science & popular culture

Ideas about science and ideas from science appear in our everyday lives in ways we take for granted: in the news sites we visit, in the tv shows and commercials we see, in the cartoons we tape to our office doors, in our interactions with insects in the kitchen – or even when you say, "He's no Einstein!" or "If they could put a man on the moon, why can't they ... [fill in the blank]?" In this class we'll look closely at what happens when science and popular culture meet.

We'll study how science & scientists have been portrayed in media culture from the scientific revolution to our own time, and also explore how ideas about nature and science merge in our ideas about machines and animals, and think about the lure of fantasy in a highly technological age. We'll consider the tensions between scientific experts and the lay public about core values such as skepticism, contemplate amateurs creating scientific knowledge, probe how science fiction relates to science fact, and analyze images that make up the "common sense" of our everyday worlds. In looking closely at what happens when science and popular culture meet, you'll even learn to see the present-day as future history.

The goals for this course are for students to gain an awareness of how science is an aspect of the wider culture in different eras; to analyze the historical roots of contemporary practices; to develop critical thinking skills that will be useful as citizens living in a world continuing to be shaped by the scientific enterprise; to practice new genres of online communication such as blogging, where what each of us has to say meets the larger world; and to generate new knowledge by exploring some of the steps involved in humanities research.

The structure for this course is a "hybrid" format: that means that for roughly half the time we will meet in our classroom together on Tuesdays, and for the other half you will be accessing course materials via the web for online "lab" assignments, and posting short reports and analyses in your online blog and commenting on other students' posts. This online discussion will allow you to interact with others in the class (primarily in small groups) and to develop and share ideas and experiences in a fuller way than typically
occurs in a traditional lecture-only course. The face-to-face in-class sessions are
designed to connect with the online work and vice-versa. The “missing” in-class day
(Thursday) is replaced by the online lab sessions that you can complete when you wish,
as long as you meet the deadline for posting (typically, by Saturday evening of that week
for your own posts, and by Monday evening for your comments on other blogs).

My reasons for giving a hybrid structure to this course are: 1) to take advantage of an
abundance of online materials (especially multimedia ones) that aren’t found in books; 2)
to allow for more active learning and creativity on the part of students; 3) to provide
flexibility in scheduling to allow you to work at a pace that works best for you; 4) to
provide better opportunities for student-to-student awareness of each others’ ideas; 5)
and to get your ideas circulating in your own voice in the open online environment of
the public web.

required texts:
The Sun and the Moon / Matthew Goodman
The Wonderful Future that Never Was / Gregory Benford
Biopunk: DIY Scientists Hack the Software of Life / Marcus Wohlsen
Cockroach / Marion Copeland

Overview of Course Assignments and Examinations

1) Sun and the Moon Essay (due week 5, 9/18): 4-5 pp. (approx 1000-1400 words) 15%
2) Wonderful Future Essay (due week 8, 10/9): 4-5 pp. (approx 1000-1400 words) / 15%
3) Biopunk Essay (due week 12, 11/6): 4-5 pp. (approx 1000-1400 words) / 15%
4) Cockroach Essay (due week 14, 11/20): 3-4 pp. (approx. 800-1200 words) / 10%

5) Individual Final Project (Due Wednesday, December 19th, at 8-10 a.m., the Final Exam time
for this class, in CEC 123). The Final Project is worth 20% of the course grade (5-6 pp. approx.
1200-1800 words). I’ll be providing a list of possible projects that draw on the work you’ve already
done in class as the foundation, and you will also have the opportunity to design a completely custom-
made project. A strategy outline memo for your final project is due by week 11 (10/30). The strategy
for your final project must be submitted and approved in order to turn in a Final Project at the
end of the course.

6) Online Blog Postings, Blog Comments, and other online lab assignments: 25% of the course grade.
15% of this portion of the grade [online blog posts] will be assigned based on satisfactory,
sustained completion of your blog posts in the online lab session assignments (with no more
than 1 posting “absence” – that is, you can miss one week without penalty) and a letter-graded
evaluation of your 6 best postings, as selected by you and nominated by your fellow students
for me to assess at the end of the course.

10% of this portion of the grade [online and in-class participation] will be assigned based
on satisfactory and consistent blog response contributions to the online postings of your
classmates; coming prepared and ready to contribute to class discussions and exercises;
and in-class attendance on Tuesdays.
<table>
<thead>
<tr>
<th>Reading Prep for Week 3:</th>
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<tbody>
<tr>
<td>Discuss <em>Buddhist</em> names</td>
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<tr>
<td>Class viewing and discussion: <em>Pocahontas and Me</em> (1995)</td>
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<tr>
<td>Committee presentation and final final grades: Why does popular culture go</td>
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<td>Week 3:</td>
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<td>2/12: In-class meeting</td>
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### Course Schedule

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- How do we observe and measure the movement of the Sun and the Moon? (1199)
- How do we explain the phases of the Moon and the apparent daily motion of the Sun? (189)
- What do these phases tell us about the relative positions of the Earth, Moon, and Sun? (189)
- How do we use the Moon's phases to estimate the size of the Earth? (189)
- What is the relationship between the Earth's rotation and the apparent daily motion of the Sun? (189)
- How do we use the Moon's phases to predict eclipses? (189)
- How do we use the Moon's phases to predict the tides? (189)
- How do we use the Moon's phases to predict weather patterns? (189)
- How do we use the Moon's phases to predict crop failures? (189)
- How do we use the Moon's phases to predict the movement of oceans? (189)
- How do we use the Moon's phases to predict the movement of the Earth? (189)
- How do we use the Moon's phases to predict the movement of the Sun? (189)
- How do we use the Moon's phases to predict the movement of the planets? (189)
- How do we use the Moon's phases to predict the movement of the stars? (189)
- How do we use the Moon's phases to predict the movement of the constellations? (189)
- How do we use the Moon's phases to predict the movement of the galaxies? (189)
- How do we use the Moon's phases to predict the movement of the universe? (189)


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<th>Week 10</th>
<th>Week 11</th>
<th>Week 12</th>
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<tr>
<td><strong>Reading</strong></td>
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<tr>
<td>Discuss the question of the popularity of maori, lumpy, and dit/dit/dit/dit. (all in picture)</td>
<td>Read and write a 2/4 page written paragraph next to the picture.</td>
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<td>10/15 &amp; 10 AM.</td>
<td>10/22 &amp; 10 AM.</td>
<td>10/29 &amp; 10 AM.</td>
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<tr>
<td>Post by 10 PM on Sat. 1/13 at your blog.</td>
<td>Post by 10 PM on Sat. 1/20 at your blog.</td>
<td>Post by 10 PM on Sat. 1/27 at your blog.</td>
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<td><strong>Weekend Activities</strong></td>
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<tr>
<td>Write five questions for the author or others arranged for this week.</td>
<td>Participate in the SF author online chat.</td>
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<tr>
<td>Watch some of the 1999 film.</td>
<td>Read the first two pages of the book.</td>
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<td>1/10 PM.</td>
<td>1/17 PM.</td>
<td>1/24 PM.</td>
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<td>Pass our required essay assignment for the weekend.</td>
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<tr>
<td>7</td>
<td>&quot;The Famine&quot; by W.G. Sebald (1993)</td>
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<td>7</td>
<td>Comparative &quot;The Famine&quot; Movie (1977)</td>
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<td>7</td>
<td>Chapter 1: Corporations</td>
<td>&quot;Corporations: The Real World of Business&quot; (1996)</td>
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<td>Chapter 2: &quot;The Famine&quot; Movie (1977)</td>
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<td>Chapter 3: &quot;Corporations: The Real World of Business&quot; (1996)</td>
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**Week 7 Instructions:**

- **Discussion:** Choose one of the following prompts:
  1. "The Famine" as a case study of corporate ethics.
  2. The role of corporations in shaping the real world.
  3. The impact of "The Famine" movie on public perception.

- **Reading:** Chapter 1: Corporations
  - "Corporations: The Real World of Business" (1996)
  - "The Famine" Movie (1977)

- **Writing:** Write a blog post on how companies can be seen as both winners and losers in the face of economic challenges.

**Week 7 Homework:**

- **Blog Post:** "The Famine" Movie (1977) in the Context of Corporate Ethics.
- **Discussion:** "The Famine" Movie (1977) as a Case Study.

**Week 7 Questions:**

- What are some of the ethical dilemmas faced by corporations today?
- How do corporations impact society and the environment?

**Week 7 Resources:**

- "The Famine" Movie (1977)
- "Corporations: The Real World of Business" (1996)
- "The Famine" in the Context of Corporate Ethics.

**Week 7 Notes:**

- "The Famine" Movie (1977) as a Case Study of Corporate Ethics.
- The role of corporations in shaping the real world.
- The impact of "The Famine" movie on public perception.

**Week 7 Assignments:**

- **Blog Post:** "The Famine" Movie (1977) in the Context of Corporate Ethics.
- **Discussion:** "The Famine" Movie (1977) as a Case Study.

**Week 7 Grading:**

- **Blog Post:** 50%
- **Discussion:** 50%
| Week 16 | Tuesday / 12/4 | In-class Meeting |
|----------------|
| Review course outline, course notebook, including listening to the podcast. |

| Week 17 | Tuesday / 12/11 | In-class Meeting |
|----------------|
| Small group discussions of final project papers. Blog self-reflections and write due discussion. |

| Week 18 | Monday / 1/2 | Final Project due Wednesday, December 12th, from 8:00-10:00 a.m. in our classroom. |
|----------------|
| Question session on individual projects. |

**Individual Project Research and Writing**

- [ ] For each of the three parts of the project:
  - Search for data using a data set.
  - Analyze the data using a statistical software package.
  - Write a report summarizing your findings.

- [ ] Write a final report summarizing your project. Include:
  - A summary of your research questions.
  - A description of your methodology.
  - A presentation of your results.
  - A discussion of the implications of your findings.
  - A conclusion and recommendations for future research.

- [ ] Submit your final report by the due date.