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Class Hours:	Section 1: Wed 10-11:50am; Section 2: Wednesday 3-4:50pm
Tutorial Hours:	Section 1: Thus 11:00-11:50am; Section 2: Thursday 3-3:50pm
Office Hours:	Wednesdays & Thursday by drop-in and appointment (Stratford)
Classroom:	All Seminars & All Tutorials: DMS 2024
TAs:	Zach Munro	Daniel Brenneman	Amy Debbane
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TA office hours:	By appointment

Course Description

In this course, students will examine different digital phenomena, such as big data, open data, data-driven innovation, the personal information industry, the sharing economy, and the internet of things. Students will also become familiar with national and international principles of privacy protection.

Course Goals and Learning Outcomes

- Students will, through a series of directed and self-selected topical analyses, become familiar with a series of analytical and topical themes pertinent to living and working in a time of rapid technological change
- Students will be familiar with the strengths and shortcomings of the fair information practice principles (FIPPs) in the context of the digital information economy
- Students will exercise skills in data visualization in order to simplify and communicate complex problems to a wide audience

A Note on Expectations

This course will have more academic content than a studio or skills acquisition course. This means that you will be expected to read, think, synthesize, and apply ideas rather than memorize information. Most of all, you will be expected to communicate through your writing clearly and effectively. Grades of 85%+ are reserved for students who exceed expectations for deliverables, not for merely meeting expectations.

Wednesday classes will run accord to seminar format as much as possible, meaning that lecturing will be kept to a minimum in favor of directed discussion and activities. My expectation is that you will have read all assigned material before class and be prepared to discuss the material each and every meeting. The success of our seminar time together depends upon you doing so.

The format of Thursday tutorials will vary over the course of the semester. Tutorials will be discussed in greater detail in class.

Required Resources

All assigned reading material for this course is available on Learn.

Course Deliverables & Assessment

Students will be assessed through the following deliverables:

Assignment	Weight	Due Date
Small Assignments (5 of 7; Individual)	30% (6% each)	Throughout semester
Documentary Assignment (Individual)	20%	Sept 26
Privacy Assessment (Individual)	20%	Oct 19
Data Visualization Project (Group)	30%	Nov 28

Small Assignments – 30%

You will be required to complete up to 7 small assignments throughout the semester. These assignments may consist of in-class quizzes, short written responses, or other formats as determined by the instructor. These are 'surprise' assignments to be completed in class. The two lowest grades (included missed assignments, if any) will be dropped from your final grade. There are no make-ups or re-dos for missed small assignments.

Documentary Assignment – 20%

You are required to write a 5-page (double spaced, not including cover page) review of the documentary *Terms and Conditions May Apply*. The documentary is widely available on Netflix, Vimeo, YouTube, and other sources. Your review should not be a summary of the film. Restrict summary to the introduction of your review; the remainder of your review should outline what you found interesting, surprising, or disturbing about the film, particularly strong or weak components/themes, the main message impressed upon you by the film, and the reasons why you think others should (or should not) watch the film. You are not required to consult additional material for this assignment, but those who incorporate ideas from the assigned readings on surveillance capitalism (Sept 12th) may receive a higher grade.

Privacy Assessment – 20%

You are required to write a 5-page assessment of the privacy policy of any free social media platform of your choosing. Your assessment should focus on whether the policy in question adheres to the fair information practice principles, and your final report should include a letter grade that indicates your assessment of the policy. The report should be written in paragraph form (i.e., no checklists) and be clear, concise, and specific. You do not need to explain your assessment for each principle but you must provide evidence to justify your overall assessment. Your assessment must refer to the OPC Privacy Toolkit; assessments that incorporate other assigned course readings up to and including Oct 17th may receive a higher grade.

Data Visualization Project – 30%

In groups assigned by the instructor you must develop a short video clip that provides insight about some aspect of our increasingly global, urban, and economically polarized world. You are encouraged to use the World Bank DataBank tools that will be demonstrated in tutorial; other sources are possible but should be discussed with the instructor as soon as possible. Your visualization must show <u>change over time</u> (at least five years) with respect to the phenomenon you are visualizing (e.g., rising rates of immigration in Europe; falling rates of disease in Asia). At least two variables should be incorporated for comparison purposes (e.g., education rates by gender; infection rates by region). The final video clip should be live action and narrated by one or more members of the group. The video clip should also include, at a minimum, two lines graphs and one map, though more of each are encouraged. Your visualization must be accompanied by a two-page statement that explains what aspect of globalization you are visualizing, why it is important to understand this phenomenon, and which documents your data source(s). Three academic sources are required for the report. All video clips will be shared at a screening session on the last day of the semester; groups should be prepared to introduce their work at that time. Group members not present at the screening will be penalized 5% of the overall group grade.

Weights for assignment components: visualization (75%), report (25%)

Grading Guidelines for Written Assignments

Superior 85%+	Deliverable does superior overall job on all aspects of the assignment. Writing is clear and concise and supports and argument throughout the work. Few or no spelling and grammatical errors are present. References formatted correctly.
Very good 75-84%	Deliverable does very good job on all aspects of the assignment. Some weaknesses are evident in the writing, such as unclear sentences or jumps in flow between sentences and/or paragraphs, but the work supports an argument on the whole. Some grammatical and/or spelling errors are present. Some errors in referencing.
Satisfactory 65-74%	Deliverable accomplishes objective of assignment but may be weak overall. An argument is not clear or substantiated. Flaws in writing evident but overall message is understandable. Some grammatical and/or spelling errors are present.
65%- Fail	Deliverable misses objective of assignment. Pronounced flaws in writing and clear in attention to grammar and spelling.

Grading Guidelines for Video Clip

Superior 85%+	Clip is clear and insightful; all aspects of assignment met. Video and sound production is of high quality. An engaging deliverable overall.
Very good 75-84%	Clip is well-done but could be improved. Data components unclear or confusing. Video and sound production well done.
Satisfactory 65-74%	Clip accomplishes objective of assignment but may be weak overall. Data components confuse rather than illuminate. Video and sound production need work.
Below 65%- Fail	Clip misses objective of assignment. Pronounced errors in data components; video and sound production lacking quality.

Course Schedule & Reading List – dates with 't' denote tutorials

All lectures, discussions, and in-class assignments will be based on the readings listed below. You are expected to read all of the listed material before coming to class. Do not leave your reading to the night before as the readings are scholarly in nature and will take some time to work through.

Sept 6t:	Introduction to Course
Sept 12:	Welcome to Surveillance Capitalism Reading: Zuboff (2015), *Big Other: Surveillance Capitalism and the Prospects of an Information Civilization*; Esteve (2017), *The Business of Personal Data: Google, Facebook, and Privacy Issues in the EU and USA*
Sept 13t:	Introduction to Privacy Assessment Assignment Reading: Turow (2018), *Let's Retire the Phrase 'Privacy Policy'* Suggested Reading: Schaub et. al., (2015), *A Design Space for Effective Privacy Notices*
Sept 19:	Documentary Assignment [no class] – *Terms and Conditions May Apply*
Sept 20t:	No tutorial
Sept 26:	The Fair Information Practices Principles (FIPPS) & Film Discussion Reading: Hartzog (2017), *The Invaluable, Inadequate Fair Information Practices*; Office of the Privacy Commissioner of Canada (2015), *Privacy Toolkit*
Sept 27t:	Privacy Assessment Assignment Open Work Session
Oct 12:	Privacy Regimes in Canada, USA, & EU Reading: Levin & Nicholson (2005), *Privacy Law in the United States, the EU and Canada: The Allure of the Middle Ground*
Oct 17:	The Globalization of Privacy?: The EU General Data Protection Regulation (GDPR) Reading: Bennett (2018), *The European Data Protection Regulation: An Instrument for the Globalization of Privacy Standards?*
Oct 18t:	Data Visualization Project initiated [groups formed; introduction to World Bank DataBank]
Oct 24:	What is Data Science? What is Data Visualization? Reading: Healy & Moody (2014), *Data Visualization in Sociology*
Oct 25t:	Data Visualization tutorial [using World Bank DataBank]
Oct 31:	The Sharing Economy as Disruptive Innovation Reading: Bower & Christensen (1995), *Disruptive Technologies: Catching the Wave*; Slee (2016), Chapters 1, 2, 3, & 4 from *What's Yours is Mine* [online resource available from Porter library]
Nov 1t:	Data Visualization Open Work Session
Nov 7:	Algorithms Reading: Gillespie (2016), *Algorithm*; Kitchin (2017), *Thinking Critically About and Researching Algorithms*
Nov 8t:	Data Visualization Open Work Session

Nov 14:   Algorithmic Governance: Smart Cities & Automated Justice
             Readings: Kitchin (2014), *The Real-Time City? Big Data & Smart Urbanism*; Branye
             (2017), *Big Data Surveillance: The Case of Policing*
Nov 15t: Data Visualization Open Work Session

Nov 21:   The Internet of Things
             Readings: Ziegeldorf et. al. (2013), *Privacy in the Internet of Things: Threats and
             Challenges*; Cavoukian & Popa (2016), *Embedding Privacy into What's Next: Privacy by
             Design and the Internet of Things*
Nov 22t: Data Visualization Assignment Open Work Session [last!!!]

Nov 28:   Data Visualization Presentations

Classroom Policies

Please read and observe the following classroom policies. The University's policies on Academic
Integrity and Accommodation for Students with Disabilities appear below. You are expected to
adhere to all classroom and University policies.

Attendance Policy

You are expected to attend all classes and tutorials. Absences, especially when group work in
tutorials is scheduled, should be avoided unless absolutely necessary due to reasons acceptable to
the University. Travel plans are not acceptable reasons for requesting alternative due dates.

Late Submission Policy

All assignments must be submitted on the due date. Late assignments will be penalized at 5% of the
value of the assignment per day.

Electronic Device Policy

Laptop computers and/or tablets may be used in the classroom for learning purposes only. All
other uses are prohibited. Mobile phones should be turned off and stored until the end of class. Do
not take selfies in class (I'm not kidding – it happens). Do not wear headphones in class. Making
audio/video recording of class lectures or tutorials without permission is prohibited. You may be
asked to leave the classroom if any use of technology is disruptive.

Email Policy

Please keep email correspondence to a minimum. I will strive to respond to all emails I receive
within one business day, but most questions can be answered by consulting the course outline,
asking your colleagues, or waiting until the next time we meet.

Format of Written Assignments

Your written assignments should include a cover page with the title of the assignment, your name
and student ID number, the course name, my name, and the date. Staple your paper on the top left
corner. Do not use plastic covers or duotangs. Do not put sparkles on the pages.

University Policies

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integritity Webpage (https://uwaterloo.ca/academic-integrity/)](https://uwaterloo.ca/academic-integrity/) and the [Arts Academic Integrity Office Webpage (http://arts.uwaterloo.ca/current-undergraduates/academic-responsibility)](http://arts.uwaterloo.ca/current-undergraduates/academic-responsibility) for more information.

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70, Student Petitions and Grievances, Section 4](https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70) (https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70). When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Discipline

A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and types of penalties, students should refer to [Policy 71, Student Discipline (http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm)](http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm). For typical penalties check [Guidelines for the Assessment of Penalties (http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm)](http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm).

Appeals

A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72, Student Appeals (http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm)](http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm).

Note for Students with Disabilities

The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.

Course Reading List Bibliography

Bennett, C. 2018. The European Data Protection Regulation: An Instrument for the Globalization of Privacy Standards? *Information Polity* 23: 239-246.

Bower, J. & C. Christensen. 1995. Disruptive Technologies: Catching the Wave. *Harvard Business Review* 73(1): 43-53.

Branye, S. 2017. Big Data Surveillance: The Case of Policing. *American Sociological Review* 82(5): 977-1008.

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Esteve, A. 2017. The Business of Personal Data: Google, Facebook, and Privacy Issues in the EU and USA. *International Data Privacy Law* 7(1): 36-47.

Gillespie, T. 2016. Algorithm. In B. Peters (ed.), *Digital Keywords: A Vocabulary of Information, Society, & Culture*, pgs. 18-30. Princeton University Press.

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Healy, K. & J. Moody. 2014. Data Visualization in Sociology. *Annual Review of Sociology* 40: 105-128.

Kitchin, R. 2014. The Real-Time City? Big Data & Smart Urbanism. *GeoJournal* 79: 1-14.

Kitchin, R. 2017. Thinking Critically About and Researching Algorithms. *Information, Communication, & Society* 20(1): 14-29.

Levin, A. & M. Nicholson. 2005. Privacy Law in the United States, the EU and Canada: The Allure of the Middle Ground. *University of Ottawa Law & Technology Journal* 2(2): 357-395.

OPC. 2015. *Privacy Toolkit for Businesses*. Ottawa: Office of the Privacy Commissioner of Canada.

Schaub, F., R. Balebako, A. Durity, & L Cranor. 2015. A Design Space for Effective Privacy Notices. *Symposium on Usable Privacy & Security*, July 22-24 2015. Ottawa, Canada.

Slee, T. 2017. *What's Yours is Mine: Against the Sharing Economy*. OR Books.

Turow, J. 2018, Aug 20. Let's Retire the Phrase 'Privacy Policy'. *New York Times* (online). Available at https://www.nytimes.com/2018/08/20/opinion/20Turow.html

Ziegeldorf, J., O. Morchon, & K. Wehrle. 2014. Privacy in the Internet of Things: Threats & Challenges. *Security & Communication Networks* 7: 2728-2742.

Zuboff, S. 2015. Big Other: Surveillance Capitalism and the Prospects of an Information Civilization. *Journal of Information Technology* 30: 75-89.