

COMPUTERS, THE INTERNET, AND SOCIETY

CSE 252 / EMC 252 / STS 252

TR 2:35 p.m. - 3:50 p.m.

Lewis Lab 316

Spring 2019

Professor: Eric P. S. Baumer {ericpsb@lehigh.edu}

Office Hours: ericpsb.youcanbook.me

Facebook. PRISM. Uber. Fake news. #Occupy. 4chan. It's easy to find evidence for the effect that technology has on society. It's a bit harder, though, to pin down exactly *how* these effects happen.

This course considers the **nature of the relationship between computing and society**. In it, we explore different accounts for this relationship. By the end of the course, you will be able to:

- identify social or ethical issues in computing technology development and deployment using a variety of conceptual and theoretical frameworks.
- enumerate the various positions that people can and do take on that issue.
- articulate and defend your own position for an appropriate course of action, drawing on examples from previous sociotechnical systems.

The above constitute the *learning objectives and outcomes* for this course.

This is a **writing intensive** course. Writing will occur through a combination of individual and group assignments. These assignments are structured to help you develop your ability to present well-supported arguments. They will also provide you experience discussing the kinds of issues and decisions that you will face after graduation. Anyone who goes into a technology sector will unavoidably need to deal with complex ethical issues. Anyone not directly involved in technology development will also need to consider issues of how different possible configuration of computers and people may affect their work and their lives.

DEBATES

The course structured hinges on a series of debates, each of which focuses on a particular topic. Debates will be conducted in the following manner.

- Each student will be assigned to a debate team of ~4 members. Assignments will be made about Monday, January 28, in case of any adds or drops during the first week of class.
- For each debate, a subset of teams will be assigned as discussion leaders. The position your team should argue will be assigned when you arrive in class for the debate.

- Debates will be structured as follows. In the interest of time, no slides (e.g., Power Point) or other A/V materials will be allowed.
 - **Opening Arguments:** Each team will have 3 minutes to make opening remarks. Attract the audience's attention, clearly state your position, offer evidence in support of your position. Pro speaks first, then Con.
 - **Questions and Responses:** Each team will have a 6 minute period to ask questions of the opposing side. These 6 minutes will be spent in a back-and-forth fashion. Each question should take no more than 30 seconds to ask. Questions should identify and exploit the weaknesses in arguments. Each opposing team will then have up to 45 seconds to respond. Responses should defend your claims, with additional evidence as necessary. Quicker questions and responses will allow for more total questions to be asked and answered. Pro questions first, and Con responds. Then Con questions, and Pro responds.
 - 3 minute recess – Audience teams (those not leading the debate) formulate questions.
 - **Floor Discussion:** Audience teams will randomly be selected to ask either one question of the Pro team or one question of the Con team. Questions are limited to 30 seconds, and responses are limited to 45 seconds. Floor discussion is limited to 7 minutes total.
 - 3 minute recess – Leading teams discuss strategy for final statements.
 - **Final Response and Close:** Each team will have 4 minutes to respond to audience questions, summarize the debate, and conclude their arguments. Con closes first, then Pro.
- During debates, all those **students not presenting will use Twitter** to comment on the arguments presented. You may use an existing Twitter account, or you may create one specifically for this class. In either event, please send the Professor the name of the account you will be using. For each debate, you will need to post *at least* two tweets.
 - At least one tweet should be in response to a particularly argument made by one of the presenters leading the debate. The tweet should summarize what makes the argument compelling.
 - At least one tweet should be in response to a tweet by another student with which you disagree. Your tweet should clearly and concise articulate a counter argument to the point made in the tweet. Please keep in mind the comments below about civility.
- These tweets will be recorded and used as part of the participation grade for those students not presenting during a debate.

At the conclusion of the debate, you will draft a **position paper**, as described further below.

ASSIGNMENTS

All written assignments should be submitted in 10-12 point font, single column, single spaced, with 1” to 1.5” margins, in a legible and appropriate typeface of your choosing. Any references should be cited using APA format or similar. Assignment lengths are specified in word count, exclusive of references, tables, captions, footnotes, etc.

DISCONNECTION ASSIGNMENT

In an effort to understand the reach of technology’s influence in our lives, students will spend **24 hours without electronic communication technology**. This includes computers, phones, portable devices, social networking, TV, radio, and others – even for academic or scholastic purposes¹.

This assignment will be difficult and will likely require some advance planning. Therefore, you are *highly encouraged to complete this assignment early* in the semester. That way, if you are unable to complete the full 24 hours, you will still have time to try again before the assignment is due. During your disconnection time, you will take hand-written field notes. After completing the disconnection, you will write and submit a paper about the experience. Further details, as well as a template for the field notes, will be made available on CourseSite.

POSITION PAPERS

Each debate will focus on a pro/con framing. After the debate, you will be given a more open-ended question related to but different from the debate prompt. Furthermore, while the debate is led as a group, you will complete the position paper **as an individual** writing assignment. This position paper should articulate your position on the issue and clearly respond to the provided prompt. Position papers should be a maximum of 500 words. Papers over the maximum length will receive a grade of zero. More details about position statements and debate topics will be made available on CourseSite for each debate.

On the class day following each debate, you will be grouped with at least one other class member to share position papers. During class, you will read through the other students’ draft position papers and provide comments. These drafts should be written using Google Docs with your Lehigh login, and they should be shared with your peer commenters in comment mode. Doing so will allow the other students to add comments or suggest changes without inadvertently removing any content from your draft.

The final version of each position paper is then due by the beginning of class on the date noted on the syllabus, usually one week after the original debate. More details will be made available on CourseSite.

1 For valuable suggestions on this assignment, thanks to Melissa Mazmanian at UC Irvine, who in turn drew on ideas from Keri Stephens at UT Austin.

OPINION-EDITORIAL

During the course of the semester, you will write four position papers. Before the end of the semester, you must select one of these position papers to submit as an op-ed piece to a regular periodical of your choice. You may choose something on par with the New York Times or Wall Street Journal, you may choose something more like The Morning Call, you may choose something like Wired, or any other legitimate journalistic venue with open op-ed submissions.

There are two elements to the op-ed submission. The first is the piece itself. It will likely involve a non-trivial amount of effort to make your argument comprehensible to an audience of educated but diverse readers, as they may not have intimate familiarity with all the material covered in class. The second is a reflection that you will write about this process. The reflection will cover the revision of your position paper, the submission process of your op-ed piece, what response you receive, and how you make sense of those experiences through the lens of the material covered in this class. More details will be made available on CourseSite.

IN-CLASS

A writing exercise or other activity will often be given at the beginning of class, at the end of class, during the middle of class, or some combination thereof. These should be submitted using CourseSite. These activities are **open-notes, but closed-book**. That is, during the completion of the activity, you may consult any notes you may have taken about the readings, but you may not consult the readings themselves. Since you will complete the prompt on CourseSite and many of our readings are in electronic format, you will need to exhibit the highest level of **academic integrity** when completing these assignments. If this becomes an issue, it may become necessary to complete in-class assignments via blue book, which will slow down the grading process and, in turn, the receiving of feedback.

These daily assignments will be graded on a basic letter scale according to the following rubric:

- A: Thorough comprehension of material, well-reasoned and articulate argument, and thorough use of readings.
- B: Sufficient comprehension of the material and cogent reasoning grounded in readings. May have one small issue with argument.
- C: May be missing two or more minor points, use of readings may show misunderstanding.
- D: Misses the central point of the prompt, little to no use of readings
- F: Off-topic, no response, incomprehensible, or similar issues.
- A+: Truly outstanding, novel insights or arguments that go beyond the class material.

If you are absent and have no personal days remaining (see the policy below regarding

Attendance), you will receive no credit.

FINAL VIDEO

Rather than a term paper, the final deliverable for this class will be a video. It should be about 5 to 10 minutes in length and will be completed in groups of four to five. Students will choose their own groups for this project. Groups must be chosen with lists of a group name and group members sent to and Prof. Baumer by Tuesday, February 19. A written or multimedia summary of your planned video should be submitted by Friday, March 8, and the final version of the complete video is due by Thursday, April 25.

This video should be persuasive. It should engage with a complex issue about the relationship between computing and society, it should take a position on that issue, and it should make an argument in support of that position. The exact format and genre of the video are open. It could be a public service announcement, an infomercial, investigative journalism, science fiction, a documentary, etc. If you have a creative idea but are unsure about the appropriateness, please take up your concerns with the Professor prior to when the summary is due. Further details about this assignment will be made available on CourseSite.

ATTENDANCE

Attendance is **mandatory**. A significant portion of the course involves developing an ability to make arguments, both in terms of articulating your own and in terms of understanding others. As such, in-class activities are integral, both to your own and to others' learning, as well as a non-negligible portion of your grade.

Sometimes, though, life happens. In such instances, you will receive **two personal days** to use at your discretion during the semester. To use a personal day, simply do not show up to class. No excuse or justification need be given. Any in-class assignments or participation grade that day will not count toward your total. If you miss additional days, those will be counted as a zero toward your in-class assignment and discussion participation grades.

GRADING

You will receive a grade based on the following break down.

15% in-class assignments, ~1% each week

15% in-class participation, ~1% each week

10% disconnection write-up

10% debate leading

20% position papers (5% each for 4 papers)

5% position paper feedback (1.25% each for 4 papers)

15% final video project

10% grand finale (aka, final exam)

Grading Scale

97% – 100% A+	77% – 79.9% C+
93% – 96.9% A	73% – 76.9% C
90% – 92.9% A-	70% – 72.9% C-
87% – 89.9% B+	67% – 69.9% D+
83% – 86.9% B	63% – 66.9% D
80% – 82.9% B-	60% – 62.9% D-
	< 60% F

POLICIES

TECHNOLOGY IN CLASS

While in class, your attention should be on class. Please silence, disable, or turn off any device that makes noise. During most classes, you should *not use* laptops, tablets, phones, or other electronic devices. If you believe there should be an exception to this policy, you may contact the Professor.

ACADEMIC HONESTY

“If I have seen further, it is by standing on the shoulders of giants.”

– (Isaac Newton, 1676)

In this class, you both are encouraged and will need to draw on the work and ideas of others. However, you must do so with appropriate acknowledgement. For scholarly writing, news media, books, or other publications, this usually means citation. In other cases, a footnote and/or an acknowledgement section may be more appropriate (for instance, see the above footnote about our disconnection assignment). Written assignments will be screened using TurnItIn. Plagiarism will not be tolerated. If in doubt, ask the Professor, or see Lehigh’s plagiarism policies (available from http://library.lehigh.edu/content/plagiarism_policies).

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

If you have a disability for which you are or may be requesting accommodations, please contact both the Professor and the Office of Academic Support Services, Williams Hall, Suite 301 (610-

758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

TEAM WORK

A significant portion of the work in this class will be completed in groups or teams. At the end of the semester, you will be asked to evaluate the other members of the teams in which you have worked. Individuals who receive a negative evaluation from one team member will receive a notification that a complaint was made (though not by whom). Individuals who receive a negative evaluation from two team members will receive up to a 10% deduction in their grade on the project. Individuals who receive a negative evaluation from more than two team members will receive a 50% reduction in their grade on the project. Individuals who receive a glowing evaluation from all team members may receive up to a 5% bonus on their grade for the project. Complex cases may involve external dispute resolution if necessary.

DISSENT

This class deals with complex, contentious topics. As such, you may disagree with the other students, the graders, or the Professor. This disagreement is both allowed and encouraged. However, disagreement must be voiced and conducted in a civil manner. From the Lehigh Principles of our Equitable Community:

We recognize each person's right to think and speak as dictated by personal belief and to respectfully disagree with or counter another's point of view.

Lehigh University endorses The Principles of Our Equitable Community. We expect each member of this class to acknowledge and practice these Principles. Respect for each other and for differing viewpoints is a vital component of the learning environment inside and outside the classroom. See http://www.lehigh.edu/~inprv/initiatives/PrinciplesEquity_Sheet_v2_032212.pdf

SCHEDULE

All readings with URLs are available through Lehigh. You **should not pay** for any of the readings. You can access them from on campus, or you can use the Lehigh VPN. For detailed directions, see:

- Linux: <https://lts.lehigh.edu/services/stepwise-instructions/installing-cisco-anyconnect-vpn-client-software-linux>
- Mac: <https://lts.lehigh.edu/services/stepwise-instructions/connect-vpn-mac>
- Windows: <https://lts.lehigh.edu/services/stepwise-instructions/install-and-connect-vpn-windows>

Any readings that are not freely available online will be posted on CourseSite.

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
------	------------------	------------------

WEEK 1 WELCOME

T Jan 22 Preliminaries

R Clay Shirky. 2008. It Takes a Village to Find a Phone. Chapter 1, in *Here Comes Everybody*. Penguin Books: London.

UNIT 1 – PRIVACY AND SURVEILLANCE

WEEK 2

T Jan 29 [- no class, Prof. Baumer away -]

R	Leysia Palen and Paul Dourish. 2003. Unpacking "privacy" for a networked world. In <i>Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI)</i> : 129-136. http://dl.acm.org/citation.cfm?id=642635 Helen Nissenbaum. 2001. A Contextual Approach to Privacy Online. <i>Daedalus</i> , 140(4) 32-48. http://www.mitpressjournals.org/doi/abs/10.1162/DAED_a_00113	Debate Teams Assigned
---	---	-----------------------

WEEK 3

T Feb 5 Daniel J. Solove. 2011. Why Privacy Matters Even if You Have “Nothing to Hide.” *The Chronicle of Higher Education*.
<https://www.chronicle.com/article/Why-Privacy-Matters-Even-if/127461>

Stuart Armstrong. Life in the Fishbowl: The strange benefits of living in a total surveillance state. Aeon.
<https://aeon.co/essays/the-strange-benefits-of-living-in-a-total-surveillance-state>

R Michel Foucault. 1977. The Means of Correct Training. In *Discipline and Punish: The Birth of the Prison*: 170-194. Vintage Books: New York.

WEEK 4 DEBATE !

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
T Feb 12	Debate Round 1: Privacy SNOW DAY	
R	Peer Feedback Round 1: Privacy Debate Round 1: Privacy	Due: Draft of Position Paper 1

UNIT 2 – FAIRNESS AND BIAS IN ALGORITHMS

WEEK 5

T Feb 19	Robyn Speer. 2017. How to make a racist AI without really trying. <i>ConceptNet blog</i> . Retrieved from http://blog.conceptnet.io/posts/2017/how-to-make-a-racist-ai-without-really-trying/	Due: Draft of Position Paper 1 (Monday Feb 18) Due: Video Team Rosters Due: Final Version of Position Paper 1
R	Michal Kosinski, David Stillwell, and Thore Graepel. 2013. Private traits and attributes are predictable from digital records of human behavior. <i>Proceedings of the National Academy of Sciences</i> 110, 15: 5802–5805. https://doi.org/10.1073/pnas.1218772110 Tarleton Gillespie. 2014. Can an Algorithm be Wrong? <i>limn</i> 2. http://limn.it/can-an-algorithm-be-wrong/?doing_wp_cron=1488263403.9042460918426513671875	Due: Final Version of Position Paper 1 (Friday Feb 22)

WEEK 6

T Feb 26	Cynthia Rudin. 2015. New models to predict recidivism could provide better way to deter repeat crime. <i>The Conversation</i> . http://theconversation.com/new-models-to-predict-recidivism-could-provide-better-way-to-deter-repeat-crime-44165 Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner. 2016. Machine Bias. <i>Pro Publica</i> . https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing	
----------	---	--

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
R	Latanya Sweeney. 2013. Discrimination in Online Ad Delivery. <i>Communications of the ACM</i> , 56(5): 44–54. http://dx.doi.org/10.1145/2460276.2460278 . danah boyd and Kate Crawford. 2012. Critical Questions for Big Data: Provocations for a cultural, technological, and scholarly phenomenon. <i>Information, Communication & Society</i> , 15(5): 662-679	
WEEK 7	DEBATE !	
T Mar 5	Debate Round 2: Algorithms and Accountability	Due: Disconnection Assignment
R	Peer Feedback Round 2: Algorithms and Accountability	Due: Draft of Position Paper 2 Due: Video Outline (Friday Mar 8)
WEEK 8	SPRING BREAK	
T Mar 12	[- no class meeting -]	
R	[- no class meeting -]	
UNIT 3 – ROBOTS AND UBER AND DRONES, OH MY!		
WEEK 9		
T Mar 19	ACM Code of Ethics. https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct	Due: Final Version of Position Paper 2
R	Amy Maxmen. 2018. Self-driving car dilemmas reveal that moral choices are not universal. <i>Nature</i> 562: 469. https://doi.org/10.1038/d41586-018-07135-0 Ian Bogost. 2018. Enough With the Trolley Problem. <i>The Atlantic</i> . Retrieved from https://www.theatlantic.com/technology/archive/2018/03/got-99-problems-but-a-trolley-aint-one/556805/	
WEEK 10		

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
------	------------------	---------------------

T Mar 26	Bruno Latour. 1992. Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts. In <i>Shaping Technology / Building Society: Studies in Sociotechnical Change</i> (eds. Wiebe Bijker and John Law): 225-258. MIT Press: Cambridge, MA.	
----------	--	--

R	<p>Kentaro Toyama. 2010. Can Technology End Poverty? Boston Review, December 2010. http://bostonreview.net/forum/can-technology-end-poverty</p> <p>Choose and read at least one response to Toyama’s article (linked from the top of the article above).</p>	
---	---	--

WEEK 11 DEBATE !

T Apr 2	Debate Round 3: Autonomous Systems	
---------	------------------------------------	--

R	Peer Feedback Round 3: Autonomous Systems	Due: Draft of Position Paper 3
---	---	---------------------------------------

UNIT 4 – RESISTANCE IS...

WEEK 12

T Apr 9	<p>Nicholas Carr. 2008. Is Google Making Us Stupid? <i>The Atlantic</i>. http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/</p> <p>Howard Rheingold. 2000. The Heart of the WELL. from <i>The Virtual Community</i>. MIT Press: Cambridge, MA. http://www.rheingold.com/vc/book/1.html</p>	Due: Final Version of Position Paper 3
---------	---	---

R	<p>Cass Sunstein. 2001. The Daily Me. In <i>Republic.com</i>, 1-22. Princeton University Press: Princeton, NJ. http://press.princeton.edu/chapters/s7014.pdf</p> <p>Deen Freelon. 2018. Filter bubbles are only part of the problem. <i>Trust, Media and Democracy</i>. Retrieved from https://medium.com/trust-media-and-democracy/filter-bubbles-are-only-part-of-the-problem-d3add635651c</p>	
---	--	--

WEEK 13

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
------	------------------	------------------

T Apr 16	<p>Finn Brunton and Helen Nissenbaum. 2011. Vernacular Resistance to Data Collection and Analysis: A political theory of obfuscation. <i>First Monday</i> 16, 5. https://firstmonday.org/article/view/3493/2955 [<i>Section 4 (The science of obfuscation) and Section 5 (The politics of obfuscation) are optional</i>]</p> <p>J. Nathan Matias. 2018. Quitting Facebook & Google: Why Exit Option Democracy is the Worst Kind of Democracy. <i>Medium</i>. Retrieved from https://medium.com/@natematias/https-medium-com-natematias-quitting-facebook-google-aaf8f4c80fbf</p>	
----------	---	--

R	<p>S. Matthew Liao. 2018. Opinion Do You Have a Moral Duty to Leave Facebook? <i>The New York Times</i>. Retrieved from https://www.nytimes.com/2018/11/24/opinion/sunday/facebook-immoral.html</p> <p>Denise Anthony and Luke Stark. Don't quit Facebook, but don't trust it, either. <i>The Conversation</i>. Retrieved from http://theconversation.com/dont-quit-facebook-but-dont-trust-it-either-93776</p> <p>Julianne Romanosky and Marshini Chetty. 2018. When The Choice Is To Delete Facebook Or Buy A Loaf Of Bread. <i>Freedom to Tinker</i>. Retrieved from https://freedom-to-tinker.com/2018/03/28/when-the-choice-is-to-delete-facebook-or-buy-a-loaf-of-bread/</p>	
---	--	--

WEEK 14 DEBATE !

T Apr 23	NO CLASS [- Prof. Baumer away -]	
----------	------------------------------------	--

R	<p>Peer Feedback Round 4: Social Media Debate 4: Social Media</p>	Due: Final Video Project
---	---	---------------------------------

WEEK 15 VISIONS AND FUTURES

T Apr 30	<p>Julian Bleecker, Nick Foster, Fabien Girardin, and Nicolas Nova. 2015. Our Approach of Design Fiction. Near Future Laboratory. Retrieved from http://blog.nearfuturelaboratory.com/2015/07/28/our-approach-of-design-fiction/</p> <p>Barry Brown et al. 2016. IKEA: The smart everyday for the many people (An IKEA Catalog from the Near Future).</p>	
----------	---	--

Due (M 4/29): Draft of Position Paper 4
Due (W 5/1): Comments on Position Paper 4

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
R	No reading assignment	Due (F 5/3): Final Revision of Position Paper 4 Due: Video Team Assessment (F 5/3) Due: Debate Team Assessment (F 5/3) Due: Final (R 5/9)