COMPUTERS, THE INTERNET, AND SOCIETY

CSE 252 / EMC 252 / STS 252 MW 1:35 p.m. - 2:50 p.m. Whitaker Lab 207 Spring 2020

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Zoom: https://lehigh.zoom.us/j/596053141

Facebook. PRISM. Uber. Fake news. #MeToo. 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

Before Spring Break and Transition to Online

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 on or around Monday, January 27, 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. Depending on enrollment, there will likely be two Pro position teams (Pro 1 and Pro 2) and two Con position teams (Con 1 and Con 2).
- 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. You should attract the audience's attention, clearly state your position, and offer evidence in support of your position. Pro speaks first, then Con.
 - Questions and Responses: Each team will have an 8 minute period to ask questions of the opposing side. These 8 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. When Pro 1 asks questions, Con 1 will be required to respond, and Con 2 may respond if they like; and similarly for each team's turn to ask questions.
 - 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 8 minutes total.
 - 3 minute recess Leading teams discuss strategy for final statements.
 - **Final Response and Close**: Each team will have 3 minutes to respond to audience questions, summarize the debate, and conclude their arguments. You should *not* introduce new evidence or arguments during the closing. 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.

After Spring Break and Transition to Online

Debates will be conducted in writing.

Each team will prepare two written statements: an opening statement for the Pro side, and an opening statement for the Con side. Each of these statements should be **less than 360 words**, based on an average public speaking rate of 120 words per minute and the fact that opening statements were meant to last 3 minutes.

Each team will also prepare a list of approximately 6 to 8 questions to be asked of the Pro side and an additional 6 to 8 questions to be asked of the Con side. These are the questions that your team would have asked during the debate. **Each question** should be **less than about 60 words**, again based on a speaking rate of 120 words per minute.

Finally, each team will be assigned a set of 8 questions to which they must respond. These questions will be selected from among the questions asked by other debate teams. Each team will then write a response to these questions. **Each response** should be **less than 120 words**. Keep this constraint in mind when crafting your questions.

The written opening statements and question lists will be **due on the same day as the debate** would have been held and will be submitted *on CourseSite* (under the assignment Debate Leading). The **responses to questions** will be **due one week later** via *email to the instructor*. All dates are noted below on the schedule.

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. Assignments will be graded by a combination of graders, the TA, and the Professor.

POSITION PAPERS

Each debate will focus on a pro/con framing. After the debate, you will be given a more openended 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 and with the instructor* in comment mode. Doing so will allow the other students to add comments or suggest changes without inadvertently removing any content from your draft. It will also enable graders to grade the comments you provide, as well as ensure that your final version incorporates others' comments.

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

OPINION-EDITORIAL

During the course of the semester, you will write four position papers. Before the last day of class for 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

Before Spring Break and Transition to Online

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.

After Spring Break and Transition to Online

All opening and closing assignments will be completed as homework via CourseSite. Opening assignments must be submitted by the beginning of class for the day that they are due. Closing assignments must be submitted before the beginning of the subsequent class. Prompts for opening and closing assignments will be available on CourseSite. The Quiz format used will allow students the normal 10 minutes to complete the prompt, as would have been done in class.

These assignments are to remain **closed-book but open-notes**. It will be incumbent upon each student to ensure that this policy is followed. Furthermore, students should not discuss with one another any of the prompts until after they have been submitted. That is, you should *not* complete an opening prompt then share with another student the question from the prompt, which would provide them more than the allotted 10 minutes to complete the prompt.

The grading rubric for these prompts remains the same as above. All prompts are **mandatory**, since class attendance is optional and personal days no longer apply.

FINAL VIDEO

The final video is being waived so that students can maintain social distancing.

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 Monday, February 17. A written or multimedia summary of your planned video should be submitted by Friday, March 6, and the final version of the complete video is due by Friday, April 24.

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 issue should be something beyond the material covered in class. 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 optional but strongly encouraged**. 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. We will try, as much as possible, to facilitate a discussion-based learning environment on Zoom. Furthermore, the inclass activities will provide scaffolding to answer the closing prompt. If you are unable to attend class meetings, you will likely need to watch the recorded video to be able to answer the closing prompt.

Sometimes, though, life happens. In such instances, you will receive **two personal days** to use at your discretion during the semester before spring break. 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.

If, after spring break, you have any remaining personal days, those will be used to **drop your lowest** grades from the in-class writing assignments.

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% debate leading

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25% position papers (6.25% each for 4 papers)
10% position paper feedback (2.5% each for 4 papers)
15% final video project
10% grand finale (aka, final exam)
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The above now sums to 90%. Thus, the final grade for the class will be calculated out of 90%. In other words, the weight of each assignment will be scaled up by 1 / 0.9 (i.e., 1.111...).

Grading Scale

97% – 100%	A+	77% – 79.9%	C+
93% – 96.9%	A	73% – 76.9%	С
90% – 92.9%	A-	70% – 72.9%	C-
87% – 89.9%	B+	67% – 69.9%	D+
83% – 86.9%	В	63% - 66.9%	D
80% - 82.9%	В-	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. You will need to use some sort of computing device to attend the class meetings or watch the recordings. If you need accommodations of any sort due to limited technology access, please contact the instructor.

ACADEMIC HONESTY

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"If I have seen further, it is by standing on the shoulders of giants."
– (Isaac Newton, 1676)
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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 up to 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

Each reading should be completed *before class* on the day that it is assigned. 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-vpnwindows

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

DATE TOPIC & READINGS

Assignments

ETC.

WEEK 1 WELCOME

M Jan 20 Preliminaries

W 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

M Jan 27

Leysia Palen and Paul Dourish. 2003. Unpacking "privacy" for a networked world. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI)*: 129-136. http://dl.acm.org/citation.cfm?id=642635

Helen Nissenbaum. 2001. A Contextual Approach to Privacy Online. *Daedalus*, 140(4) 32-48. http://www.mitpressjournals.org/doi/abs/10.1162/DAED_a_0011 3

W

Nathan Newman. 2011. You're Not Google's Customer — You're the Product: Antitrust in a Web 2.0 World. *Huffington Post.* https://www.huffpost.com/entry/youre-not-googles-custome_b_841599

Will Oremus. 2018. Are You Really the Product? *Future Tense*. https://slate.com/technology/2018/04/are-you-really-facebooks-product-the-history-of-a-dangerous-idea.html

WEEK 3

M Feb 3

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

Debate Teams Assigned

DATE	TOPIC & READINGS	ASSIGNMENTS ETC.
W	Daniel J. Solove. 2011. Why Privacy Matters Even if You Have "Nothing to Hide." The Chronicle of Higher Education. 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	
WEEK 4	DEBATE!	
M Feb 10	Debate Round 1: Privacy	
W	Peer Feedback Round 1: Privacy	Due : Draft of Position Paper 1
	Unit 2 - Fairness and Bias in Algorithms	
WEEK 5		
M Feb 17	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 : Video Team Rosters
W	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

WEEK 6

ASSIGNMENTS ETC.

M Feb 24 Cynthia Rudin. 2015. New models to predict recidivism could

provide better way to deter repeat crime. *The Conversation*. 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. Pro Publica.

https://www.propublica.org/article/machine-bias-risk-

assessments-in-criminal-sentencing

W Latanya Sweeney. 2013. Discrimination in Online Ad Delivery.

Communications of the ACM, 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. *Information*, *Communication* & *Society*, 15(5):

662-679

WEEK 7 DEBATE!

M Mar 2 Debate Round 2: Algorithms and Accountability

W Peer Feedback Round 2: Algorithms and Accountability

Due: Draft of Position Paper 2

Due: Video Outline

(Friday 3/8)

WEEK 8 SPRING BREAK

M Mar 9 [- no class meeting -]

W [- no class meeting -]

UNIT 3 - TECHNOLOGY AS AN ACTOR

WEEK 9

M Mar 16 Discussion of **Transition to Online** Format (no reading)

DATE TOPIC & READINGS ASSIGNMENTS ETC. W Edmond Awad, Sohan Dsouza, Jean-François Bonnefon, Azim **Due**: Final Version Shariff, and Iyad Rahwan. 2020. Crowdsourcing moral machines. of Position Paper 2 Communications of the ACM 63, 3: 48–55. https://doi.org/10.1145/3339904 Ian Bogost. 2018. Enough With the Trolley Problem. The Atlantic. Retrieved from https://www.theatlantic.com/technology/archive/2018/03/got-99problems-but-a-trolley-aint-one/556805/ WEEK 10 M Mar 23 Bruno Latour. 1992. Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts. In Shaping Technology / Building Society: Studies in Sociotechnical Change (eds. Wiebe Bijker and John Law): 225-258. MIT Press: Cambridge, MA. W Nicholas Carr. 2008. Is Google Making Us Stupid? The Atlantic. http://www.theatlantic.com/magazine/archive/2008/07/is-googlemaking-us-stupid/306868/ Howard Rheingold. 2000. The Heart of the WELL. from The Virtual Community. MIT Press: Cambridge, MA. http://www.rheingold.com/vc/book/1.html WEEK 11 DEBATE! M Mar 30 Debate Round 3: Technological Autonomy Due: Opening statement and questions from teams leading debate. W Peer Feedback Round 3: Technological Autonomy Due: Draft of Position Paper 3 (shared via Google Docs with instructor and peer feedback

group)

Due (F 4/3): Peer Feedback on Position Paper 3

UNIT 4 - STRATEGIES FOR RESISTANCE

ASSIGNMENTS ETC.

WEEK 12

M Apr 6

JUST SAY NO

S. Matthew Liao. 2018. Opinion | Do You Have a Moral Duty to Leave Facebook? *The New York Times*. Retrieved from https://www.nytimes.com/2018/11/24/opinion/sunday/facebookimmoral.html

Denise Anthony and Luke Stark. Don't quit Facebook, but don't trust it, either. The Conversation. Retrieved from http://theconversation.com/dont-quit-facebook-but-dont-trust-it-either-93776

Julieanne Romanosky and Marshini Chetty. 2018. When The Choice Is To Delete Facebook Or Buy A Loaf Of Bread. *Freedom to Tinker*. Retrieved from https://freedom-to-tinker.com/2018/03/28/when-the-choice-is-to-delete-facebook-or-buy-a-loaf-of-bread/

W

REGULATION

Lawrence Lessig. 2000. Code Is Law. *Harvard Magazine*. https://harvardmagazine.com/2000/01/code-is-law-html

Tal Z. Zarsky. 2016. Incompatible: The GDPR in the Age of Big Data. *Seton Hall Law Review* 47, 4: 995–1020. https://heinonline.org/HOL/P?h=hein.journals/shlr47&i=1019

Due: Responses to debate questions from leading teams.

Due (F 4/10): Final Version of Position Paper 3 submitted via CourseSite.

WEEK 13

M Apr 13

OBFUSCATION

Finn Brunton and Helen Nissenbaum. 2011. Vernacular Resistance to Data Collection and Analysis: A political theory of obfuscation. First Monday 16, 5. https://firstmonday.org/article/view/3493/2955 [Section 4 (The science of obfuscation) and Section 5 (The politics of obfuscation) are **optional**]

J. Nathan Matias. 2018. Quitting Facebook & Google: Why Exit Option Democracy is the Worst Kind of Democracy. *Medium*. Retrieved from https://medium.com/@natematias/https-medium-com-natematias-quitting-facebook-google-aaf8f4c80fbf

ASSIGNMENTS ETC.

W

WHISTLE BLOWING

TBD

Class cancelled

WEEK 14 DEBATE!

M Apr 20 Debate 4: Resistance

Due: Opening statement and questions from teams leading debate.

W Peer Feedback Round 4: Resistance

Due: Draft of Position Paper 4 (shared via Google Docs with instructor and peer feedback

group)

Due (F 4/24): Peer Feedback on Position Paper 4 **Due:** Final Video-Project (F 4/24)

WEEK 15 CONCLUSION

M Apr 27

FICTION AND FUTURES

Julian Bleecker, Nick Foster, Fabien Girardin, and Nicolas Nova. 2015. Our Approach of Design Fiction. Near Future Laboratory. http://blog.nearfuturelaboratory.com/2015/07/28/our-approach-of-design-fiction/

Barry Brown et al. 2016. IKEA: The smart everyday for the many people (An IKEA Catalog from the Near Future).

Due: Responses to debate questions from leading teams.

ASSIGNMENTS ETC.

W Screening Video Projects - No reading assignment

Class meeting cancelled, no reading assignment

Due (F 5/1): Final Version of Position Paper 3 submitted via CourseSite.

Due: Video Team Assessment (F 5/1) **Due:** Debate Team Assessment (F 5/1)

Due: Finale (R 5/7)