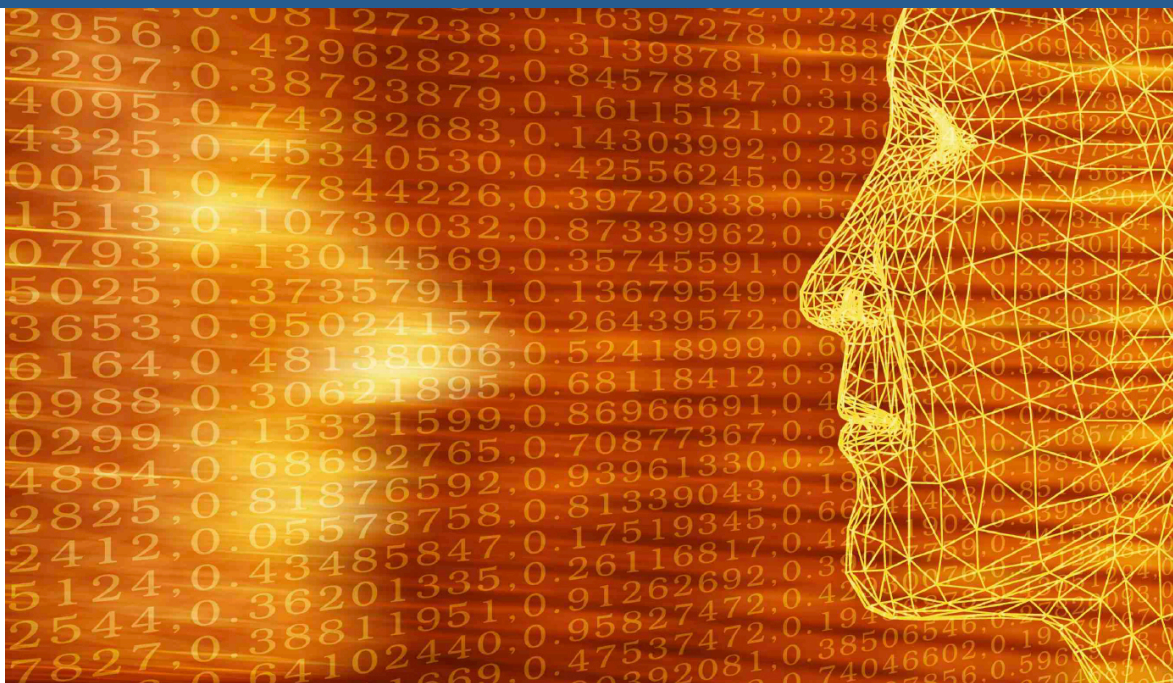


STS 214

Introduction to Science, Technology and Society



Course Objectives

Upon successful completion of this course, you should be able to:

- **understand science as a social activity, i.e. to consider how interactions between people, institutions, and material structures shape what we mean by “science” and “technology”**
- **pursue a critical view of scientific knowledge-formation and technological innovation**
- **articulate important differences between science and technology and to explore the relationship between them through specific case studies**
- **discuss a myriad of social impacts of new technologies and consider the ethics of technical and scientific practice**

Class Info

Ricks Hall, Room 105
T/Th 4:30-5:45pm

We will also meet in Hunt and Hill Libraries. See schedule.

Instructor Info

J.J. Sylvia IV
jsylvia@ncsu.edu
Office: Rick's Annex
Office Hours: By appointment or via Google Chat/Hangout

Our class Moodle, available through Wolfware, offers more details on assignments found in this syllabus.

Course Readings

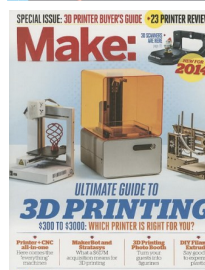
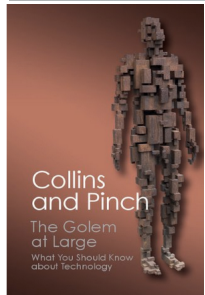
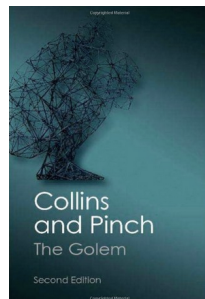
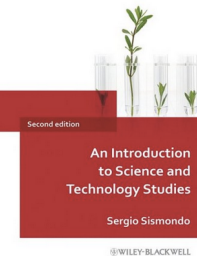
This course relies primarily on one required text. The other texts are optional and will potentially be used for projects related to the class. I recommend purchasing the required text immediately, but waiting to see which of the other texts you would like to use in your projects before purchasing.

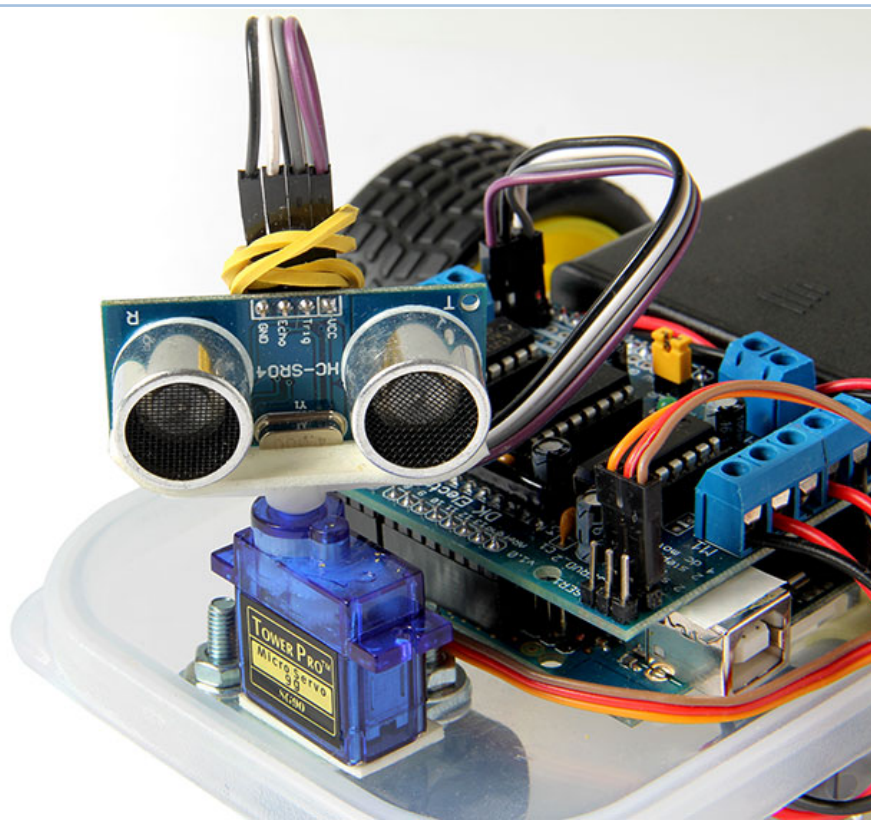
Required

Optional/Recommended:

Collins, Harry & Pinch, Trevor (2014). *The Golem: What You Should Know about Technology* 2nd Edition. New York: Cambridge University Press

Frauenfelder, Mark (2013). *Make: Ultimate Guide to 3D Printing 2014*. Maker Media, Inc





Quests

Invent a Technology: In groups, choose to explore at least one of the following: 3D printing, Microcontrollers (Arduino, Raspberry Pi, MaKey MaKey, etc.), or augmented reality (Google Glasses, etc.) technology.

What we call the development of a new technology is almost always a small improvement, adjustment, or re-tooling of one or several existing technologies fit to a new purpose, developed under new conditions, and meant for a new audience. Rarely are new technologies amazing, unprecedented, new inventions (imagine free energy or teleportation). Technologies just don't appear out of nowhere and develop in a vacuum! For this quest you'll access technology components available through NCSU libraries to invent your own technology.

Science Communication: Explore ways to communicate complicated science to the general public. This can be done by writing articles for popular science magazines or creating data visualizations to be utilized on the state-of-the-art screens available in Hunt Library.

Other Challenges

Golem Battle: Create an online presentation with a group about a case study related to science or technology in the Golem book series. Use outside resources, make connections to class readings, and develop discussion questions for the class.

Final Boss Battle: Also in groups, create a multi-modal research project on the philosophy and/or history of science to be presented in the visualization rooms available in NCSU libraries.

Chapter Combat: After reading each chapter, summarize the main points in order to help develop a solid understanding of theory in Science and Technology Studies.

Assessment / Leaderboard

Assessment will be based on earning XP through various quests in this course. See above quests for possible XP. You will also earn XP through completing readings summaries (10 XP per chapter) and attending class (2 XP each).

Note: There are more possible XP points available than what would entail a perfect grade. This means you are not required to complete every project.

In order to pass the class, a minimum of 190 XP (out of 212 available) must come from attendance and chapter combats AND you must complete at least one quest.

While working on each project, you can submit a version of it for grading at any point. I will assess the project and you can choose to either accept that grade, or revise and resubmit for further assessment.

Your current XP total will be available on the leaderboard in our Moodle course. In order to keep grades private, you will create a pseudonym that only you know.

Grade distribution			
A+	980-1000+ XP	C+	780-799 XP
A	940-979 XP	C	740-779 XP
A-	900-939 XP	C-	700-739 XP
B+	880-899 XP	D+	680-699 XP
B	840-879 XP	D	640-679 XP
B-	800-839 XP	D-	600-630 XP
		F	0-599 XP



Room to Experiment

Don't sweat it! Unlike other courses, you don't need to complete every single assignment to make an A. In this course you can pick and choose how you earn your XP, aside from the two requirements above in red.

There are approximately 1600 XP available in this course, and you only need 1000 to make a perfect grade!

If one assignment doesn't turn out as well as you like you can redo it or try a different assignment! **This course is designed to leave room for experimenting and taking risks, much like scientists and inventors do!**

Course Schedule*

Date	Discussion Topics	Location	Reading & Assignments
August 21	Welcome, Multi-modal rubrics	Online	
August 26	Tattered Book Puzzle	Online	
August 28	Prehistory of Science and Technology Studies	Ricks 105	Ch. 1 Combat before class
September 2	Interactive Makerspace technology workshop	D.H. Hill Auditorium	
September 4	Kuhnian Revolution and Functionalism	Ricks 105	Ch. 2-3 Combat before class
September 9	Case Study	Online	Golem Battle posted by 4:30
September 11	Stratification and Discrimination	Ricks 105	Ch. 4 Combat before class
September 16	Project Collaboration	Creativity Studio South at Hunt Library	
September 18	Strong Programme and Sociology of Knowledge	Ricks 105	Ch. 5 Combat before class
September 23	Case Studies	Online	Golem Battle posted by 4:30
September 25	Social Construction of Scientific and Technical Realities	Ricks 105	Ch. 6 Combat before class
September 30	Quest Planning	Creativity Studio South at Hunt Library	Quest Plan completed before class
October 2	Feminist Epistemologies of Science	Ricks 105	Ch. 7 Combat before class
October 7	Case Studies	Online	Golem Battle posted by 4:30
October 9	FALL BREAK		
October 14	Project Collaboration	Creativity Studio South at Hunt Library	
October 16	Actor Network Theory and Two Questions Concerning Technology	Ricks 105	Ch. 8-9 Combat before class
October 21	Case Studies	Online	Golem Battle posted by 4:30
October 23	Studying Laboratories	Ricks 105	Ch. 10 Combat before class
October 28	Project Collaboration	Creativity Studio South at Hunt Library	
October 30	Controversies	Ricks 105	Ch. 11 Combat before class
November 4	Case Studies	Online	Golem Battle
November 6	Standardization and Objectivity	Ricks 105	Ch. 12 Combat before class
November 11	Project Collaboration	Creativity Studio South at Hunt Library	
November 13	Rhetoric and Discourse	Ricks 105	Ch. 13 Combat before class
November 18	Unnaturalness of Science and Technology	Ricks 105	Ch. 14 Combat before class
November 20	Case Studies	Online	Golem Battle
November 25	Public Understanding of Science and Expertise and Public Participation	Ricks 105	Ch. 15-16 Combat before class
November 27	THANKSGIVING		
December 2	Political Economies of Knowledge		Ch. 17
December 16	EXAM 1:00-4:00 pm		

* The schedule may change. Please read all emails and check the Moodle site for any updates