

**GERMS, GENES AND THE BODY:
SCIENCE AND TECHNOLOGY IN MODERN MEDICINE**
History 381-Honors

SPRING 2012 SYLLABUS

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Class Meetings

Kupfrian Hall 202, NJIT Campus
10:00 – 11:30 AM Mondays & Wednesdays

Office & Contact

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Office Hours

Wednesdays 1:30 – 2:30 PM
Mondays, Wednesdays, & Thursdays by appointment

This history course examines the critical roles of science and technology in modern medicine. It investigates how and why science and technology are integral to modern medicine, and explores the effects of medical investments in science and technology. Readings, lectures, and discussion will focus on the specific innovations in ideas, practices, and technologies that helped transform Western medicine in the 19th and 20th centuries and render it “modern.” Of particular focus will be the extent to which medicine is or has been scientific; the ways science became vital to the medical and health professions; and the degrees to which the professional cultures of medicine and the biomedical science both mirror and inform attitudes toward the human body in Western society and culture. The lectures and readings will allow us to link interactions between medicine, science and culture to the changing political economies of health care in North America and Europe, and analyze a variety of issues, including the growing role of technology in medicine, the integral relationship between medicine and public health in the modern world, the roles of business and government in innovating health care, and the historical effects of specific disease problems for the advancement of science-based healing. Students will also have the opportunity to explore how issues of class, race and ethnicity, and gender have impacted cultural understandings of the body and interactions between medical professionals, scientists, industry, government, and the public.

Prerequisites.

HUM 101 and two from among HUM 102, HUM 211, HUM 212 and HIST 213 or their equivalents. Student must be enrolled in the Albert Dorman Honors College or receive professor’s permission to take the honors section of this course.

Course Webpage. There is a Moodle webpage for this course that the professor and class will utilize throughout the semester. Please consult the website regularly, and familiarize yourself with its contents. It contains the syllabus, assignments, readings, discussion forums, and other features that will enhance your learning experience this semester. Login to the following web address using your UCID number: <http://moodle.njit.edu/>

Readings. The required readings for this course include one book and numerous shorter readings assignments. Students should follow the semester schedule below to determine what readings to complete for each class period.

Short Readings: Short readings are newspaper or magazine articles, scholarly essays, articles, or book chapters. These readings are available as PDFs on the course moodle page. Full descriptions and proper citations of these readings are referenced in the “Course Readings” document found on moodle.

Books: The one book assigned in this course is Anne Fadiman’s *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures* (Farrar, Strauss and Giroux, 1997) ISBN # 0374525641. Copies are available at the NJIT Campus bookstore.

Assignments and Grading

The primary goal of this course is to promote critical thinking about modern medicine and society, both past and present. All students will be evaluated on their written and oral communication over the course of the semester. In addition to in-class participation and on-line discussion forums, the student will write one essay and complete mid-term and final exams.

Assignments and Due Dates

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|-------------------|------------|--|
| Participation | 15% | |
| Discussion Forums | 20% | Feb 6 and Apr 4 |
| Mid-term Exam | 20% | Feb 29 |
| Final Essay | 25% | April 25 |
| Final Exam | 20% | May 3-9, to be determined by registrar |
| Course Grade | <hr/> 100% | |

Participation and Attendance Policy

Participation will count **15%** of your final grade. The class participation grade will reflect both the student's attendance record and the student's performance in classroom activities. These areas are evaluated as follows.

Attendance. Attendance accounts for 2/3rds of the participation grade, the equivalent of 10% of the student's final grade. Students should respect the learning environment by arriving on time and staying the full term of the session. Missing even a single class is not recommended. However, each student is allowed to miss three full class periods without penalty to his or her participation grade. No excuses are necessary for those three classes. Any class time missed beyond the first three classes will result in substantial reductions in the student's participation grade (as calculated as a percentage of formal contact hours in the classroom for the semester). Any absences beyond the first three must be fully documented to be "excusable" (e.g., a physician's note or a printed obituary in the case of a death in the family). Perfect and prompt attendance will be rewarded for those who strive to achieve it.

Classroom Performance. The student's engagement with classroom activities accounts for 1/3rd of the participation grade, the equivalent of 5% of the final grade. Each student should be attentive in class, actively listen to the lectures, and be prepared to discuss the readings assigned for the day. The student's comprehension of the assigned readings is graded in this course. The professor will evaluate reading comprehension, in part, by taking account of each student's oral contributions in class. Students who participate regularly and constructively to the class discussion will be rewarded with higher grades in their final participation grade. Merely coming to class does not constitute constructive engagement (because attendance is considered a separate component of participation). The student must contribute to the learning environment to receive credit in this area. The professor will also consider improvement and other factors in his assessment of each student's participation grade, and the professor reserves the right to award extra credit to students whose contributions to the learning environment are substantial.

Above all, students should promptly communicate any concerns they may have about their ability to meet the attendance or classroom participation requirements with the professor.

Discussion Forums

The student's ability to discuss the readings in written form is graded throughout this course. The professor will evaluate the student's competency at discussing the readings by taking account of each student's contributions to in-class discussions (graded as "participation") as well as his or her contributions to the classes' on-line discussion forums that will be posted on the course Moodle page regularly. Every student is expected to post **TWO** written responses to the discussion forum questions over the course of the semester. The due dates and guidelines for these on-line forum responses are detailed in a separate document that is available on moodle. Performance on the discussion forums will count as **20%** of your final course grade (i.e., each forum is worth 10% of your final grade).

Two Exams

The Mid-term Exam will be given on **February 29**. The mid-term will address all material covered in the first half of the course, and will count **20%** of your final course grade. Details on the format of this in-class exam will be provided at least a week in advance and there will be also be an in-class review session on **February 27**.

The Final Exam will be given during exam week, **May 3-9**. This exam will emphasize readings, lectures and discussions since the mid-term exam, and will count **20%** of your final course grade. There will be an in-class review session on **April 30**, and the format of the exam will be announced at least a week in advance of the review session.

Final Essay

The essay will address an issue raised in Anne Fadiman's book, *The Spirit Catches You and You Fall Down*. A choice of paper topics and guidelines for the writing assignment will be distributed to the class no later than two weeks before the assignment is due. The student will choose one of the topics and write an essay (6-8 paged, double-spaced) on it. This essay assignment counts for **25%** of your final course grade, and an electronic copy of the paper is due on **April 25**. Late essays will be penalized up to 5 points per day and will not be accepted after **May 1**.

The Honor Code and Plagiarism

The honor code and academic integrity are *enforced* in this course. Plagiarism involves using the written or oral work of others without acknowledgement, and/or representing that work as your own. *Plagiarism or any other honor code violations will be reported to the Dean of Students office.*

You will be required to submit your final essay to Turnitin.com, an online service used by NJIT instructors to detect plagiarism. Details for using the service will be provided along with guidelines for the writing assignments.

Additional information about plagiarism can be found on the course moodle page. This material includes links to NJIT's academic integrity website as well as detailed tutorials that explain what is and is not acceptable academic work. Proper citation in your written work will help you avoid plagiarism. There are also guidelines on moodle on how to cite sources in your writing for this course. Again, all students are expected to abide by the norms outlined in these websites, and will be penalized for failure to do so. Once you have reviewed this materials, please consult the professor if you have any additional questions or concerns about plagiarism or its meaning.

Respect for Persons and the Learning Environment

In the interest of an open exchange of ideas and collegiality, everyone participating in the class should strive to respect their classmates as persons. The professor will make every

effort to facilitate a respectful environment for learning, but students should keep in mind their own responsibilities in the classroom.

Students who have special needs or concerns that might impact their learning experience should feel free to raise or discuss their situation with the professor. The professor will hold all individual communication in confidence.

Semester Schedule

Wed, Jan 18. Introduction to “Germs, Genes, and the Body: How Science and Technology Have Mattered to Modern Medicine”

In class handout: Lewis Thomas, “The Technology of Medicine” (6 pages)

Mon, Jan 23. Anatomical Knowledge, 18th – 19th Centuries

Reading: Ruth Richardson, “The Corpse as an Anatomical Object” (22 pages)

Wed, Jan 25. The Cadaver as Commodity

Reading: Ruth Richardson, “The Corpse as a Commodity” (21 pages)

Mon, Jan 30. William Beaumont, Physiology, and Human Experimentation

Reading: Ronald Numbers, “William Beaumont and the Ethics of Human Experimentation” (32 pages)

Wed, Feb 1. Experimental Medicine in the 19th Century

Reading: Claude Bernard, “An Introduction to the Study of Experimental Medicine,” (5 pages)

Mon, Feb 6. The Body and Modern Medicine

First Discussion Forum Due

Wed, Feb 8. Hospitalism: Semmelweis and Childbed Fever

Reading: Ignaz Semmelweis, “The Etiology, Concept, and Prophylaxis of Childbed Fever,” (7 pages)

Mon, Feb 13. What is Germ Theory?

Reading: Joseph Lister, “On the Antiseptic Principle in the Practice of Surgery;” Louis Pasteur “On the Extension of Germ Theory to the Etiology of Certain Common Diseases;” Rom Harré, “Louis Pasteur: The Preparation of Artificial Vaccines;” and Robert Koch, “The Aetiology of Tuberculosis.” (21 pages total)

Wed, Feb 15. How Germs Mattered for Public Health I: Immigrant Medical Inspections by the U.S. Public Health Service

Reading: Alan Kraut, “‘Proper Precautions’: Searching for Illness on Ellis Island” (27 pages)

Mon, Feb 20. How Germs Mattered for Public Health II: Quarantine and Social Status at the Turn-of-the-Century

Reading: Alan Kraut, “A Plague of Nativism: The Cases of Chick Gin and ‘Typhoid Mary’ (27 pages)

Wed, Feb 22. How Germs Mattered for Medicine and Surgery

Reading: Barron Lerner, “Establishing a Tradition: William Halstead and the Radical Mastectomy (25 pages)

Mon, Feb 27. Midterm Review

Wed, Feb 29. Midterm Exam

Mon, Mar 5. The Turn to the Twentieth Century in Medicine

Reading: Begin Anne Fadiman, *The Spirit Catches You and You Fall Down*, Preface - Ch.4 (38 pages)

Wed, Mar 7. Heredity, Genetics, & Eugenics

Reading: Ruth Schwartz Cowan, “Many Varieties of Beautiful Inheritance” (29 pages)

Mar 12-16. Spring Break

Recommended reading: Read as much of Anne Fadiman’s book as you can.

Mon, Mar 19. The Black Stork: A Case Study in Eugenics, Euthanasia, and Popular Culture

Reading: Martin Pernick, “The Birth of a Controversy,” “Contexts to the Conflict,” pp. 3-39 and “The Black Stork,” pp. 143 - 158 of *The Black Stork* (53 pages)

Wed, Mar 21. Racial Hygiene and Nazi Medicine I

Reading: Robert Proctor, “The Sterilization Law,” (25 pages)

Mon, Mar 26. Racial Hygiene and Nazi Medicine II

Reading: Robert Proctor, “The Destruction of ‘Lives Not Worth Living,’” (48 pages)

Wed, Mar 28. No Class – But Must Read

Reading: Continue Anne Fadiman, *The Spirit Catches You*, Ch.5 – Ch. 6 (40 pages)

Mon, Apr 2. Vivisection and Experimental Medicine in the Twentieth Century, I

Reading: Susan Lederer, “Political Animals,” (18 pages)

Wed, Apr 4. Race, Science and Innovation in Twentieth-Century America

In-Class Movie: “Partners of the Heart: A Black Genius, A White Surgeon, A Blue Baby, and a Miracle”

Discussion Forum Due

Mon, Apr 9. Vivisection and Experimental Medicine in the Twentieth Century, II

Reading: Richard Wright, “The Man Who Went to Chicago,” (40 pages) and Stephen Pemberton, “Canine Technologies, Model Patients” (17 pages)

Wed, Apr 11. Blood Transfusion in the Twentieth Century

Documentary Movie (In-Class): Excerpts from *The Epic Story of Blood*

Reading: Continue *The Spirit Catches You*, Ch. 7 – Ch. 9 (41 pages)

Mon, Apr 16. Diabetes, Insulin, and Quality of Life

Reading: Chris Feudtner, “The Want of Control” (25 pages)

Wed, Apr 18. *The Spirit Catches You and You Fall Down*

Reading: Continue Fadiman, *The Spirit Catches You*, Ch. 10 – Ch. 13 (62 pages)

Begin In-Class Discussion of Book

Mon, Apr 23. Biomedicine in Cross-Cultural Context

Reading: Continue Fadiman, *The Spirit Catches You*, Ch. 14 – Ch. 19 (97 pages)

In-Class Discussion of Book

Wed, Apr 25. Biomedicine in American Society

Final Essay Due

In-Class Discussion of Themes of the Course

Mon, Apr 30. Review for Final Exam

Final Exam Week – May 3-9

Final exam time and place determined by NJIT Registrar