



History of Science & Technology (HHS -130-A)

College of Arts and Letters

Spring 2018

Meeting Times: Monday 11-12:40 and Wednesday 12-12:50

Classroom Location: Peirce 220

Instructor: Dr. Carolyn Elerding

Contact Information: celerdin@stevens.edu, Peirce 109A

Office Hours: Monday 1:00-2:00, Wednesday 11:00-11:45, or by appointment

CAL Objectives:

1. Students will demonstrate an awareness of ethical responsibility and the societal impact of their future profession.
2. Students will demonstrate a fuller understanding of the traditional humanities and social sciences through an understanding of their relation to the study of sciences and technology.
3. Students will demonstrate an awareness of cultures and societies other than their own.
4. Students will demonstrate writing and public speaking skills.
5. Students will demonstrate a love of learning in the liberal arts for its own sake.
6. Students will demonstrate leadership and team skills.

STS Program Outcomes:

1. *Philosophical foundation.* The student will understand the underlying theories and methods used in Science and Technology Studies and be able to apply them in individual and team research.
2. *Historical foundation.* The student will understand the evolution of the Science and Technology Studies as an academic field, and be able to discern different schools of interpretation within STS.
3. *Research.* The student will be able to design and conduct research and to ask and answer appropriate and original research questions.
4. *Tools.* The student will be proficient in the application of STS tools, methods, and concepts toward the resolution of practical problems.
5. *Professionalism.* The student will achieve a high degree of knowledge, accountability, and ability to transfer classroom experiences to professional practice.
6. *Leadership.* The student will be able to develop plans for research projects and policy actions on a professional level.
7. *Teamwork.* The student will be able to contribute to research activity as part of working team member, and facilitate cooperation among the members of the team resulting in a successful project.
8. *Communication.* The student will enhance written and oral presentation skills using a variety of mean to convey significant ideas and proposals.

9. *Ethics*. The student will understand and abide by professional standards of ethics appropriate for STS research.
10. *Social Issues*. The student will place into modern social context information derived from research such that the relationship between theory and practice are manifest.
11. *Lifetime learning*. The student will be treated as a professional with a lifelong investment in one's field of study, and a professional goal of continuing self-assessment and self-improvement.

HHS-130 Course Outcomes:

1. Students will be able to discuss the historical development of the modern world. (2)
2. Students will be able to discuss and debate the connections between science and technology. (4)
3. Students will be able to demonstrate knowledge of the ways in which science and technology have fit into different social, political, economic, and cultural contexts. (10)
4. Students will be able to discuss contemporary questions concerning science and technology with nuanced reasoning based on historical knowledge. (1)

FORMAT AND STRUCTURE

Class meetings will involve a combination of lecture, discussion, and collaborative learning activities. Student progress will be assessed through frequent quizzes, preparedness for discussion, short reflection papers, midterm and final exams, and a final paper and presentation that will combine research skills and persuasion to argue a position related to course content.

COURSE MATERIALS Textbook:

Merchant, Carolyn. *Science and Nature: Past, Present, and Future*. New York and London: Routledge, 2018. ISBN 13: 978-1-13-808405-6. (paperback)

Other Readings: See Canvas for PDFs

Materials:

Unless stated otherwise in advance (for an activity requiring online sources, for example) digital devices must be shut off and put away during class. It is strongly recommended that students bring supplies for written note-taking to each class meeting.

COURSE REQUIREMENTS

Attendance: Students should attend class and arrive on time. Attendance is not graded, but it is recorded for institutional purposes and to determine whether missed work can be made up. Excused absences must be documented. Acceptance of documentation is at the

instructor's discretion. Students planning to be absent should communicate with the instructor via email as far in advance as possible. Students are responsible for obtaining notes from classmates after missing class. The instructor cannot recreate a missed class during office hours.

Participation: Four times during the term, students will grade themselves on their participation according to the participation rubric on Canvas. Final participation grades will be determined based on these student reports, at the instructor's discretion.

Reflections (6 total): Every two to three weeks, students will compose brief written contemplations of course themes and materials. Two reflections may be in a medium other than writing, such as video, audio, or programming, but it is not required (in other words, all reflections may be written if so desired). Examples will be posted on Canvas.

Quizzes (approximately daily): Students should assume that every class meeting will begin with a brief quiz based on the reading assignment or the previous class lecture, often written on students' own paper. Students must be prepared and bring paper and writing utensils to each class. Quizzes are also the primary means of recording attendance. It is the responsibility of students who arrive late to communicate with the professor after class to ensure that their attendance was noted.

Discussion questions: To prepare for class discussion of viewing and reading assignments marked with an asterisk (*), students must submit a thoughtful and relevant discussion question via email by 10:00 pm the evening before class. Examples will be posted on Canvas. Some discussion question assignments will include a prompt requiring a specific focus. Instructor will announce additional discussion questions required for non-marked assignments.

Final paper and presentation: The final paper and presentation project requires research and argumentation of a position regarding a topic chosen by the student and approved by the instructor. Assignment prompt, rubric, and other materials will be posted on Canvas.

Documentary responses: There will be two brief essays required on documentaries related to the history of science and technology. Assignment prompt, rubric, and other materials will be posted on Canvas.

Exams: There will be a final exam. Students anticipating summer travel will note that, because this is a 100-level course, the final must be given at the scheduled time during the final exam period.

GRADING PROCEDURES

Class Participation (10%)

Reflections (10%)

Quizzes (10%)

Discussion Questions (10%)

Documentary Response #1 (15%)

Documentary Response #2 (20%)

Final Exam (5%)

Final Paper and Presentation (25%)

ACADEMIC INTEGRITY

Undergraduate Honor System

Enrollment into the undergraduate class of Stevens Institute of Technology signifies a student's commitment to the Honor System. Accordingly, the provisions of the Stevens Honor System apply to all undergraduate students in coursework and Honor Board proceedings. It is the responsibility of each student to become acquainted with and to uphold the ideals set forth in the [Honor System Constitution \(http://web.stevens.edu/honor/documents/constitution.pdf\)](http://web.stevens.edu/honor/documents/constitution.pdf) . More information about the Honor System including the constitution, bylaws, investigative procedures, and the penalty matrix can be found online at <http://web.stevens.edu/honor/>

The following pledge shall be written in full and signed by every student on all submitted work (including, but not limited to, homework, projects, lab reports, code, quizzes and exams) that is assigned by the course instructor. No work shall be graded unless the pledge is written in full and signed.

"I pledge my honor that I have abided by the Stevens Honor System."

Reporting Honor System Violations

Students who believe a violation of the Honor System has been committed should report it within ten business days of the suspected violation. Students have the option to remain anonymous and can report violations online at www.stevens.edu/honor (<http://www.stevens.edu/honor>) .

LEARNING ACCOMMODATIONS

Stevens Institute of Technology is dedicated to providing appropriate accommodations to students with documented disabilities. The Office of Disability Services (ODS) works with undergraduate and graduate students with learning disabilities, attention deficit-hyperactivity disorders, physical disabilities, sensory impairments, psychiatric disorders, and other such disabilities in order to help students achieve their academic and personal potential. They facilitate equal access to the educational programs and opportunities offered at Stevens and coordinate reasonable accommodations for eligible students. These services are designed to encourage independence and self-advocacy with support from the ODS staff. The ODS

staff will facilitate the provision of accommodations on a case-by-case basis.

Disability Services Confidentiality Policy

Student Disability Files are kept separate from academic files and are stored in a secure location within the Office of Disability Services. The Family Educational Rights Privacy Act (FERPA, 20 U.S.C. 1232g; 34CFR, Part 99) regulates disclosure of disability documentation and records maintained by Stevens Disability Services. According to this act, prior written consent by the student is required before our Disability Services office may release disability documentation or records to anyone. An exception is made in unusual circumstances, such as the case of health and safety emergencies.

For more information about Disability Services and the process to receive accommodations, visit <https://www.stevens.edu /office-disability-services>. If you have any questions please contact: Phillip Gehman, the Director of Disability Services Coordinator at Stevens Institute of Technology at pgehman@stevens.edu or by phone (201) 216-3748.

INCLUSIVITY

Name and Pronoun Usage

As this course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect. This includes the ability for all students to have their chosen gender pronoun(s) and chosen name affirmed. If the class roster does not align with your name and/or pronouns, please inform the instructor of the necessary

Inclusion Statement

Stevens Institute of Technology believes that diversity and inclusiveness are essential to excellence in academic discourse and innovation. In this class, the perspective of people of all races, ethnicities, gender expressions and gender identities, religions, sexual orientations, disabilities, socioeconomic backgrounds, and nationalities will be respected and viewed as a resource and benefit throughout the semester. Suggestions to further diversify class materials and assignments are encouraged. If any course meetings conflict with your religious events, please do not hesitate to reach out to your instructor to make alternative arrangements.

You are expected to treat your instructor and all other participants in the course with courtesy and respect. Disrespectful conduct and harassing statements will not be tolerated and may result in disciplinary actions.

COURSE SCHEDULE (subject to change)

Date	Unit/Topic	Assignment
1/17 W	Course Introduction	watch <i>Particle Fever</i>

Date	Unit/Topic	Assignment
1/22 M	Ways of Knowing and Doing History	Wright, "What If Beddoes & Davy Had Attempted Surgical Anesthesia in 1799?" Losh, "Home Inspection: Mina Rees and National Computing Infrastructure"
1/24 W	Science and Technology in Prehistory and Antiquity	watch <i>Cave of Forgotten Dreams</i>
1/29 M	Science and Technology in World History	McClellan & Dorn 117-159
1/31 W	Science and Technology in Western Civilization	watch <i>The Mill and the Cross</i>
2/5 M	The Scientific Revolution	Reflection #1 McClellan & Dorn 223-242 *watch <i>Life of Galileo</i>
2/7 W		Participation Report #1 Merchant 9-29
2/12 M		*Merchant 31-45
2/14 W		Merchant 46-64
2/19 M: no classes		
2/21 W: Monday Schedule		Reflection #2 *Merchant 65-87
2/26 M		Merchant 89-99

Date	Unit/Topic	Assignment
2/28 W		*Merchant 99-125
3/5 M		Participation Report #2 *Merchant 127-136
3/7 W	Finding Appropriate Paper Sources	
3/12 M: Spring Break		
3/14 W: Spring Break		
3/19 M	The Industrial Revolution	Reflection #3, *Gelzer, "Speed Is a Virtue"
3/21 W		watch <i>Darwin's Struggle</i>
3/26 M		McClellan & Dorn 349-364 paper proposal Reflection #4 *watch <i>The Bomb</i> and <i>The Day After Trinity</i>
3/28 W	Science and Technology in Histories of Social Differences	watch <i>The Imitation Game</i>
4/2 M		*Hicks, "A Feature, Not a Bug" Annotated bibliography
4/4 W		Reflection #5 Merchant 137-168

Date	Unit/Topic	Assignment
4/9 M		Merchant 171-190 Participation Report #3
4/11 W		*Nakamura, “Indigenous Circuits”
4/16 M		watch <i>Miss Evers’ Boys</i>
4/18 W	Science and Technology, Nature and Environment	Reflection #6 *Merchant 191-207 Peer editing session for final paper
4/23 M		Presentations Merchant 209-225
4/25 W		Presentations Merchant 227-232
4/30 M		Presentations Merchant 233-248 Deadline to submit <i>optional</i> revision draft of final paper
5/2 W	Concluding Remarks	Presentations
5/4 F – 5/16 W: Final Exams		Participation Report #4 due 5/4 Final paper deadline: 5/9, 11:59 pm, Canvas Final exam: Wednesday 5/16, 1-5 pm, BC-210