

CPSS 101 Freshmen Colloquium – Syllabus
Science, Technology and Society (Spring 2015)
Mondays 3:30 – 4:50
Room: CCC 1205

Note: Places where I integrated sustainability into the syllabus are highlighted in yellow.

Instructors

David Tomblin (dtomblin@umd.edu) Office Hours: By Appointment

STS Office: 1208E

Phone (Office): 301-405-0527

Section/Discussion Leaders (TAs)

Section 1 - ????

Section 2 - ????

Section 3 - ????

Section 4 – ????

Section 5 – ????

Course Overview

This course creates the foundations for exploring the intersections among science, technology and society through two broad areas important to all majors that come into contact with science and technology: practical skills for career development and analytical skills for understanding how researchers and entrepreneurs build successful networks for doing science, developing technology, or creating new products. In particular we will use STS analytical tools to explore some of **the social, political, cultural, economic, and environmental hopes for and concerns about the major emerging and converging science and technologies**: Nanotechnology, Synthetic Biology (biotechnology), Information and Communication Technologies (ICTs), Alternative Energies, Geoengineering, Cognitive Sciences, and Robotics. We hope a larger outcome of the course is that you will appreciate that career development and intellectual development are mutually reinforcing. This semester we will tackle the following subjects:

Career Development

- 1) Career Development Workshops
- 2) Communication Skills (Resume development; interview skills, etc.)
- 3) Attending the Spring Career & Internship
- 4) Outside Class Experiences

Analyzing Science and Technology through the following questions:

- 1) Why do some scientific ideas and technologies “succeed,” while others fail?
- 2) How do researchers and entrepreneurs build successful networks?

- 3) How do systems emerge (the role of policy, market forces, environmental and ecological factors, cognitive visions, media, popular culture, etc.)?
- 4) Given that many negative unintended environmental and social consequences have resulted from the application of science and technology, how can we optimize our implementation of science and technology to better ensure a more just and environmentally sustainable society?

Learning Outcomes

1. Develop analytical skills for understanding how researchers and entrepreneurs build successful networks
2. Become self-aware of the subtle ways that your upbringing and experiences influence the way you think about science and technology
3. Understand how science and technology are embedded in systems, which increases the likelihood of unintended and unpredicted social and environmental consequences
4. Improve communications skills through presentations, resume development, practice interviews, group work, etc.
5. Become familiar with campus resources that can aid career development

Course Structure: Grading/Assignments

No Required Text: We will post course readings on Canvas

Classroom Structure: The course will be broken up into periods of both “lecture” (20-30 minutes) and discussion (45-50 minutes). We will also have frequent guest speakers during “lecture” periods. It is my preference that the classroom time is largely devoted to discussion and Q&A, but this will only happen if students conscientiously do the reading and pay attention during lectures and guest speaker presentations.

Late Policy and Grade Disputes: All assignments, except participation grade assignments, lose one letter grade per calendar day late after the due date (For example, an “A” becomes a “B,” a “B+” becomes a “C+”). *You cannot make up participation grade assignments. However, I will drop the two lowest participation grades (e.g., discussion, homework, group work, etc.) at the end of the semester.*

Any grade disputes must be pursued within your discussion section leader's office hours. If the two of you cannot resolve the dispute, you both will meet with Dr. Tomblin. Grade disputes must be made within 1 week of the graded work being returned to you; in turn, we will resolve the dispute promptly.

Grading Scale: A+ = 97+, A = 92-96, A- = 90-91, B+ = 87-89, B = 82-86, B- = 80-81, C+ = 77-79, C = 72-76, C- = 70-71, D+ = 67-69, D = 62-66, D- = 60-61, F < 60

Assignment Breakdown (Please note that due dates are subject to change)

ASSIGNMENTS	FORMAT	DUE DATE	POINTS
PARTICIPATION (DISCUSSION, HOMEWORK, IN-CLASS GROUP WORK)	Variable	Throughout Semester	300 pts
CHECK-IN MEETING	Verbal	Meetings in late April	50 pts
RESUME ASSIGNMENT	Written	1/31 (draft) & 2/10 (revised)	50 pts
INTERNSHIP FAIR ANALYSIS	Written (250-500 words)	2/17	50 pts
RESEARCHER/ENTREPRENEUR INTERVIEW PREP	Worksheet	3/9	50 pts
ALTERNATIVE ENERGY ANT MAP	Diagram/Written	3/23	50 pts
INTERVIEW ACTOR NETWORK MAP (GROUP PROJECT)	Diagram w/ explanations	4/3	50 pts
STS ANNUAL SPEAKER ESSAY	Written (500 words)	1 week after presentation	50 pts
ACADEMIC SHOWCASE REVIEW	Ballot	??	50 pts
GROUP INTERVIEW PROJECT: NETWORK BUILDING	Group Paper and Presentation	5/12	150 pts
OUTSIDE EVENT ESSAY	Site Visit Participation and Written Essay (500-750 words)	1 week after event/trip	150 pts
TOTAL			1,000 pts

Assignment Descriptions (All due dates are posted above):

Check-in Meeting: In late March or early April, you are responsible for setting up a 10-15 minute meeting with Dr. Tomblin or Mr. Aruch. The purpose of this meeting is to check on your progress as a student and advise you on your plan for your STS Scholars Sophomore year.

Resume Assignment: Create, receive feedback, and revise a professional resume that you can use in pursuing an internship or job.

Career and Internship Fair Plan and Analysis: You will be attending University of Maryland's Spring Career and Internship Fair (????). You are required to visit with three potential employers during the fair. Many recruiters visit over the three day period. In order to maximize your time spent at the fair, it is best to plan ahead. For this assignment, you will search the Career & Internship Fair data base (http://www.careers.umd.edu/events_description.cfm?event_id=4542) and create a list of three potential employers you will visit. This list should include the employers name, brief description of the position you are seeking, and the date of the interview. This plan is to be turned into your TA prior to attending the fair.

Building off of your "internship fair plan," provide a brief analysis of each of your interviews (100-150 words each). Details of the analysis will be provided in class.

Alternative Energy Actor Network Map: During your discussion section you will work in groups on mapping out the development of an alternative energy using Actor Network Theory. Your group will identify an alternative energy technology and take on the role of its developer and advocate. From there, you will be asked to imagine what actors (both human and nonhuman) you will have to form alliances with in order to make the alternative energy viable. The group will also be tasked with thinking about the potential unintended consequences of adopting this new energy system.

Researcher/Entrepreneur Interview Prep (Group Project): As part of the major project for this course, your project group (2-3 students) is tasked with interviewing a researcher or entrepreneur. This interview can occur within someone on or off campus. This assignment will help your group start deciding who you will interview. More details on this assignment in class.

Interview Actor Network Map (Group Project): As part of the major project for this course, you will work with your project group (2-3 students) to develop a map of resources, policies, media, artifacts that your chosen researcher or entrepreneur needs to create a network where he/she can successfully do research, develop technology, or create useful products. More details on this assignment in class.

Final Group Interview Project Paper and Presentation: Building off your previous two assignments, your group (2-3 students) is responsible for writing a short essay analyzing your chosen subject (interviewee) through Actor Network Theory. You will also create a short five minute presentation on this project that you will deliver to your classmates. More details on this assignment in class.

STS Annual Speaker Essay: Each year STS sponsors an outside speaker to deliver an academic talk on a timely topic. You are required to attend this event (TBA) and write a 500 word analysis of this talk. A rubric for this essay will be provided on Canvas.

Academic Showcase Review: On May 9, 2014 – between 4-6 PM – you are required to attend the Academic Showcase for Scholars. This is where sophomores from all of the Scholar's programs display their capstone projects. You will be given a ballot with various criteria to judge your peer's work. You will have to view all the posters and interview some of the sophomores to determine the best sophomore projects. You will turn your ballot into Dr. Tomblin during the Showcase.

Outside Event Essay: You must attend one civic engagement/service event during the semester (see list on Canvas). There are a variety of options, but space is limited for each. So if you want your first choice, sign up early for the event you would like to participate in. You will receive an e-mail before classes begin asking you to sign up for an event. After you attend your chosen event, you need to write a 750 word reflection essay about your experience. A rubric for this essay will be posted on canvas. The essay is due a week after you attend your chosen event. **Note: I will accept alternative service learning experiences. If you know of one that you want to**

participate in that is not on the list, please contact Dr. Tomblin. Also, if you are part of a club that is service-oriented, you may use that as your outside event.

Participation/Professionalism: Please come prepared to each class. Active participation is highly valued. Discussions of your personal experiences and opinions are important. *Professionalism entails coming to class on time, being attentive in class, completing individual assignments, and being respectful of your TAs, guest speakers, instructors, and other class members.* We will assess participation in a number of ways: active engagement in class discussion, in-class group work, homework, peer review work, asking relevant questions during student presentations, and short written assignments, among others. In terms of class-room discussion, we will keep track of how many quality comments/questions you contribute each day.

General Course Policies and Expectations

Code of Academic Integrity: All students are expected to abide by this code. I will not tolerate cheating, plagiarism, or any other infraction that violates the ethical norms of the University of Maryland. Please consult the Code of Academic Integrity website for details on inappropriate behavior: <http://studentconduct.umd.edu/>. For more information on the Student Honor Council, go to <http://www.shc.umd.edu/>.

Attendance: Because participation is a large part of the course grade, your grade will suffer if you skip class. Skipping several classes may lower your course grade by one letter. Per university policy, you must provide me with a signed note acknowledging the reason for your absence. This note is subject to the University Honor Code. If you are ill more than two classes during the semester, I will require a doctor's note to excuse the absences. There are several exceptions to the mandatory attendance rule: 1) Religious holidays; 2) University of Maryland Student Athletes participating in scheduled athletic events. In these cases, you must notify me by Thursday, February 9, 2012, of your scheduled absences.

Inclement Weather: If the University of Maryland officially closes due to inclement weather, I will make an announcement via Canvas and e-mail about how we will handle the missed class. If an assignment is due the day of a canceled class, it will be due the next scheduled class.

Writing Center: This is a writing intensive course. Therefore, your overall grade depends heavily on your ability to communicate effectively through writing. If you know that you have trouble with writing or I identify that you have problems with writing, you should seek help with the university Writing Center (<http://www.english.umd.edu/academics/writingcenter>). You can make appointments online (<http://rich65.com/umd>) or by phone (301-405-3785).

Course Evaluation: Your feedback at the end of the semester is extremely important to me, as I use this information to improve the course. Please do the online evaluation: www.CourseEvalUM.umd.edu

Disabilities: If you have a documented disability, please notify me immediately. If I have not heard from you by Feb. 9, 2014, I will assume you do not require special accommodations.

E-mail Policy: As I am not in my office very much, I prefer communication via e-mail rather than phone. I check my e-mail regularly and try to answer e-mail as soon as possible. However, you should expect to wait until the next regular work day to receive an answer to e-mails sent after 5PM on week days or at any time during the weekend.

Laptops and other Communication Technologies: I prefer that you don't bring laptops and other communication technologies to class unless otherwise instructed, as they provide temptations that distract from class discussions and lectures. Using your laptop to take notes or refer to material assigned for class is acceptable.

However, if I find that you are using it for non-class related purposes, I will ask you to shut it down and I will consider factoring your behavior into your participation grade.

Course Schedule

Monday, January 26

Welcome back and course overview

Topic: What are the most important problems in the world to solve? What is the role of science and technology in solving these problems?

Discussion Sections: Briefly meet in sections to meet TA

Assignments

- 1) Resume assignment: Sections – Due Friday 1/31 so TAs can provide feedback
- 2) Elevator speeches (Practice on 2/3)

February 2

Guest Speaker: Internship Workshop – Erica Ely (3:30 – 4:30)

Sections: Practice elevator speeches/receive feedback on resumes

Assignments

- 1) Revise Resume for Career and Internship Fair
- 2) Career Fair Plan (Search Career Fair data base) - due Feb. 10

February 9

Topic: Interviewing for a Job/Internship

Sections: Practice elevator speeches/receive final feedback on resumes

Assignments

- 1) Revised Resume Due
- 2) Career Workshop Plan Due
- 3) Attend Spring Career & Internship Fair (2/11 – 2/14)

February 16– No Class

February 23

Topic: Technological Momentum and Energy Systems

Concepts: Socio-technical System, Technological Momentum (review SCOT and TD)

Reading: Laird, F. (2009). A full-court press for renewable energy. *Issues in Science and Technology*, Winter, 2009. <http://www.issues.org/25.2/laird.html>

Discussion Sections: Alternative Energies and Systems (Diagram proposed system; forecast barriers)

Assignments:

- 1) Homework #2: Diagram of Alternative Energy System
- 2) Group work in Sections – Understand Fossil Fuel Technological Momentum

March 2

Topic: Actor Network Theory and Developing Alternative Energies

Concepts: Actor Network Theory

Reading: Sismondo, Ch. 8 – Actor Network Theory

Discussion Sections: Building Networks (Practice)

Assignments:

- 1) In-Class Group Work: Actor Network Maps on Alternative Energy Systems
- 2) Interview Prep Assignment (Form Groups) (Due March 9)

March 9

Guest Speaker (????): Ashley White, Senior Fellow, US Green Building Council, “How much of our chemicals are regulated?”

Discussion Sections: Work on Actor Network Maps on Alternative Energy Systems

March 16 – Spring Break

March 23

Topic: Researchers and Successful Network Building (Introduce interview assignment)

Concepts: Actor Network Theory continued

Discussion Sections: Practice ANT Maps for Semester Interview Project

Assignments:

- 1) In-Class Group Work: Finish Actor Network Maps on Alternative Energy Systems
- 2) Introduce Actor Network Interview Map Assignment (Due Friday, April 5)

March 30

Topic: Ethics of Novel Ecosystems: Synthetic Biology and Geo-engineering

Reading: "A Critique of Geo-engineering," Braden Allenby

Discussion Sections: Imagining Novel Ecosystems

Discussion Questions:

- 1) What are novel ecosystems?
- 2) How much control do we have over ecological systems?
- 3) Given our emerging technological capacities in synthetic biology and geoengineering, how much manipulation is too much?

April 6

Topic: Competing or Cooperative Networks: S&T, Media and Popular Culture

Reading: TBA

April 13

Topic: Shaping Policy through Controversy: What is the future of space exploration?

Guest Speaker: Zach Pirtle, NASA, "Should NASA continue its space launch system?"

Reading: NASA, "Preliminary Report Regarding NASA's Space Launch System"

April 20

Topic: Promoting Technological Cures

Guest Speaker: Matthew Aruch, STS, "One Laptop per Child"

Reading: Kraemer et al., "One Laptop per Child: Vision vs. Reality"

Assignments:

- 1) Interview w/ Researcher or Entrepreneur should be complete

April 27

Student meetings w/ Dr. Tomblin

May 4

Assignment:

- 1) Presentations
- 2) Academic Showcase Review (Friday, May 9, 4-6 PM)

May 11

- 1) Presentations
- 2) ANT Group Paper (with revised ANT maps) Due

May 13 - Reading Day

May 14 – 20 Exams (No exam for CPSS 101)