



DIGITAL TECH & SOCIETY II

NEW 113H1S - WINTER 2019

**COURSE TIME**

Thursdays 1-4 pm

CLASS LOCATION

Wetmore Hall 54E

COURSE WEBSITE

q.utoronto.ca

NEW ONE COORDINATOR

new.one@utoronto.ca

INSTRUCTOR

Roberta Buiani

CONTACT

roberta.buiani@utoronto.ca

OFFICE HOURS

11:00am-12:00pm Thursday or by appointment
45 Willcocks, M129

COURSE DESCRIPTION

Our urban environment is saturated with myriads of automated technologies, high resolution screens and surveillance camera. From this perspective, the city looks like a programmed and programmable machinery; its behavior can be predicted, controlled and modulated according to the principles established by some well-intentioned technocrat. AI, it is said, is supposed to turn urban structures into Smart Cities.

Our current obsession for digital technologies (that is, the common assumption that technologies are merely digital) has resulted in a failure to acknowledge the crucial role that other non-digital technologies play in making the city not only a functional engine but also a living and livable entity. Analog infrastructures facilitate mobility and coordination; others are used as structural foundations for new ones; plants, with their roots, hold the city in place; the way humans and animals circulate and

thrive in the city tells us about its liveliness and its technological customs.

This Winter course is an experiment in interdisciplinary thinking: It invites students to reconsider the above dismissed aspects as crucial and concatenated variants when studying technological innovation. Critical readings and practical experiments will examine various aspects of the city from the perspective of computer science and engineering, infrastructure studies, human geography, and plant biology. Students will use visualization tools and visual observation, ethnographic methods and artistic/creative expressions, to map and compare technological and biological systems as they intersect within the urban environment.

Learning objectives

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- To think critically about our own uses of technologies, and how these uses affect the environment that surrounds us

- To develop an interdisciplinary understanding of the social, economic impact of the uses (and abuses) of digital technologies
- To examine the key concepts and debates shaping the study and criticism of Information and Communication Technology today
- To become “critical users”, not just “passive users” of technologies

Course Materials

Copies of the required texts will be placed on reserve at New College Library (D. G. Ivey Library), 20 Willcocks Street.

All other course readings will be posted on Quercus.

COURSE WORK AND GRADING

Detailed instructions for assignments, including assessment criteria, will be posted on Quercus and discussed in class.

Please note: There is no final exam for this course. Your learning will be assessed throughout the semester via assignments, weekly reading responses and participation in the seminar.

Assignments	Due Date	Value %
Essay proposal and annotated bibliography for research paper Your essay proposal must include your research objectives for your paper and research question. The annotated bibliography must include a minimum of five scholarly sources.	Wednesday, February 6 by 11:59 p.m.	20%
Research Paper A scholarly research paper of 1200 words (maximum).	Wednesday, March 6 by 11:59 p.m.	25%
Knowledge Fair Presentation A group presentation of your research, such as a poster, a video, an artifact etc. Project Proposal Final Project	Due March 13 Due April 4	Total 30% 15% 15%
Learning Lab attendance and participation See note about attendance and participation under Course Policies below.	Throughout	10%
Seminar participation, weekly reading and lecture responses See note about attendance and participation under Course Policies below.	Throughout	15%

TOTAL		100

EXPECTATIONS

As your instructor, I expect that you will:

- Take responsibility for your own learning.
- Come to every class prepared and ready to engage with the material and your fellow students.
- Participate in class discussions and activities.
- Come to class with a considerate, respectful and nonjudgmental attitude towards each other and the instructor and help to create a positive space for creative learning and exploration.

As students, you can expect that I will:

- Establish and maintain a positive space for exploration and learning.
- Come prepared to every class.
- Help you learn and achieve the course objectives.

HOW TO PREPARE FOR CLASS

Every week you are expected to do your readings. The readings are listed in the syllabus and are available on Quercus. To find out what to read for week two, log into the course website in Quercus and read **all** of the readings listed for the week **in advance of the class**.

After you have read (and listened to/watched) all the assigned material, you are then expected to answer the reading questions that are posted in Quercus or to come prepared and discuss aspects of the readings (more on this in the assignments section of the syllabus).

These are an important part of your learning and contribute substantially to the 15 percent participation mark.

COURSE WORK AND GRADING

A detailed description of each assignment, including assessment criteria, will be posted on Quercus and discussed in class.

Please note: There is no final exam for this course. Your learning will be assessed throughout the semester via assignments, weekly reading responses and participation in the seminar.

Grading scale - Faculty of Arts & Science

Assignments at the University of Toronto are graded using the following system unless a specific rubric has been supplied by the instructor.

%	Letter Grade	GPA	Description
90 – 100	A+	4.0	Excellent: You far exceeded the expectations of this assignment.
85 – 89	A	4.0	Strong evidence of original thinking; good organization; capacity to analyze and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.
80 – 84	A-	3.7	

77 – 79	B+	3.3	Good: You completed the assignment beyond minimum expectations. Evidence of grasp of subject matter; some evidence of critical capacity and analytic ability; reasonable understanding of relevant issues; evidence of familiarity with literature.
73 – 76	B	3.0	
70 – 72	B-	2.7	
67 – 69	C+	2.3	Adequate: You demonstrated a basic understanding of assignment requirements. You are profiting from your university experience; understanding of the subject matter; ability to develop solutions to simple problems in the material.
63 – 66	C	2.0	
60 – 62	C-	1.7	
57 – 59	D+	1.3	Marginal: You didn't demonstrated sufficient understanding of assignment requirements for success Some evidence of familiarity with subject matter and little evidence that critical and analytic skills have been developed.
53 – 56	D	1.0	
50 – 52	D-	0.7	
0 – 49	F	0.0	Inadequate: You didn't demonstrate basic abilities to fulfill assignment requirements. Little evidence of even superficial understanding of subject matter; weakness in critical and analytic skills; with limited or irrelevant use of literature/course concepts.

ACADEMIC AND OTHER SUPPORTS FOR NEW ONE STUDENTS

1) ACADEMIC RESOURCES

Successful transition to university-level academic work involves taking care in this, your first year, to develop effective learning habits and necessary academic skills. New One, with its small classes and skills-building activities, is geared toward providing academic support and giving you opportunities to learn creatively as well as reflect on the ways in which you learn best, while at the same time challenging you intellectually.

In addition, there are several New College, university-wide, and online resources available to support your academic development that build on whatever capacities and skills you already have at this point. For example, a good command of written English is essential for the completion of most university assignments. The Writing Centre can help you develop and clarify your ideas in clear language. It is also important to organize your ideas, build logical arguments and communicate them well. Again the Writing Centre instructors will work with you to develop your own skills in doing that. We strongly encourage you to take full advantage of these resources as early as you can in the term, so that you can reap the benefits right from the start of your undergraduate career.

New College Writing Centre

You can make an appointment for one-on-one writing instruction as you work on your assignments.

<http://www.newcollege.utoronto.ca/academics/writing-centre/>

Writing at the University of Toronto

This is a website with a range of resources to assist you as you develop your writing skills.

<http://www.writing.utoronto.ca/>

New College Library

Jeff Newman (jeff.newman@utoronto.ca), the New College librarian, is available to help you figure out how to research your assignment topics and show you the information management tools that will help you do that. There are computer terminals, printing facilities and individual and group study space in the library that can be booked for your use.

<http://www.newcollege.utoronto.ca/academics/new-college-academic-programs/d-g-ivey-library/>

English Language Learning

There are several services for students who are multilingual, or wanting to improve their English speaking and writing.

<http://www.artsci.utoronto.ca/current/advising/ell>

2) TRANSITION TO UNIVERSITY

There are several student services to support your general learning and transition to university life.

<http://www.artsci.utoronto.ca/current/advising/services>

3) ACCESSIBILITY

GENERAL COURSE POLICIES

1. Attendance and class participation

Full attendance and active participation in the weekly classes and Learning Lab plenary sessions is required. It counts toward your class participation grade. The 10% Learning Lab grade is based on your participation in plenary activities, and submission of

Students with diverse learning styles and needs are welcome in this course. Students who require accommodation for documented health/disability issues should contact Accessibility Services as soon as possible at

<http://www.accessibility.utoronto.ca/>,

by phone at 416-978-8060 (TTY: 416-978-1902) or

email at accessibility.services@utoronto.ca

responses to the events, activities and guest speakers when required.

If you miss a class or Learning Lab session due to illness, a doctor's note may be requested.

If you are ill, please email your instructor or the New One coordinator before the class or Learning Lab.

2. Assignment submission

You are expected to submit your work to the instructor via Quercus by **11:59 p.m. the day of the deadline**. If you do not hand your paper in by 4 p.m., you will be deducted 4% per calendar day unless you have received an extension in advance of the deadline. **Late assignments will only be accepted by students who have spoken to the instructor in advance of the deadline and who have received an extension.** If you are having trouble with an assignment, please seek out the professor before the due date. You can book an appointment during office hours by logging into the class page on Quercus. You can also get help at the Writing Centre.

If you are having difficulty on any assignment you can also visit the Writing Centre. There will

be opportunities in class to discuss progress on assignments and to clarify any questions.

3. Referencing style: APA

All references in written work **must be fully cited using the APA format**. The following website is a useful style guide.

<https://owl.english.purdue.edu/owl/resource/560/01/>

4. Academic integrity and plagiarism

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters

(www.governingcouncil.utoronto.ca/policies/behaveac.htm) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:

- Using or possessing unauthorized aids.
- Looking at someone else's answers during an exam or test.
- Misrepresenting your identity.

In academic work:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see <http://academicintegrity.utoronto.ca/>).

5. Copyright in Instructional Settings

Weekly schedule

If you wish to tape-record, photograph, video-record or otherwise reproduce lecture presentations, course notes or other similar materials provided by instructors, you must obtain the instructor's written consent beforehand. Otherwise all such reproduction is an infringement of copyright and is absolutely prohibited. In the case of private use by students with disabilities, the instructor's consent will not be unreasonably withheld.

6. Email response time:

If you have a question that you can't find an answer to in the syllabus and your classmates can't help you, email me. I will respond within 24 hours during the work week. I will not check my email over the weekend. Please, **don't try to contact me on the day an assignment is due with questions about the assignment.** Plan ahead and bring your questions to class.

7. Class technology policy:

Laptops and smartphones can be very distracting in class. They not only distract you from class discussion, but they also distract your classmates too. Keep your cell phone on silence mode and **IN YOUR BAG/JACKET.**

8. New One Media:

We will occasionally take photos and videos of some of the New One activities and events. If you do not wish to be in any of them, please contact Alexandra Guerson at new.one@utoronto.ca and let her know. The photos or videos may be used for promotional material in the future.

Time	Place	Topic and Activities
Week 1		
January 10		
1:00-2:00	WE54E	Welcome to class! - Introductions and syllabus review Introduction exercise
2:00-4:00	Wilson Lounge	Learning Lab: New One-Introduction and term two orientation with New One Director, Dr. Alexandra Guerson
Week 2		
Jan. 17		
1:00-4:00	WE54E	Read: Livni, E. (2017). The simple metaphor that's increasingly getting in the way of scientific progress. Retrieved December 6, 2018, from https://qz.com/1072039/the-simple-metaphor-thats-increasingly-getting-in-the-way-of-scientific-progress/ Mattern, S. (2017). A City Is Not a Computer. Places Journal. https://doi.org/10.22269/170207
Week 3		
Jan. 24		
1:00-4:00	WE54E	Mobile workshop: identify the "stuff of cities" Brief Tour around Campus and surroundings [weather permitting] Read: Bennett, J. (2009). Preface (excerpts). In Vibrant Matter: A Political Ecology of Things. Duke University Press. Orfanos, Y., Marinou, E., Sagiua, V., & Pollalis, S. (2015). Information Infrastructure in Urban Planning. In T. Meshkani & A. Fard (Eds.), Geographies of information (pp. 93–99). Cambridge: Harvard University Press.

		<p>Mann, E. (2016, April 4). Story of cities #14: London's Great Stink heralds a wonder of the industrial world. The Guardian. Retrieved from https://www.theguardian.com/cities/2016/apr/04/story-cities-14-london-great-stink-river-thames-joseph-bazalgette-sewage-system</p> <p>Of Interest:</p> <p>Serena, K. (2017, September 13). A 143-Ton Ball Of Poop, Fat, And Condoms Is Clogging London's Sewer System. Retrieved December 6, 2018, from https://allthatsinteresting.com/monster-fatberg-london</p> <p>Take note!</p> <p>Decimal Lab Series: Monday January 28, 2019</p> <p>Time: 5:30-7:30PM</p> <p>Place: Toronto, Centre for Social Innovation, 192 Spadina Ave. ground floor Atrium https://goo.gl/maps/m3YjQjE1jBv</p> <p>Andrew Iliadis, PhD, Assistant Professor, Temple University, "Semantic Media: Who's Building Meaning into our Machines?"</p> <p>Tero Karppi, PhD, Assistant Professor, University of Toronto, "Disconnect. Facebook's Futures?"</p> <p>Rsvp: free and open to the public. Let us know if you are coming so we can order cookies, rsvp: decimal.lab.uoit@gmail.com</p>
Week 4 Jan. 31	Infrastructures and Platforms	
1:00-2:15	WI1017	Learning Lab: Conducting scholarly research and note taking workshop [Jeff Newman]
2:00-4:00	WE54E	<p>Read:</p> <p>Plantin, J.-C., Lagoze, C., Edwards, P. N., & Sandvig, C. (2016). Infrastructure studies meet platform studies in the age of Google and Facebook. <i>New Media & Society</i>, 1461444816661553. https://doi.org/10.1177/1461444816661553</p> <p>Starosielski, N. (2015). Chapter 2 "Fixed Flow Undersea Cables as Media Infrastructure." In N. Starosielski & L. Parks (Eds.), <i>Signal traffic: critical studies of media infrastructures</i>. Urbana ; Chicago ; Springfield: University of Illinois Press.</p>
Week 5 Feb. 7	Where do our Data go?	

Scholarly research essay outline and annotated bibliography due today		
1:00-4:00	WE54E	<p>Read:</p> <p>Dalton, C. M., Taylor, L., & Thatcher, J. (2016). Critical Data Studies: A dialog on data and space. <i>Big Data and Society</i>. January–June 2016: 1–9 DOI: 10.1177/2053951716648346</p> <p>Hu, T.-H. (2015). Data Centers and Data Bunkers. In <i>A prehistory of the cloud</i> (pp. 79–96). Cambridge, Massachusetts: The MIT Press.</p> <p>Take Note!</p> <p>Monday, Feb 11 Monday Night Seminar at the McLuhan Centre: Zach Blas https://www.mcluhancentre.ca/mondaynightseminars</p> <p>Tue, Feb 12, 2019 Ethics of AI in Context Ethics of AI in Context: Sheila McIlraith University of Toronto, Computer Science 04:00 PM - 06:00 PM Centre for Ethics, University of Toronto 200 Larkin</p>
Week 6 Feb. 14		Economy, Ecology and Design
1:00-2:30	WI1017	Learning Lab: How to write an essay

2:30-4:00	WE54E	<p>Visit to Mad Lab at the Gerstein Library</p> <p>Read:</p> <p>Reed, C., Lister, N.-M., & Actar. (2014). Ecology and Design: Parallel Genealogies. Places Journal. Retrieved from https://placesjournal.org/article/ecology-and-design-parallel-genealogies/</p> <p>Plutynski, A. (2008). Ecology and the Environment. In M. Ruse (Ed.), The Oxford Handbook of Philosophy of Biology. Oxford University Press. Retrieved from http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195182057.001.0001/oxfordhb-9780195182057-e-022</p>
Feb. 21		Reading week
Week 7 Feb. 28		Lurking Networks
1:00-4:00	WE54E	<p>Workshop: Anti-Surveillance Wearables</p> <p>Read:</p> <p>Blas, Zach. (2014). Informatic Opacity. The Journal of Aesthetics and Protests, (9). Retrieved from http://www.joaap.org/issue9/zachblas.htm</p> <p>Del Barco, M. (2017). Covert Fashion Provides Camouflage Against Surveillance Software. NPR News. Retrieved from https://www.npr.org/sections/alltechconsidered/2017/03/13/520021384/covert-fashion-provides-camouflage-against-surveillance-software https://cvdazzle.com/</p> <p>Hern, A. (2017, January 4). Anti-surveillance clothing aims to hide wearers from facial recognition. The Guardian. Retrieved from https://www.theguardian.com/technology/2017/jan/04/anti-surveillance-clothing-facial-recognition-hyperface</p>
Week 8 Mar. 7		Labors of Mobility: material flows and the mobile phone economy
Research Essay due today		
1:00-2:30	WI1017	Learning Lab: Student Panel

2:30-4:00	WE54E	<p>Workshop: mapping flows of information</p> <p>Read:</p> <p>Brophy, E., & de Peuter, G. (2014). Labours of Mobility: Communicative Capitalism and the Smartphone Cybertariat. In A. Herman, J. Hadlaw, & T. Swiss (Eds.), <i>Theories of the Mobile Internet: Materialities and Imaginaries</i> (pp. 60–84). New York: Routledge.</p> <p>Acaroglu, L. (2013, May 4). Where Do Old Cellphones Go to Die? The New York Times. Retrieved from http://www.nytimes.com/2013/05/05/opinion/sunday/where-do-old-cellphones-go-to-die.html</p>
Week 9 Mar. 14		Maintenance and Repair
Proposal for group Assignment due this week		
1:00-4:00	WE54E	<p>Read:</p> <p>Bacigalupi, P. (2010). Pump Six. In <i>Pump six and other stories</i> (pp. 1–20). Portland, Or: Night Shade.</p> <p>Russell, A., & Vinsel, L. (n.d.). HAIL THE MAINTAINERS. Innovation is overvalued. Maintenance often matters more. Retrieved November 27, 2018, from https://aeon.co/essays/innovation-is-overvalued-maintenance-often-matters-more</p>
Week 10 Mar. 21		More-Than-Human Networks
1:00-2:15	WI1017	Learning Lab: Data visualization. Presenting your knowledge visually
2:15-4:00	WE54E	<p>Read:</p> <p>Heijden, M. G. A. van der. (2016). Underground networking. <i>Science</i>, 352(6283), 290–291. https://doi.org/10.1126/science.aaf4694</p> <p>Bratton, B. (2014). The Black Stack - Journal #53 March 2014 - e-flux, (53). Retrieved from https://www.e-flux.com/journal/53/59883/the-black-stack/</p>
Week 11 March 28		The City as a Superorganism. A Workshop with Heather Barnett

1:00-4:00		<p>Read:</p> <p>Adamatzky A. (2015). Slime mould processors, logic gates and sensors. <i>Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences</i>, 373(2046), 20140216. https://doi.org/10.1098/rsta.2014.0216</p> <p>Yong, E. (2016, December 21). The Brainless Slime That Can Learn By Fusing. Retrieved December 19, 2018, from https://www.theatlantic.com/science/archive/2016/12/the-brainless-slime-that-can-learn-by-fusing/511295/</p>
Week 12 Apr. 4	Knowledge Fair!	
1:00-4:00	TBD	Public Presentations of your artworks/posters/publications etc..

ASSIGNMENTS (ALSO IN QUERCUS)

Seminar participation, weekly reading and lecture responses

In order for this course to be inspiring and exciting for all, sitting in class is not sufficient. You will need to actively participate. There are many ways to participate: you can ask questions, formulate comments, interact with your peers. Each of you is also required to attend a lecture to be chosen among the many opportunities offered at UofT. In this syllabus, you will see that I indicated some lectures/events that are particularly relevant to this course, but there will be more as schedules become available. You will be responsible for attending one of those events and you will report to the class (a couple of sentences, with a short critical commentary to be delivered at the beginning of class). A sign up sheet will be circulated early on. It would be fun if more than one of you attended the events so you can share notes.

Research Paper:

This assignment is comprised of 2 parts:

1) Outline and Annotated Bibliography

20% Due: Wednesday, February 6 by 11:59 p.m.

During this section of the assignment, your main task will be to search and find your research question choosing among a series of general topics. You will choose a topic from the 3 general categories/questions below. These are topics we will have discussed in class. You should form an argument addressing one aspect pertaining to the topic and develop your argument from there

Once you have narrowed your topic and have identified your specific research question, write a **1 page proposal** (250 words) of what you plan to do: what is your research question? What is your thesis? Explain in plain and clear words.

Include an **annotated bibliography**: an annotated bibliography consists of a series of references accompanied by a couple of lines explaining what the reference is about and how you are going to use it.

You will have to use at least 5 references (peer reviewed). At least three of them will have to come from your own research. Two can come from the readings. Any website, magazine articles (from reputable magazine and newspapers) are in addition to these 5.

2) Research paper Weight: 25%

Due date: Wednesday, Mar. 6 by 11:59 p.m.

Write a short essay (max 1200 words).

Guidelines on Quercus

Essay must contain reliable scholarly sources and must be readable by a range of readers.

You also must include an annotated bibliography. This is a document that accompanies your outline for which you will use APA style.

(For instructions on APA style, see <https://owl.english.purdue.edu/owl/resource/560/01/>)

For each of your minimum of **five scholarly sources** you will write a short paragraph (3-5 sentences) description of what the article/book chapter/report covers.

Knowledge Fair Assignment 30%

For this assignment, you will form a group with one or more classmates.

Throughout our course we are looking at how digital technologies do not constitute the only essential working engines of our lives and the functioning of our city. This course is also trying to imagine technologies beyond their identity as “software” or as ready-made artefacts.

For the Knowledge fair, you are asked to engage actively with one of the issues we have looked at and figure out ways to present it to a wider public.

For instance:

- 1) how can we show a wider audience the human and non-human networks constituting the complex networks of infrastructures of our city? Can we map and compare, say, plant, animal and cables networks? Do we need big data to provide evidence of such complex networks?
- 2) What would a completely automated city look like? What would be the reversal (that is, people decided to forego all technologies)?
- 3) What if a piece of technology did not use electricity as the main power source? What kind of power source would they use?
- 4) Can we imagine a world without technology? How did life look in the past?

Etc...

These are only a few examples of what we can do when it comes to communicating technological transformation and the significance of technologies in our life .

Be creative, think beyond the classic essay: I suggest you start drawing, building imaginary prototypes, acquire material, and learn how to demonstrate things without necessarily relying on powerpoint and poster presentations.

Imagine that at the knowledge fair there will be people you need to convince and impress: **how would you do it?**

You will prepare for the Knowledge fair as follows:

- 1) Form groups in week 4 (**Jan. 31**)
- 2) Brainstorm during the following weeks and submit a proposal (**Mar. 13 15%**)
- 3) Each group will write a 500 words description of the project and will prepare to present it publicly (**Apr. 4 15%**)