

**COMM 345: The Social and Economic Implications of  
Information and Communication Technologies  
Section: 20546R**

**Fall 2016 - Tuesday-Thursday 11:00-12:20 – ANN-211**

**Instructor: François Bar ([fbar@usc.edu](mailto:fbar@usc.edu), ANN-310L)**

**Office hours: by appointment (Monday, Tuesday and Thursday afternoons)**

### **Course Description and Objectives**

Sweeping social and economic change accompanies the deployment and use of Information and Communication Technologies (ICTs.) This seminar provides an opportunity to explore these changes through a combination of theory and practice. Students will apply social science theory to explore the social and economic implications of ICTs. They will also engage in *learning by using* communication technologies, in mindful observation of their own activities, and envisioning future information technology uses.

This seminar invites students to explore these concepts and mechanisms by applying them to the emergence of “smart cities”, with a particular focus on Los Angeles. A central theme running through this seminar is that choices about the deployment of ICTs shape the communicative practices and power of different actors. In turn, they transform the interaction between city and citizens. These choices, however, are not pre-determined by the characteristics of the technologies. Rather, ICTs can be used in multiple ways, for example to reinforce or undermine central control, privacy, market competition, or democracy. In turn, how technologies are used favors certain exploratory paths and shapes their future evolution. We will explore what this means in the urban context.

### **Assignments:**

- 1) **Due Week 4: Self-observation of your communication activities.** Keep a diary of some aspect of your communication activities in relation with the city, for a few days (3 to 5 days, depending on your focus). You may want to keep track of mediated/non-mediated communications, analog/digital, mass/interpersonal, etc. You could build an inventory of the ICTs you used (devices, applications, places, etc.). You may want to consider giving up one or more communication tool during those few days and reflect on the impact. You are encouraged to use a variety of technologies to do this (e.g. voice messages, tweets, video, pictures, drawings, SMS messages, blog posts, etc.) The ultimate deliverable will be a multimedia object providing documentation of your communication activities and analysis of the implications of the technologies you used. Think of questions such as the following: How does the

technology you use shape your communication activities and your daily practices? Does it influence their content? How do the institutional / economic arrangements matter? This is due in week 4, and you will make a brief class presentation presenting your findings.

- 2) **Due Week 7: Problem analysis.** Analyze one particular aspect of urban life (e.g. transportation, culture & entertainment, education, food, civic participation, etc.). Explore the role of communication technology, describe what is working and what is not, and suggest ways to deploy communication technology to improve the situation.

Here again, you are encouraged to think creatively about presenting your work in a compelling format, and you will make a short class presentation.

- 3) **Group Research Project:** In small groups (3-4), elaborate a prototype “smart city” application that addresses a specific aspect of urban life. You will need to think about the various actors involved in creating, maintaining and using it. You will have to envision its engagement mechanics. You will need to think through the details of its economic sustainability. You are not required to build a working prototype, but rather a concept or “paper prototype” – but do try to remain somewhat realistic in the technology applications you envision. This needs to be thought through in enough detail to allow you to realistically explore the socio-economic issues that would be important to your proposal’s success. The deliverable for this project will include at a minimum a short “design fiction” video and a pitch document explaining your proposal to potential investors or city leaders. You will present your project to the class during the last week.

**Readings & Participation:** Students are expected to read the assigned texts before class and come prepared to discuss them. Students will occasionally be asked to make short presentations on some of the readings and/or to participate in the organization of some of the class sessions.

**Required Readings:**

- One book is required:
  - Anthony Townsend, *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia* (W.W. Norton & Co., New York, 2013)
- Additional readings will be made available on-line, or distributed in class
- Students are also expected to follow news related to the class topic throughout the semester. We will use current events as a jumping-off point for class discussions.

**Grading:**

Self-observation: 20%

Problem analysis: 20%

Group project: 40%

Class participation: 20%

### ***Laptop Policy***

Effective fall 2014, all undergraduate and graduate Annenberg majors and minors will be required to have a PC or Apple laptop that can be used in Annenberg classes. Please refer to the [Annenberg Virtual Commons](#) for more information. To connect to USC's Secure Wireless network, please visit USC's Information Technology Services website.

Do take advantage of the Adobe Creative Cloud training sessions offered at Annenberg this Fall.

## **Policies and Procedures**

### **B. Plagiarism**

#### **Statement on Academic Integrity**

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Please see the *SCampus* (<http://scampus.usc.edu/1300-academic-integrity-review/>) for the university's Student Conduct Code.

#### **USC School of Communication Policy on Academic Integrity**

The following is the USC Annenberg School of Communication's policy on academic integrity and repeated in the syllabus for every course in the school:

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, ([www.usc.edu/scampus](http://www.usc.edu/scampus) or <http://scampus.usc.edu>) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

All academic integrity violations will be reported to the office of Student Judicial Affairs & Community Standards (SJACS), as per university policy, as well as Communication school administrators.

In addition, it is assumed that the work you submit for this course is work you have produced entirely by yourself, and has not been previously produced by you for

submission in another course or Learning Lab, without approval of the instructor.

### **B. Additional Policies**

- **Attendance:** Regular attendance is required and essential for your success in this course. If for any reason you are unable to attend class, you must inform the instructor in advance and provide supporting documents to be excused. Frequent absences without legitimate excuses will negatively affect your grade.
- **Checking USC e-mail:** class-related e-mails will be sent to your USC e-mail address. Please check it regularly and make sure your account is not over quota.
- **Use of technology in the classroom:** You are welcome to use your laptop, tablet, or cell phone in class, but only in connection with class-related discussions. Use common sense, and make sure your device use doesn't distract you or your classmates from class participation.

### **C. Statement for Students with Disabilities**

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. Website and contact information for DSP:

[http://sait.usc.edu/academicsupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html), (213) 740-0776 (Phone), (213) 740-6948 (TDD only), (213) 740-8216 (FAX) [ability@usc.edu](mailto:ability@usc.edu).

### **D. Stress Management**

Students are under a lot of pressure. If you start to feel overwhelmed, it is important that you reach out for help. A good place to start is the USC Student Counseling Services office at 213-740-7711. The service is confidential, and there is no charge.

### **E. Sexual Assault Resource Center**

The Center for Women & Men and the Sexual Assault Resource Center are one and the same. Student Counseling Services is a separate place that also offers confidential counseling and support groups on a variety of other topics. To schedule an appointment with Student Counseling Services, call (213) 740-7711 between 8:30 a.m. and 5 p.m. weekdays or visit the Engemann Student Health Center on the University Park Campus.

### **F. Emergency Preparedness/Course Continuity in a Crisis**

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

## Schedule

The exact schedule and reading assignments are subject to change as the course unfolds. However, the first few weeks will not change significantly and students will get advance notice of any changes.

### ***Week 1 – Introduction and Overview***

<b>Tue</b>	<b>Course introduction</b>
<b>Thu</b>	<b>Smart Cities: An overview</b>

- Townsend, Smart Cities, Introduction (Urbanization and Ubiquity).
- Fast Company (2012). The Top 10 Smartest Cities In North America.  
<http://www.fastcoexist.com/1680967/the-top-10-smartest-cities-in-north-america>
- The Economist, Clever cities: The multiplexed metropolis, (Sept 2013)  
<http://www.economist.com/news/briefing/21585002-enthusiasts-think-data-services-can-change-cities-century-much-electricity>
- Excerpt from Greenberg, Against the Smart City at  
<http://urbanomnibus.net/2013/10/against-the-smart-city/>

Pick one social and one economic dimension of smart cities that intrigues you and come prepared to present and discuss it in class (5 minutes)

### ***Week 2 - Infrastructure***

<b>Tue</b>	<b>From telephone to internet</b>
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- Neuman and al. (1999). “The Gordian Knot: Political Gridlock on the Information Super-Highway”, Cambridge, MA: MIT Press. Chap 2: “The Nature of Networks” (pp45-84) and Chap 3: “The Network and the State” (pp. 85-112) [on Blackboard]
- Sterling, B. 1993. A Short History of the Internet  
[http://w2.eff.org/Net\\_culture/internet\\_sterling.history.txt](http://w2.eff.org/Net_culture/internet_sterling.history.txt)

<b>Thu</b>	<b>City Infrastructure</b>
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- Townsend Chap 1 “The \$100 Billion Jackpot” and Chap 7 “Reinventing City Hall”
- Google Fiber Fuels Internet Access – and Debate -  
<http://benton.org/headlines/google-fiber-fuels-internet-access-and-debate>

### ***Week 3 – Commons, Peer Production, hacking***

**Tue**

- Benkler, the wealth of networks. chapters 3 and 4 ([http://cyber.law.harvard.edu/wealth\\_of\\_networks/Main\\_Page](http://cyber.law.harvard.edu/wealth_of_networks/Main_Page))
- Watch Rafi Santo's Ignite talk at DML2012: <http://empathetics.org/2012/04/> (5 minutes)
- Kelly K. (2010). Lessons from Amish Hackers (Chap 11). In What Technology Wants. New York: Viking

**Thu**

- Townsend, Ch. 5 “Tinkering Toward Utopia”, Ch. 8 “A Planet of Civic Laboratories”

### ***Week 4 - Wireless and Mobile***

**Tue**

#### **The mobile revolution**

- Economist Special Report, "[On the same wavelength](http://www.economist.com/node/3084475)", (August 12, 2004) <http://www.economist.com/node/3084475>
- Gregory Staple & Kevin Werbach, "[The End of Spectrum Scarcity: New technologies and regulatory reform will bring a bandwidth bonanza](#)", IEEE Spectrum, March 2004
- Baer et al., (2011) “Comparing Mobile Openness: Case Studies of United States, United Kingdom, France, China, India & Brazil”, paper presented at the 2011 Telecommunications Policy Research Conference, Arlington, VA.

**Thu**

#### **Communication Diary presentations**

### ***Week 5 – Information Economics: Information Pricing***

- Shapiro C. and Varian H. 1999. *Information Rules*, Cambridge: Harvard Business School Press. Chapter 2: "Pricing information" and Chapter 3: "Versioning information"

### ***Week 6 – Information Economics: Network Economics***

- Shapiro C. and Varian H. 1999. *Information Rules*, Cambridge: Harvard Business School Press. Chapter 7: "Networks and positive feedback"

### ***Week 7 – Network Marketplaces***

- Bar, François. 2001. "[The Construction of Marketplace Architecture.](#)" [pdf] In BRIE-IGCC (Ed.). The BRIE-IGCC E-economy Project Task Force on the Internet (pp. 27-49). Washington, DC: Brookings Institution Press.
- Something on the “sharing economy”

**Thu**

#### **Problem Analysis presentation**

### ***Week 8 – Open [source/access/data]***

- [Steven Weber, “The Political Economy of Open Source Software,”](#) UC Berkeley: BRIE. Working Paper #140
- Townsend, Chap 4 “The Open Source Metropolis”

### ***Week 9 – Risks, Resilience and Security***

- Townsend Chap 9 “Buggy, Brittle and Bugged”

### ***Week 10 – Digital Divide***

- Hargittai, E. 2003. The Digital Divide and What to Do About It. *New Economy Handbook*, Edited by D.C. Jones, San Diego, CA: Academic Press. 822-841.
- Heeks , R. 2008, ICT4D 2.0: The Next Phase of Applying ICT for International Development, IEEE Computer, June 2008 (BB)
- Townsend, Chap 6 “Have Nots”

### ***Week 11 – Network Neutrality***

- Clark & Blumenthal, "Rethinking the Design of the Internet: The end-to-end arguments vs. the brave new world", TPRC, 2000.  
([http://www.csd.uoc.gr/~hy558/papers/Rethinking\\_2001.pdf](http://www.csd.uoc.gr/~hy558/papers/Rethinking_2001.pdf))
- Sandvig, C. 2007. Network Neutrality is the New Common Carriage. Info: The Journal of Policy, Regulation, and Strategy 9(2/3): 136-147.  
([http://www.communication.illinois.edu/csandvig/research/Sandvig--Network neutrality is the new common carriage.pdf](http://www.communication.illinois.edu/csandvig/research/Sandvig--Network%20neutrality%20is%20the%20new%20common%20carriage.pdf))
- optional: this is a fairly technical paper - please have a look and see if you can understand the core arguments.Clark & Blumenthal, "Rethinking the Design of the Internet: The end-to-end arguments vs. the brave new world", TPRC, 2000.  
([http://www.csd.uoc.gr/~hy558/papers/Rethinking\\_2001.pdf](http://www.csd.uoc.gr/~hy558/papers/Rethinking_2001.pdf))

### ***Week 12 – Big Data***

### ***Week 13 – Privacy***

### ***Week 14 – (thanksgiving) No classes this week***

### ***Week 15 – final (group) presentations***