

I605
Social Foundations of Informatics
W 3:15-5:45, Informatics West 105

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Draft Course Syllabus
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Course Charge: In What Sense is 'the Social' Foundational to Informatics?

The academic field of “Informatics” can be defined as the disciplined study of automated information and communication technologies (aICTs) *in use*. (That it be so defined is suggested by its “-ics” rather than “-ology” suffix.) Thus defined, the point of a professional school in Informatics like ours becomes the solving of problems by application of the knowledge gained through such study (including, of course, what we learn recursively thru applying our knowledge of aICTs in use).

So, what are aICTs? From the field of Science, Technology, and Society (STS), we learn to think of a “technology” as a routinized complex of artifacts, agents, and practices. Via “communication technologies,” something conceptual is conveyed from one person to one or more others. The thing conveyed via aICTs is “Information,” a very abstract thing indeed. Information can usefully be distinguished from “data”—something whose existence is known but not if it is relevant to anything—on the one hand, and from “knowledge”—something whose relevance is known, on the other. Thus, “information” is data which we suspect is of relevance and/or for which we have a context, but we don’t know what its relevance is, to whom, and/or in what way the context matters—we don’t know what we know. There is ambiguity, often of a profound sort, about information. Finally, “information technologies” are routinized complexes of noting and/or responding to relevant data/ambiguous knowledge, while “communication technologies” are simply routinized complexes that modulate (change the form of) information and direct it toward some intended recipient(s).

Information/communication technologies are essential to all human social formations. In recent years, integration of digital computing into human practices has greatly increased the speed with which information is noted/responded to, the range of modulations it can take and/or contexts in/into which it can be put, and the entities toward which it can be directed. Noteworthy in addition to the speed and plasticity of new ICTs is fact that the noting, modulating, and directing are often opaque to most of those sending or receiving. This makes it reasonable to distinguish computer-mediated from previous ICTs as being “automated.”

AICTs encourage engagement with ambiguous conceptual entities while also providing means for us to “deal” with lots of them quickly. We live in an “Information” rather than a “Data” or a “Knowledge” “Age” in precisely this sense. Automated ICTs are a very noticeable and noticed presence in contemporary social life. Some people see aICTs as *the primary cause* of current cultural transformation. Their use is certainly *correlated with* at least a sense of substantial social change, so, if Informatics is the study of aICTs *in use*, then it must include study of the aICT/social change relationship.

The belief that important consequences flow from use of aICTs, irrespective of their field of application, is at the core of our professional field. The very idea of an “Informatics” only makes sense if there *may be* some substantial link between aICTs and socio-cultural change; otherwise, it is no more necessary than that a “toiletology” because floating ball cocks have been deployed in water closets. Consequently, there are both general cultural and specific disciplinary reasons for why the social should be a central concern of Informatics; this is, why social informatics is foundational to our field. Exploring the ways it is foundational is the primary purpose of this course.

That Social Informatics is foundational to Informatics means the sub-field has an importantly general agenda. With some urgency it addresses questions like the following: Just how, and how much, *do* aICTs afford social transformation? What kinds of aICTs are most ethnogenerative (i.e., foster creation of new culture)? Conversely, to what extent do particular aICTs, or aICTs in general, replicate or reproduce the features of the cultures within which they are designed and built? Under what circumstances can knowledge of both particular and general socio-cultural correlates of aICTs be applied to the solution of particular problems? To summarize in the language of the contemporary social science that informs Social Informatics, to what extent do the technological characteristics of aICTs affect social formations and their reproduction?

Such questions follow from a focus on things like the *impacts* of aICTs in use. However, like all artifacts of human culture, aICTs are also constructed socially. Hence, there is an equally important, second side to the intellectual agenda of social informatics: To what extent and in what ways do social factors shape the character of aICTs?

Implications for the Course

Taken together, these questions indicated that, as with other technologies, the social and technological aspects of aICTs mutually shape each other. Generally, Social Informatics is the deliberate, disciplined study of the degrees of dependence of aICTs on and autonomy from other social processes and of other social processes on and from aICTs. Further, even an aICT that merely noticed the presence or absence of a particular characteristic of a type of entity (e.g., any aspect of the TCP/IP) has been designed and implemented by some social unit or other to some cultural end. To this extent, it is socially constructed. At the same time, each technology carries with it momenta from its predecessors.

These are the reasons why the social and the technological are best seen as adapting to each other. How this happens in specific cases is the shared background preoccupation of research projects in Social Informatics. Thus, in a concrete sense, “Social Informatics” contains the discourses and practices in Informatics that explicitly address the questions listed above. The goal of the course is to enable students to use (or “consume”) the answers that Social Informatists currently give to such questions. (Other courses, with names like ICT & Society, Information Society, etc., cover similar terrain.) The course is also intended to provide students with means, as they mature professionally, to influence the emerging Social Informatics debate. The main organizational support to attaining these goals in the course is a survey of important Social Informatics work in a variety of topic areas.

Like the other PhD “breadth” (although called “core”) courses in Informatics, I605 is intended as a survey of significant research issues and findings in a manner that

does not assume familiarity with the relevant literature. As the audience for these core courses is students in other Informatics tracks for whom the subject matter is *not* their primary specialization, the course is also accessible to capable Masters students.

(Note: The course catalogue description for I605 says, “As information technology is adapted in various sectors of society, it create changes in the social fabric of our lives by enabling uses of information that were not possible earlier and by shaping changes in our social institutions.” This description highlights the “social impacts” of AICTs well, but underplays the ways that social and cultural factors impact AICTs. Equal emphasis will be placed in this class on both matters. Further, the description says “This course uses the perspectives of sociology, anthropology, political science, and economics to examine the changes created by information and information technologies in our social institutions.” Other disciplinary perspectives, as from history and from Computer Science, will also be examined.)

Course Readings

These include both “canonical” and current texts from the broad range of perspectives that engage Social Informatics. There are three required course texts:

W: Webster, Frank

2002 *Theories of the Information Society* (2nd Ed), (London: Taylor & Francis), in which a sociologist critically surveys key expressions of the idea that there is a special relationship between aICTs and social change;

B: Biagioli, Mario, ed.

1999 *The Science Studies Reader*, (New York: Routledge), a reader including key Science, Technology, and Society texts about aICTs and other technologies; and

F: Forsythe, Diana

2001 *Studying Those Who Study Us: An Anthropologist in the World of Artificial Intelligence*, (Stanford: SUP), which provides concrete examples of methods, theories, and disputes in Social Informatics.

Some of you may also wish to refer to sections of my own book,
Hakken, David

1999 *Cyborgs@Cyberspace? An Ethnographer Looks to the Future*, (New York: Routledge), which sets out one agenda for social informatics research. This is now a bit dated and follows a different ordering; besides, you’ll hear enough from me as it is.

The catalogue description proceeds: “Topics include the economics of information businesses and information societies, legal and regulatory factors that shape information and information technology use, the relationship between organization cultures and their use of information and information technology, and ownership of intellectual property.” While these topics will be addressed, the course’s organization should encourage repeated consideration of the general questions outlined above to examination of particular topics in which Social Informatics research has reached an important level of maturity. Following, to document the foregoing points,

1. An introductory section, we move on to the Social Informatics of:
2. Social Interaction
3. Work
4. Knowing
5. Social Structure, and
6. Culture.

The general issue to which all topics will be related is the degree to which, especially given the prior influence of social factors on the character of particular AICTs or AICTs in general, the changes engendered by AICTs are socially transformative.

Student responsibilities include:

1. Attending each class, having read the materials assigned for the class, (including those on library electronic reserve) and having prepared to participate actively in discussion of them;
2. Submitting five short (500-1000 word) essays on a topic of your choice selected from each section of the course. These will be submitted by 9 am of the Monday following completion of each section.

Class Schedule:

Every attempt will be made to stick to this schedule. Items beginning with initials refer to class texts; others are on library electronic reserve. Additional readings will be added throughout the semester.

DATE	TOPICS	READINGS
<i>Section I: Introductory Perspectives</i>		
1/14	Introduction:	Syllabus
	Informatics, the Social tradition in IT, and Science, Technology, and Society	
1/21	Automated ICTs & Society	B: Intro.; Gallison; W: Ack., 1 & 2; F: Editor's Introduction and Note, 1
1/28	aICTs & Soc., cont.	B:, Daston, Collins, & Rotman W: 3, 10 Selections from Weizenbaum, Winograd & Flores
2/4	The Social Construction of aICTs	B: MacKenzie, F: 6, 9, & 10 W: 9 Selections from Wiener
(If choosing to do a short essay on topic #1, due 9 am, 2/9)		
<i>Section II: The Social Informatics of Social Interaction</i>		
2/11	The Entity Problem: Cyborgs and non-human agency	Selections from Hakken and Haraway; B: Kay, Barad, Latour (II), Martin
2/18	aICTs, sociality, and communication	W: 7 F: 11, 12 B: Kohler

2/25 Sociality, cont. B: Turkle, Keller;
Selections from Slouka and Hakken (*Anthropologi Indonesia*)
(If essay, due 3/2)

Section III: The Social Informatics of Work

3/4 aICTs and the work process
F: 2, 7 W:5; Selections from Braverman

3/11 organization and economy W:6 B; Star & Griesemer, Traweek
Selections from Zuboff, Steve Weber

3/18 Spring Break
(if essay, due 3/23)

Section IV: The Social Informatics of Knowing

3/25: aICTs and Knowledge, Science, Education
F:3, 4, 5, & 8 B: Bourdieu, Latour (I)

4/1 Knowledge, cont. B: Biagioli, Schaffer, Shapin, Rheinberger, Porter
(If essay, due 4/6)

Section V: The Social Informatics of Social Structure

4/8 aICTs & Social Structure, Order, Politics, Scale of Social Formation
Reproduction, security B: Hughes W:4, 8

4/15 Social Structure, cont. B: Brain and Wise, Haraway, Wylie
(If essay, due 4/20)

Section VI: The Social Informatics of Culture

4/22 Culture, cultural Difference, creativity B: Lloyd, Hart; Davidson, Hacking

4/29 Implications B: Lynch & Law, Cohen, Lenoir, Pickering, Rouse
(If essay, due 5/4)