HIST 31305 Medical Devices & Innovation

Spring 2019
Class meeting time: T/TH 1:30-2:45 WALC 2127
Course Credit Hours: 3
Fulfills UNIV core requirement for Science, Technology & Society; Humanities
Fulfills Great Issues in Science, College of Science

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office hours: Tuesday 10:30-11:30

The course syllabus and other course materials are posted on Blackboard.

Course Description

This course examines the history of material cultures of health care in the United States. The class will analyze how technological innovation has become central to medicine over the last two centuries and how we are coping with the consequences, both intended and unintended, of our reliance upon such medical devices. We will look at identities associated with medical devices, the ways in which disease is constructed, how technologies contribute to the naming of maladies, and implications for emergent bioengineering and biotechnologies.

Learning Outcomes

Students will be able to:
• appreciate the circumstances and history of technological innovation in relation to medicine
• understand and recognize how assumptions about health influence the practice of science and development of technologies during the late 19th and 20th centuries
• analyze the design of objects to understand cultural consequences of their use
• develop skills for reading critical historical commentaries and evaluating them
• gain ability to question technological artifacts, practice, and knowledge in historical context

Assignments (100 points):

Individual Work
15% Homework commentary (5 x 3 points each)
10% Artifact Analysis
15% Poster (abstract & poster)
20% Design a Device Project (proposal – 5 points; individual presentation – 5; write up – 10)
10% weekly discussion, discussion support (including leading a discussion), & participation (includes in-class and online) – 10 points
15% Group Project – (presentation, write up, peer evaluation)
15% Final Project

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<tr>
<th>Date</th>
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<th>Assignment</th>
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<tbody>
<tr>
<td>1/17</td>
<td>8:00 am</td>
<td>Homework</td>
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<tr>
<td>1/31</td>
<td>8:00 am</td>
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<td>2/7</td>
<td>8:00 am</td>
<td>Homework</td>
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<tr>
<td>2/14</td>
<td>11:59 pm</td>
<td>Design Project Proposal</td>
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<td>2/21</td>
<td>11:59 pm</td>
<td>Poster Abstract</td>
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<td>2/28</td>
<td>11:59 pm</td>
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<td>3/7</td>
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<td>Artifact Analysis</td>
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<td>3/21</td>
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<td>3/28</td>
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<td>Homework</td>
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<tr>
<td>4/2</td>
<td>In-class</td>
<td>Group Projects</td>
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<td>4/9</td>
<td>8:00 am</td>
<td>Homework (optional)</td>
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<td>4/16 &amp; 4/18</td>
<td>8:00 am</td>
<td>Individual Presentations</td>
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<tr>
<td>5/1</td>
<td>11:59 pm to BB</td>
<td>Final Individual Project</td>
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Grade Scale

A 94-100%; A- 90-93%; B+ 87-89%; B 84-86%; B- 80-83%; C+ 77-79%; C 74-76%; C- 70-73%; D+ 67-69%; D 60-66%; F 0-59%

Course Materials

Articles available as pdfs through Blackboard.

Useful link: [Writing Lab at Purdue](#)

Participation

Just showing up is not enough. Your participation grade will reflect your overall participation in class discussions. I will also take into account office visits in which we discuss course material.

Criteria for grading this assignment: frequency of your participation (this includes asking intelligent questions); quality of your comments; your ability to get other students talking by raising questions or debating other students directly. **Regular and alert attendance is expected and will not qualify you for full participation points.**

Policies
Assignments are due at the beginning of class on the day they are due. THERE ARE NO LATE GRADES OR INCOMPLETES. You will need a note from the Dean to explain extenuating circumstances.

Missed classes: You are not eligible for an A with more than 3 absences. You may use your 3 however you wish. Attendance is required by university policy and is expected by me.

Academic Honesty
Student-teacher relationships are built on trust. For example, students must trust that teachers have made responsible decisions about the structure and content of the courses they teach, and teachers must trust that the assignments that students turn in are theirs. Acts that violate this trust undermine the educational process.

In this class, all assignments that are turned in for a grade must represent the student's own work. In cases where help was received, or teamwork was allowed, a notation on the assignment should indicate with whom you collaborated. If you have any questions concerning this policy before submitting an assignment, please ask for clarification.

The following will be considered instances of academic dishonesty: copying a paper from another student; recycling one's own or others' papers from other courses; obtaining part or all of a paper from another source other than your own research without providing quotations and citations; direct quotation from printed, electronic or online sources without providing a citation (including rewording or "patchwork plagiarism"); and the use of specific ideas and interpretations of printed or electronic sources without citation ("theft of ideas"). Any material that you quote should be placed under quotation marks and cited with a footnote or reference immediately following the quoted portion that provides the source. Do not hide plagiarism by quoting material and then adding a vague reference at the end of the text. You may discuss homework assignments with other students, and you may prepare for papers and class with other students, but the writing assignments should be your own work. If you quote any source or even take ideas from that source, the source should be referenced completely. The penalty for plagiarism can be an F in the course.

Copying of class notes: You may make a photocopy of written class notes for friends who have been absent from class for their personal use only. Any wider distribution outside the classroom, such as posting on the Internet or via a list to anyone not in this class, is prohibited and will result in an F in the course.

In case of emergency:
In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor’s control. Here are ways to get information about changes in this course.

Course web page (via Blackboard)
Instructor’s email (svostral@purdue.edu)
Instructor’s phone (History Department, (765) 494-4132)

Schedule
*indicates scholarly article

1/8
Introductions
Artifacts, Practice, Knowledge

1/10
Social Construction of Disease
- Barbara Ehrenreich, “Stamping out a Dread Scourge,” Time (2/17/92) – SATIRE

1/15
Framing Technology

1/17
Tools & Diagnosis
- Alix Spiegel, “How a bone disease grew to the fit the description” NPR (12/21/09)
- Follow up: Devin Dwyer, “Supreme Court to Decide if Fosamax users can sue Merck over bone fractures” (1/7/19)
- Homework Due

1/22
Origins of Medical Technology
- Mutter Museum in Philadelphia
• Wellcome Institute
• Smithsonian

1/24
**The Hospital and Patient Care**
- *Joel Howell, Technology in The Hospital: Transforming Patient Care in The Early Twentieth Century* (1995), chapters 1 & 2
- Introduce poster project

1/29
**Medicine in the Archives: Stephanie Schmidt**
- Hold Cart Item list on BB
- Read: Laura Schmidt, “Using Archives: A Guide to Effective Research”

1/31
**Prosthetics**
- *David Serlin, Replaceable You, Intro, ch. 1. (1-56)*
- Homework Due

2/5
**Biotechnology**
- Christine Farr, “Doctors are asking Silicon Valley engineers to spend more time in the hospital before building apps”* (CNBC 12/28/18)
- Introduce design project

2/7
**Biomedicalization**
- Homework due

2/12
**X-rays**

**2/14**

*Visualizing Bodies*
- In-Class: Poster Topics
  - **Design Project Proposal Due**

**2/19**

*Microbial Self*

**2/21**

*Technology and Identity*
- Listen: *The Classification of Sex*
- **Poster Registration with abstract [3000 characters] due**

**2/26**

Draft Run of Poster in class (small group critique – questions and feedback)

**2/28**

*Poster Session 1-3 pm*
- Meet at Purdue Memorial Union’s North Ballroom
- **Poster Due**

**3/5**

*Reproductive Medicine*
- *Terri Kapsalis, "Mastering the Female Pelvis: Race and the Tools of Reproduction."* In

3/7
Reproductive Medicine

- Artifact Analysis due

Spring break

3/19
Discovery, Property & Ownership

- Rebecca Skloot, The Immortal Life of Henrietta Lacks, part 1 & 2

3/21
Discovery & Ownership: HeLa Cell Line

- Rebecca Skloot, The Immortal Life of Henrietta Lacks, part 3

- Homework Due

3/26
Medical Devices & Regulation

- Optional: Youtube tutorial FDA Regulation of Medical Devices and part 2

3/28
Implantable Devices & Risk

- Listen on Fresh Air: Are Implanted Medical Devices Creating A 'Danger Within Us'?
• “Thousands of Swedes are Implanting microchips under their skin,” NPR (10/22/18)

Homework due

4/2
Group Projects

4/4
Group Projects

4/9
Technology & Standards
• The Kilogram
  • Optional Homework Due

4/11
Popular Culture & Meaning Making
• In Class: Netflix, *The Bleeding Edge*
• Various Reviews:
  • NYT
  • Time
  • The Guardian
  • CBS News

-OR-
• In-Class for group discussion:
  • “How medical devices like pacemakers and insulin pumps can be hacked” (11/8/2018)
  • Exporting pain: U.S.-made medical devices cause serious injuries, pain overseas (NBC News 11/25/18)
  • How Profiteers Lure Women Into Often-Unneeded Surgery (NYT April 14, 2018)
  • ’Bleed Out’ Shows How Medical Errors Can Have Life-Changing Consequences
  • Jeanne Lenzer, “What happens when the world’s biggest medical device maker becomes a “health services provider”?” (BMJ, 11/26/18)

4/16
Individual Project Presentations

4/18
Individual Project Presentations
4/23
Discussion and Closing Activity

4/25
No Class. AAHM Conference

Final project due 5/1 11:59 pm