

*Science and Technology:
Engaging the Citizen in a World of Experts
SOC 385
(CL3S and CL9S)*

Class Meetings Tuesday and Thursday 10:50-12:05, Zageir Hall 237

Course and Cluster Websites:

Food Cluster: <http://www.unca.edu/foodforthought/>
SOC 385 wiki: <http://scienceandtechnology.pbwiki.com/>

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Office Hours:

Monday and Wednesday 10:30am-12:00noon
And gladly by appointment

Course Description

This course employs the theoretical and investigative tools of sociology to examine the cultural authority of science and technology and the implications of this authority for social life in the contemporary period. Using a social constructionist approach, we will explore the social production of scientific knowledge and technological artifacts to develop a deeper sense of how discovery and innovation are socially and culturally contingent, rather than inevitable. Building on the constructionist approach and on an expanded understanding of the concept of technology, we will look at a variety of ways in which social scientists problematize the facile and contradictory conceptions of technology that we tend to hold in our culture – on the one hand that technology is a panacea for all human problems, or on the other hand, that technological solutions are inherently evil. Notably, both of these conceptions leave little place for human agency, something that the approaches we will explore during the semester help to reconcile. The course will emphasize both macro and micro approaches to studying science and technology. By drawing on the theories offered to us by cognitive social theory and symbolic interactionism, we will examine micro-approaches that focus on the ways in which both experts and lay people relate to technological artifacts. We will also study macro-approaches that examine the organizational, economic, cultural and political forces behind technological innovation as well as the consequences of technological change for individuals and social groups.

ILS Clusters

This course is in two of the UNCA ILS topical clusters: CL3, *Technology Society and Culture* and CL9, *Food for Thought: Engaging the Citizen in the Science and Politics of Food Information, Food Consumerism, Nutrition and Health*. Since the course focuses on technology and its users, we will use the theme of consumer relationships to food systems as a central theme.

Food for Thought: Engaging the Citizen in the Science and Politics of Food Information, Food Consumerism, Nutrition and Health

The *Food for Thought* cluster focuses on developing the student as an informed consumer of food by providing a platform for discussion of what we eat, why we eat, where our food comes from and its journey from production to consumption, and how food affects our bodies and health. Across the semesters of participation in the cluster, we hope you will gain insight into the often hidden ways that food consumption impacts us on both the individual and collective levels. As human beings, our bodies and our societies are interlinked by numerous processes, many of which can be understood by investigating the dynamics of food in chemical, biological, and social systems. Whether or not you are enrolled in this cluster, our primary goal for students is an enhanced, interdisciplinary understanding of the interplay of these systems and a more attuned sense of how food is a civic issue. For more information, please visit the Food for Thought Cluster webpage (<http://www.unca.edu/foodforthought/>) where you can learn more about activities occurring during the semester, resources on contemporary food issues, local food events, and the work of students in this and other cluster courses.

Course Goals

During this course, assignments, readings, and activities are aimed to help you acquire the following knowledge and experience:

- *A deeper sense of how you experience technology in your everyday life and of how others experience it
- *A conception of the social construction of knowledge as a useful theoretical perspective for exploring tacit knowledge (black boxes) in expert and lay cultures
- *An exploration of the notion of human-centered technology
- *An understanding of the cognitive sociological approach to technological artifacts
- *An ability to develop a social critique of scientific expertise and authority and of technologism
- *A sense of the inseparability of technology and society
- *A “feel” for experimentation and innovation and thereby a sense of agency vis-à-vis technological artifacts
- *Enhancing of your sociological skills and conception of technology in order to produce your own ethnography, studying how an individual or group relates to a selected technological artifact

Course Readings and Materials

Texts

Wiebe E. Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*. The MIT Press (1997).

Marion Nestle, *What to Eat*. North Point Press (2007).

Donald A. Norman, *Things That Make Us Smart: Defending Human Attributes in the Age of the Machine*. Addison Wesley Publishing Company (1994).

Nelly Oudshoorn (Editor), Trevor Pinch (Editor), *How Users Matter: The Co-Construction of Users and Technology*. The MIT Press (2005).

Additional readings on Moodle and on the Class wiki page.

Other Course Materials

Erector Set Kit (provided)

Spiral-bound notebook with at least two sections, one for class notes and one for class activities

Found technological artifacts

Computer/Internet Access

Many of the assignments in this class will require regular access to the internet, including entries on a class wiki page and readings on Moodle.

Course Components

I conceive of this course as one that should challenge you while helping you hone your skills in thinking critically, reading and interpreting difficult but meaningful theory, and writing as a sociologist (someone who understands the discipline and employs its terminology and analytical tools). I also hope that you will have fun. Much of the course work and cluster activities is interactive and hands-on in nature. I hope these will help you challenge some assumptions you make about the technological world around you as well as about the nature of learning in general. Assignments in this course will require your full commitment to the learning process and will reward you with a greater sense of the significance of the material and the contributions of sociological perspectives to understanding science and technology.

1. **Reading:** Some of the texts for this course are not easy. They will require your careful consideration and attention. You will be expected to complete all reading before class so that you

can fully participate in class discussion and so that questions you have from the reading can be clarified.

2. **Participation:** Your regular contributions to class discussion are expected. In order to receive any credit for participation on a given day, you must be there! In order to fully participate, you should come prepared with notebook and supplies, having read assigned texts and made thoughtful notes on your reading. Full participation means not only speaking up, but contributing to the quality of class discussion and activities by supporting and challenging your classmates.
3. **Class Activity Notebook and Class WIKI page:** You are required to purchase a notebook for journaling in this class. You will be asked to make observational notes in many class sessions. You will select from your notes to produce a weekly entry on the class wiki page.
4. **Reading Summaries and Queries:** During the course of the semester, you will write 5 short papers in which you summarize the highlights of a course reading and discuss some of the implications of the claims made by the author.
5. **Ethnographic Study:** On your own, you will conduct a brief ethnographic study of the relationships between lay people (and/or experts) and a technological artifact you choose. You will submit a ten page paper and make a presentation at the end of the semester.
6. **Investigations:** During the course of the semester, you will be asked to explore a number of technological artifacts using diverse sociological perspectives. These investigations will occur during class and will require your willingness to have an open and creative disposition.
7. **Food for Thought Cluster Harvest Bounty Meal:** The featured event in the fall semester is the Harvest Bounty Shared Meal in which students from multiple courses work in teams to plan, prepare and share a meal with invited guests. Each team is given a constraint (either all local foods, all organic foods, all whole foods, or a limited budget) and must prepare a nutritionally balanced meal while also taking into consideration energy and food sustainability from farm to table, and the aesthetics and social aspects of presenting and consuming a delicious and enjoyable meal. All teams will come together in a campus meeting hall to eat their meal together, family style, on Sunday, October 5. After dinner, each team analyzes and presents to the entire group their menu, meal sustainability, and the challenges of working within a constraint. It is a most enjoyable event!!!
8. **Development of UNCA Food and Nutrition Guidelines:** SOC 385 will contribute to the development of recommendations for UNCA's own food system, a project managed by the Food Politics and Nutrition Policy class (HWP 373). Below is information on the overall project.

Background

In 1980, the US government issued its first "Dietary Guidelines" updating and replacing the Basic Four Food Groups that were established in 1958. Since then every 5 years, based on a congressional mandate, the US government convenes a committee of experts in nutrition, food science, health, and medicine to review the newest related scientific literature and to make recommendations for updating the US Dietary Guidelines for Americans. As part of this process the committee requests comments both written and oral from consumers, organizations, and corporate interests. Once they have reviewed the literature and read and heard all of these comments, they debate the merits of the information and the possible consequences of each recommendation and write a set of suggested dietary guidelines for the country which they submit as recommendations to the USDA and DHHS who then craft these recommendations into dietary guidelines and a meal planning guide (currently the Food Guide Pyramid).

Process

Instead of nominating a committee of experts, the students in the Food Policy and Nutrition Politics class will work to become experts on a certain aspect of nutrition or food consumption as part of their class requirements. They will then be organized into two groups. One group will focus on nutrition guidelines or standards for the UNCA community such as guidelines for sugar, fat, and sodium intake and achieving and maintaining a healthy weight. The other will focus on food guidelines such as food sourcing issues such as purchasing local and organic foods as well as labeling, recycling and other issues. Both groups will accept comments from students in the Food Chemistry, Nutrition, Science and Technology and Land Economics classes. From the committees' research and the information presented to the committees by the students in other classes, the students will discuss each issue and come up with recommendations on that topic to be presented to the administration and posted on the Food for Thought Cluster Website.

The specific task of our course (Science and Technology) is to design and implement a survey of UNCA students to determine what issues they are most interested in changing regarding UNCA's food system. The class will then report to the Food Policy and Nutrition Politics group in a public session, making recommendations about how UNCA's food system could best be modified.

9. **Food Cluster Interactive Activities:** In addition to the two projects discussed above, you will also attend a tour of a local farm and attend one brown bag lunch lecture.

Distribution of Grades

Harvest Bounty Shared Meal	15%
Development of UNCA Food and Nutrition Guidelines	20%
Ethnographic Study of Humans and a Technological Artifact	25%
Reading Summaries and Queries	20%
Class Participation (Includes wiki page entries, investigations, and all class interactions)	20%

Class Participation Grade (See description above) This grade assesses class discussion, class preparation, and contributions to on-going class activities, including wiki page entries and in-class investigations. The following rubric describes the criteria by which your grade will be assigned.

F	Rarely in class, never participates in any form, no wiki contributions
D	Student attends class regularly but is merely taking up space in the classroom, few wiki contributions
C	Student is in class at least 85% of the time, and actively participates on a regular basis but not a majority of the time <i>or</i> class performance is not productive, student makes little effort to contribute substantively to the class wiki page
B	Student is in class at least 90% of the time, actively participates in many forms (asks and answers questions, adds new and relevant ideas, etc.), and makes substantive contributions to the class wiki page
A	Student is in class and participating virtually every class period. Student goes above and beyond minimum participation requirements, for example, by doing outside research, appropriately relating topics in other courses, developing new lines of thinking and queries in reading discussions and on the class wiki page, etc.

Fall 2008 Cluster Activities:

*Required

Thursday, August 28

Lunch Time Meet and Greet—Planning for Shared Meal

12:30-1:30 pm, Alumni Hall (1st floor Highsmith Union)

All students enrolled in Food for Thought cluster courses in the Fall 2008 semester will gather to meet one another and learn about Fall 2008 cluster activities, the Harvest Bounty Shared Meal and the UNCA Dietary Guidelines Project.

Optional (dependent on space availability)

Saturday, September 6

Local Farm Tour of Coston Farms and Apple House, Hendersonville, NC

Depart UNCA at 9:00 am for 10:00 am – 11:30 am tour

(UNCA meeting location TBA)

An opportunity to visit local farms to see first-hand how food is produced locally in western North Carolina.

<http://www.costonfarm.com>

Optional (dependent on space availability)

Monday, September 8

Local Farm Tour of Hickory Nut Gap Farm, Fairview, NC

Depart UNCA at 1:45 pm for 2:30 pm – 4:00 pm tour

(Participants meet in ZS 123 at 1:45 pm)

An opportunity to visit local farms to see first-hand how food is produced locally in western North Carolina.

<http://www.hickorynutgapfarm.com>

***Required**

Tuesday, September 16

Local Farm Tour to Thatchmore Farm, Leicester, NC

Depart UNCA at 11:00 am for 11:30 am – 1:00 pm tour

(UNCA meeting location TBA)

An opportunity to visit local farms to see first-hand how food is produced locally in western North Carolina.

***Required**

Sunday, October 5

Harvest Bounty Shared Meal

5:00-8:00 pm, Alumni Hall (1st floor Highsmith Union)

All students enrolled in Food for Thought cluster courses in the Fall 2008 semester will plan, prepare, eat and enjoy a meal together. Aspects of the dinner planning, ending evaluation and assignments will focus on the social, scientific, economic, and nutritional aspects of a student-prepared meal.

***Required**

Thursday, October 16

Lunch and Learn – Topic TBA

12:30-1:30 pm, Location TBA

Informal brown-bag lunch gatherings with presentations and discussions led by food experts from the university and community.

Optional

Thursday, November 13

UNCA Food and Nutrition Guidelines Advisory Committee Meeting (HWP 373 & ECON 245)

12:15 – 1:30 pm (Location TBA)

Students from HWP 373 (Food Politics and Nutrition Policy) are developing dietary guidelines for UNCA, with specialized information developed by students Food for Thought cluster courses. This event allows for time-overlap between students in these courses.

Optional

Monday, November 17th

UNCA Food and Nutrition Guidelines Advisory Committee Meeting (HWP 373 & CHEM 174)

3:00 – 4:30 pm (Location TBA)

Students from HWP 373 (Food Politics and Nutrition Policy) are developing food and nutrition guidelines for UNCA, with specialized information developed by students from other Food for Thought courses. This event allows for time-overlap between students in these courses.

Thursday, November 20th

^Required

UNCA Food and Nutrition Guidelines Advisory Committee Meeting (HWP 373 & SOC 385)

12:15 – 1:30 pm (Location TBA)

Students from HWP 373 (Food Politics and Nutrition Policy) are developing food and nutrition guidelines for UNCA, with specialized information developed by students from other Food for Thought courses. This event allows for time-overlap between students in these courses.

*Required: FINAL PAPER FOR SOC 385 IS BASED ON YOUR ASSESSMENT OF FOOD AND NUTRITION GUIDELINES PROPOSAL AND PRESENTATION

Monday, December 8th

UNCA Food and Nutrition Guidelines Campus Presentation

5:00 – 7:00 pm (Location TBA)

Students from HWP 373 (Food Politics and Nutrition Policy) are developing food and nutrition guidelines for UNCA, with specialized information developed by students from other Food for Thought courses. This event presents their findings to the campus community.

Course Outline

(Subject to change. Specific readings will be announced in class and posted on the class wiki. You are responsible for contacting a fellow classmate if you miss a class in order to be up-to-date on assignments and announcements.

Themes

The Social Construction of Knowledge, or Those Pesky but Useful Black Boxes	August 21
Human-Centered Technology	August 26-September 4
Lay and Expert Cultures of Technology	September 9-25
Scientism, Scientific Authority, and Scientific Expertise: The Legacies of Formal Logic and Empiricism	September 30-October 2
Positivism, Normal Science, and Scientific Revolutions	October 7-9
The Social Construction of Technology and Technological Change	October 16-30
Technology as Social Control	November 4-6
When Things Go Wrong	November 11-25
Technology and Human Agency	December 2-4

Investigations

I. Bad Design	TBA
II. Erector Sets	TBA
III. The Grocery Store	TBA
IV. Ethnographic Studies	TBA
V. An Origami Factory	TBA
VI. The Keys to Society	TBA

Assignment Due Dates

Reading Summaries	TBA
Ethnography Study Proposal	Due Thursday, September 25 in class
Ethnography Initial Findings Report	Due Thursday, October 23 in class
Ethnography Final Report and Presentation	Due Tuesday, December 2 in class
Wiki page contributions	Due every Friday by 5pm, beginning September 29