STS 2113W: History and Philosophy of Internet Technology
6 to 7:50 pm, Mondays, Wednesdays, and Fridays, Jacobs Academic Building 773
Polytechnic Institute of New York University
Summer 2011, X Session

Instructor
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Office hours: 5 to 6 pm, Mondays and Fridays, or by appointment

Prerequisite
Students must have completed HuSS 1023W (or the equivalent) before taking this course.

Course Description
The course considers the Internet in its technical and historical context, assessing typical claims about the development of its hardware and software. Unlike many other projects in the age of big science, the Internet was not organized and developed by a project team on a strict deadline. Indeed, it is impossible find a single germ of the idea and track its progress. To the contrary, the history of the Internet involves many false starts and happy accidents, conflicting ideologies and divergent inspirations. Only by studying the interactions among these histories and philosophies can one appreciate the current implementation of network technologies and imagine new possibilities for the networks of the future.

Objectives
This semester you will learn to:
• Analyze the features of the Internet in the context of earlier networks
• Understand networks as examples of technical culture in the second industrial revolution, the age of big science, and as financed by venture capital
• Explain how a defense project became a platform for commerce and interpersonal exchange and consider the relationship between government and innovation
• Hypothesize the objectives and ideals of practitioners by reading primary sources
• Use fundamental terms in Science and Technology Studies, such as technology transfer, technological dialogue, actor-network theory, and technological determinism
• Practice intermediate techniques in writing and completing research projects

Structure
Most class time is devoted to lectures about course topics and discussion of the reading material. Because this course is designated as writing-intensive, some class time is spent on topics related to writing; in addition, there are writing assignments, both formal and informal, and required revision of your writing based on comments from the instructor and your classmates.

Textbook
You will need Blogistan: The Internet and Politics in Iran, which you can purchase online. The remainder of the required texts for the course is found online or via Blackboard, as well as books that are on reserve in the Dibner library. Please let me know well in advance of class if you have any trouble locating a required reading assignment.
Grading
I shall calculate your semester grade as follows:

- Presentation 10%
- Quizzes 20%
- Final exam 20%
- Writing exercises 20%
- Research paper 30%

Requirements

Attendance: On-time attendance for the entire class period is mandatory. Students who miss three or more classes automatically fail the course. For the purposes of attendance, missing fewer than twenty minutes counts as one-third of an absence (arriving late, departing early, leaving the room). Missing more than twenty minutes counts as an absence. Doctor’s notes are not necessary.

Attentiveness: Please pay attention during class and avoid behaviors that distract others. Do not eat, drink, or sleep during class. You should not use electronic devices, such as cell phones or laptops, at all. Do not hold side conversations; if someone tries to talk to you during class, tell him or her to speak to you after class. Do not bring visitors without advance permission.

Examination: There is a final exam during our last regular class meeting. It consists of short answer and essay questions, and is cumulative and closed-book.

Honesty: Please be advised that I take the University policy about academic dishonesty seriously and will punish cheating or plagiarism by awarding a grade of “F” for the course and referring cases to Student Affairs for further action.

Research Paper: During the course of the summer, you will prepare a research paper. The specific topic is something you must develop on your own in relation to your personal interests and career goal, but in some way it must concern the history or philosophy of the Internet. This paper must be at least 4,000 of your own words (approximately 12 pages) long and use a combination of scholarly and popular sources. You can and should use the writing exercises to prepare for this paper. You will have a chance to get feedback on the project after you present it to the class, and you will also have an opportunity to gain peer comments before handing the paper in. The paper must be uploaded to Blackboard and scanned by SafeAssign before the deadline. No late papers can be accepted.

Preparation: According to New York State guidelines, a student should spend at least two hours to prepare for each hour in class. Thus, for this course, you can expect to spend at least twelve hours per week getting ready for class. Please plan accordingly so that you can read thoroughly, write carefully, and reflect thoughtfully.

Presentation: Toward the end of the X session, you will have the opportunity to present a portion of your research paper to the class. You should provide a handout to the class of relevant resources they can use to learn more about the topic. In addition, please present your thesis and explain some examples of how your research supports it. The presentation will be about 10 minutes long.

Quizzes: There will be unannounced quizzes on the reading assignments and course lessons. You may consult your own handwritten notes, but not books or printouts, for these quizzes. If you miss a quiz due to lateness or absence, you shall receive a zero.

Writing Exercises: These are short writing projects that help you prepare your research paper. Unless otherwise specified, they should be from 300 to 400 words in length. Upload these to Blackboard so that they may be screened by SafeAssign. If you miss a deadline, you will get a zero for the assignment, but you should still hand it in so that you can get feedback that you can use for the project as a whole.
How to Do Well

1. **Be on time.** At the start of class, you will notice that I provide a preview of what is coming up and also answer questions. If you regularly miss these first minutes, you will start to feel the uncomfortable sensation that you do not know what is going on. Keep in mind that trains, subways and busses usually take much longer than they “should,” so plan accordingly. Being late once is ok; it happens to everyone. If you are always late, then you are doing something wrong.

2. **Ask questions.** Please raise your hand at the beginning of class or during a presentation. It does little good to whisper to the person next to you; instead, feel free to ask me for clarification. Also, use office hours or write an e-mail message for additional information.

3. **Take notes,** even if I am not writing on the board. Taking notes helps you stay focused on the material we are studying. Note taking also serves another purpose: it helps you to get used to writing about the course materials in your own words. Since the evaluation in this course is written, taking notes is valuable practice (and good exercise for your writing muscles!). There is no need to write down everything I say, but make sure you take down interesting ideas and connections to the course themes. Go over your notes after class to fill in the gaps.

4. **Read actively.** Prepare by reading the assignment for the day carefully before class. Mark key phrases and passages that have to do with the ideas in the course. Take notes like you are preparing a laboratory notebook – write down what you think is important, with examples, and prepare questions you want to ask.

5. **Prepare a writing log.** You will gain feedback on your writing several times during this course. Keep a list of your personal problem areas, along with “right and wrong” examples, to help yourself move to the next level of proficiency.

6. **Work proactively.** Start an assignment when it is assigned, not when the deadline is looming. It sometimes takes a little bit of time wondering about an assignment before you make progress, and there are often times that you need guidance. If you wait until the last moment to get started, you cannot negotiate these hurdles adequately.

Bibliography

I shall refer to these standard reference books during the semester. Since you may find them useful, I have placed them on reserve in the Bern Dibner Library where possible.

- Abbate, Janet. 1999. *Inventing the Internet.* The single most important book about Internet technology, from packet switching to the worldwide web.


• Goldsmith, Jack and Tim Wu. 2006. *Who Controls the Internet? Illusions of a Borderless World.* Legal history, as far back as DNS but mainly concerned with the 1990s.


• Hauben, Michael and Ronda Hauben. 1995. *Netizens: On the History and Impact of Usenet and the Internet.* Invaluable source of user comments on the early days of Usenet.


• Morozov, Evgeny. *The Net Delusion: The Dark Side of Internet Freedom.* Explodes some myths about the Internet and democracy in the 21st century.


Tentative Assignment Schedule

**Friday, June 3**

*Electric Networks and Technology Transfer*

Read Hughes, “Edison’s System Abroad: Technology Transfer,” from *Networks of Power*

**Monday, June 6**

*From Amateurs to Oligopoly*

Read Tim Wu, chapters 5, 9, and 10 from *The Master Switch: The Rise and Fall of Information Regimes*

**Wednesday, June 8**

*Microfilm Visions at Midcentury*

Read H. G. Wells, “The World Brain”; Vannevar Bush, “How We May Think”; Eugene Garfield, “Citation Indexes for Science”

Writing assignment: Choose topic for research paper

*Note: Thursday, June 9, is the last day for program adjustments in the X session. If you drop before this deadline, no notation will appear on your transcript. No one may add the course after this date.*

**Friday, June 10**

*Three Fathers of Packet Switching*

Monday, June 13  Transformations of ARPAnet
Writing assignment: Conduct background research, write formal proposal

Wednesday, June 15  Approaches to Networking
Writing assignment: definition

Friday, June 17  Rise of the Networks
Writing assignment: process analysis

Monday, June 20  CompuServ, AOL, and WorldWideWeb
Read Nina Munk, “Enter the Internet Cowboys” from Fools Rush In; Tim Berners-Lee, chapters 2 and 3 of Weaving the Web
Writing assignment: outline and bibliography

Wednesday, June 22  How Al Gore Created the Internet

Friday, June 24  Dot-Com Boom, Dot-Com Bust
Read Tim Wu, Chapter 19 of The Master Switch; Debra Howcroft, “After the Goldrush: Deconstructing the Myths of the Dot-Com Market”
Writing assignment: division or classification

Monday, June 27  Web 2.0
Read Steven Levy, “Don’t Be Evil: How Google Built Its Culture” from In the Plex; Tim O’Reilly, “What is Web 2.0?”
Writing assignment: writing log

Wednesday, June 29  Research Project Presentations

Note: Thursday, June 30, is the withdrawal deadline. If you withdraw before this date, you will see a “W” on your transcript. Otherwise, you will see a grade A to F at the end of the course.
Friday, July 1  China
Read Sherman So and J. Christopher Westland, “Baidu” and “Google’s China Legacy” from *Red Wired*; Guobin Yang, “Utopian Realism in Online Communities” from *The Power of the Internet in China*
Writing assignment: compare or contrast

*Note: On Monday, July 4, class does not meet.*

Wednesday, July 6  Net Neutrality
Writing assignment: Bring draft of paper for peer review

“Monday,” July 7  Internet and Iran
Read Annabelle Sreberny and Gholam Khiabany, Introduction and chapters 1–3 of *Blogistan: The Internet and Politics in Iran*

Friday, July 8  Internet and Iran, continued
Read Sreberny and Khiabany, Chapters 4-end of *Blogistan*

Monday, July 11  IPv6
Read Laura Denardis, “The Internet Address Space”
Writing assignment: Upload paper to SafeAssign before class

Wednesday, July 13  Final Exam