- accurately relays the information in the original
- uses her own words.
- lets her reader know the source of her information.

Here's an example of quotation and paraphrase used together, which is also ACCEPTABLE:

Fall River, where the Borden family lived, was typical of northeastern industrial cities of the nineteenth century. As steam-powered production shifted labor from agriculture to manufacturing, the demand for workers "transformed farm hands into factory workers," and created jobs for immigrants. In turn, growing populations increased the size of urban areas. Fall River was one of these manufacturing hubs that were also "centers of commerce and trade" (Williams 1).

Why is this passage acceptable? This is acceptable paraphrasing because the writer:

- records the information in the original passage accurately.
- gives credit for the ideas in this passage.
- indicates which part is taken directly from her source by putting the passage in quotation marks and citing the page number.

Note that if the writer had used these phrases or sentences in her own paper without putting quotation marks around them, she would be PLAGIARIZING. Using another person's phrases or sentences without putting quotation marks around them is considered plagiarism EVEN IF THE WRITER CITES IN HER OWN TEXT THE SOURCE OF THE PHRASES OR SENTENCES SHE HAS QUOTED.

## **Plagiarism and the World Wide Web**

The World Wide Web has become a more popular source of information for student papers, and many questions have arisen about how to avoid plagiarizing these sources. In most cases, the same rules apply as to a printed source: when a writer must refer to ideas or quote from a WWW site, she must cite that source.

If a writer wants to use visual information from a WWW site, many of the same rules apply. Copying visual information or graphics from a WWW site (or from a printed source) is very similar to quoting information, and the source of the visual information or graphic must be cited. These rules also apply to other uses of textual or visual information from WWW sites; for example, if a student is constructing a web page as a class project, and copies graphics or visual information from other sites, she must also provide information about the source of this information. In this case, it might be a good idea to obtain permission from the WWW site's owner before using the graphics.

## **Strategies for Avoiding Plagiarism**

1. Put in quotations everything that comes directly from the text especially when taking notes.
2. Paraphrase, but be sure you are not just rearranging or replacing a few words. Instead, read over what you want to paraphrase carefully; cover up the text with your hand, or close the text so you can't see any of it (and so aren't tempted to use the text as a "guide"). Write out the idea in your own words without peeking.
3. Check your paraphrase against the original text to be sure you have not accidentally used the same phrases or words, and that the information is accurate.