

HACKER CULTURE (MCC-GE 2141-001)

Spring 2018

This seminar meets every Monday from 11:00-13:10 in room 261, 60 5th

Summary

This class will study hacking by looking at technology (what hackers do), politics and law (how hackers changed both), and society (how hackers are understood). We will study cryptography and privacy, digital infrastructure, the Internet of (hackable) Things, monetization and industry, whistleblowing, reverse engineering and hardware analysis, hacker ethics, free and open source information, the rise of state-sponsored hacking, and social media manipulation. The class will cover technical topics but assumes no prior technical knowledge by the students.

Class Structure & Assignments

Read all materials completely prior to class. Each student will prepare to lead discussion for one class during the course of the semester. This means (following my opening lecture for that day) you will be prepared with questions and topics to guide the conversation. For that day you are also required to submit a brief 2-page dossier on the topic by the end of the week. (A rubric will be provided.) In keeping with hacker modes of information sharing, the final assignment for the class will be a presentation based on your original research. The presentation will be held to a very high standard; criteria and good examples will be provided.

Class participation: 35%

Two class topic reports: 30%

Final presentation (due April 30 or May 7): 35%

(Assignments will lose half a letter grade for each day overdue; dossiers and materials will not be accepted more than one week after the original due date.)

Accessibility & Accommodations

Reasonable accommodations will be made for students with documented disabilities, with the advice and assistance of the appropriate services on campus.

Contact & Office Hours

I can be reached at fb42@nyu.edu. My office is 741, 239 Greene St. My office hours are Monday 08:00-10:30, and by appointment.

SCHEDULE

January 22. **Introduction and Overview**

What is hacking? What was hacking? We will discuss the evolution of the term and the subculture, and use the past to situate the present and near future we'll be studying.

January 29. **The Hacker Toolkit**

- Coleman, Gabriella. *Coding Freedom: The Ethics and Aesthetics of Hacking* (Princeton University Press, 2013), 25-60

February 5. **Hacking Hardware: Reverse engineering and manufacturing**

- Wichary, Marcin. "A Hacker's Guide to Bending the Universe."

<https://www.wired.com/2016/03/a-hackers-guide-to-bending-the-universe>

- Silvanovich, Natalie. "Many More Tamagotchis Were Harmed in the Making of this Presentation." (materials provided)

- Huang, Bunnie. *The Hardware Hacker: Adventures in Making & Breaking Hardware* (No Starch Press, 2016) (excerpts)

February 12. **Hacking Infrastructure: Cyberwarfare I**

- Rid, Thomas. "Cyber War Will Not Take Place." *Journal of Strategic Studies* 35 (1), 5-32.

- Heller, Nathan. "Estonia, the Digital Republic." *New Yorker* 2017.

<https://www.newyorker.com/magazine/2017/12/18/estonia-the-digital-republic>

February 19. *President's Day*

February 26. **Hacking Knowledge: Intellectual property and open source now**

- Pomerantz, Jeffrey and Robin Peek. "Fifty shades of open." *First Monday* 21 (5): <http://journals.uic.edu/ojs/index.php/fm/article/view/6360/5460>

March 5. **Hacking Money: Cryptocurrencies and blockchains**

- Peck, Morgen. "Blockchains: How They Work and Why They'll Change the World." *IEEE Spectrum*, September 27 2017.

<https://spectrum.ieee.org/computing/networks/blockchains-how-they-work-and-why-theyll-change-the-world>

March 12. *Spring Recess*

March 19. **Hacking Attention: Engagement, adtech, and dark patterns**

- boyd, danah. "Hacking the Attention Economy."

<https://points.datasociety.net/hacking-the-attention-economy>

- Schlosser, Dan. "LinkedIn Dark Patterns."

<https://medium.com/@danrschlosser/linkedin-dark-patterns-3ae726fe1462>

- Haibel, Betsy. "The Fantasy and Abuse of the Manipulable User." *Model View Culture*, 2014. <https://modelviewculture.com/pieces/the-fantasy-and-abuse-of-the-manipulable-user>

March 26. **Hacking Politics: Cyberwarfare II**

- Etter, Lauren. "What Happens When the Government Uses Facebook as a Weapon?" *Bloomberg Businessweek*, 2017.

<https://www.bloomberg.com/news/features/2017-12-07/how-rodrido-duterte-turned-facebook-into-a-weapon-with-a-little-help-from-facebook>

- Hine, Gabriel Emile et al. "A Longitudinal Measurement Study of 4chan's Politically Incorrect Forum and its Effect on the Web." <https://arxiv.org/pdf/1610.03452v1.pdf>

April 2. **Hacking Networks: Global scales and alternative Internets**

- Kahle, Brewster. "Locking the Web Open: A Call for a Distributed Web."

<http://brewster.kahle.org/2015/08/11/locking-the-web-open-a-call-for-a-distributed-web-2/>

- Sterling, Bruce. *The Epic Struggle of the Internet of Things*. Strelka Press, 2014 (excerpt)

- Staltz, André. "The Web Began Dying in 2014, Here's How." <https://staltz.com/the-web-began-dying-in-2014-heres-how.html>

April 9. **Hacking Privacy: Cryptography and surveillance**

- Norton, Quinn. "When You Are the Adversary" (presentation).

- Mickens, James. "This World of Ours."

<http://scholar.harvard.edu/files/mickens/files/thisworldofours.pdf>

- Jeong, Sarah. "The Motherboard Guide to Avoiding State Surveillance."

https://motherboard.vice.com/en_us/article/a37m4g/the-motherboard-guide-to-avoiding-state-surveillance-privacy-guide

April 16. **Hacking Mind: Deep learning and AI**

- Dean, Jeff. "Machine Learning for Systems and Systems for Machine Learning."

<http://learningsys.org/nips17/assets/slides/dean-nips17.pdf>

- Geitgey, Adam. "Machine Learning is Fun Part 8: How to Intentionally Trick Neural Networks." <https://medium.com/@ageitgey/machine-learning-is-fun-part-8-how-to-intentionally-trick-neural-networks-b55da32b7196>

- Chollet, François. "The Future of Deep Learning." <https://blog.keras.io/the-future-of-deep-learning.html>

(For further study: <https://github.com/yenchenlin/awesome-adversarial-machine-learning>)

April 23. **Hacking Society: Addressing problems in hacker culture**

- Folz, Rodney. "Selling Out and the Death of Hacker Culture."

<https://medium.com/@folz/selling-out-and-the-death-of-hacker-culture-fec1f101b138>

- The Recurse User's Manual. <https://www.recurse.com/manual> (the "four social rules" and "struggling")

- Harihareswara, Sumana. "Toward a !!Con Aesthetic."

<https://recompilermag.com/issues/extras/toward-a-bangbangcon-aesthetic/>

April 30. **Final Presentations**

May 7. **Final Presentations**

Decks, outlines, research documents, and other final materials are due in full on the day of the presentation.