

**Addressing Technology’s Wake:  
 Emerging Risks and The Public Policy Imperative (PPHA 38840)  
 Spring 2022/Thursdays 5:00-7:50PM (3/31/22-6/2/22)**

<b>Instructor</b>	<b>TA</b>
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Office Hours: Thursdays 3:00-4:50 PM or by appointment	

**Course Overview and Objectives**

For many, technology and social progress are highly correlated, if not synonymous. The salutary impact of technology is indisputable. But with technological advancement comes consequences in the form of new economic, social and political risks which are often significant and typically born unequally by individuals and groups in modern society. Policies, programs and contractual schemes to address such risks, the joint province of government and the private sector, usually significantly trail their emergence. The reason: a panoply of interests, both public and private, struggle to address questions of social responsibility, moral hazard, and actuarial probabilities in order to address new risks. In technology’s large wake, individuals, businesses and nations often face significant risk exposure while competing interests negotiate and litigate what is both politically possible and commercially viable.

This course applies a social science perspective to the disruptions brought about by technological innovation and to the problem of emerging risk in advanced, technology-driven societies and economies.

It focuses on four broad risk domains and two specific risks within each that are both highly topical and challenging:

1. **Economy:** How technology is changing the nature of work:
  - a. *The displacement of workers by increasing levels of automation* enabled by Artificial Intelligence (AI).
  - b. *The “gig economy”* in which increasing numbers of “freelancers” work absent the social safety net enjoyed by traditional employees.
  
2. **Culture:** The relationship between technology and change in the ideas, norms, and values which drive both social and political behavior and our understanding of the world:
  - a. *The risk and reality of bias* embedded in increasingly power AI algorithms which are used by businesses to make decisions regarding employment and credit and by governments to target law enforcement activity.
  - b. *The erosion of traditional notions of objectivity and institutional authority* raised by the “democratization of information” brought about by social media.
  
3. **Critical Infrastructure:** The rapidly evolving world of cyber warfare, where state-sponsored and private bad actors threaten the fabric of our hyperconnected world:
  - a. *The new face of warfare* in which nations challenge one another with bytes, not bombs and what it means for a vulnerable and connected public infrastructure.

- b. *Businesses under siege* and the challenges faced by law enforcement and private insurance to protect against a potential cyber catastrophe.
4. **Power:** How technology threatens to disrupt Enlightenment notions of personal autonomy as well as traditional sources of social, political and economic power:
  - a. *The diminution of privacy* brought about through technologies that enable the continued growth of “surveillance capitalism” as well as accretion in the power of the all-knowing state.
  - b. *Cryptocurrency*, “the democratization of money,” and the potential challenge to the monopoly of states and central banks over currency and monetary policy.

Successful completion of the course will endow students with a deeper understanding of the ways in which new kinds of risk are often an unintended consequence of technological advancement; of the challenges involved in mitigating these risks for both individuals, businesses and governments; and techniques to think about and derive the proper shape and scope of new public and private initiatives to address them.

### **Pedagogical Approach**

Our course time together will be organized around three types of interactions all of which will be conducted in a synchronous manner:

- 1) **Interactive Lectures:** In weeks 1, 2, 4, 6 and 8 I will offer two 45-minute reviews of the key themes of the week (1 for each of the sub-topics) in the form of a presentation which I will drive, but during which I will ask students to provide thoughts and responses to the material I review. Adequate prior preparation for each class session is thus required.
- 2) **Discussion:** The middle hour of each class session in weeks 1, 2, 4, 6 and 8 will be dedicated to class discussion of the topic addressed in the first of the two review presentations. We will use breakouts in which groups of 6-8 students will meet and work together to answer a focused set of questions. Each class will conclude with a report out from the groups of their conclusions. Active and engaged participation in these discussions is a key component of the course.
- 3) **Mock Hearing:** In weeks 3,5, 7 and 9 we will conduct a contextualized mock hearing into how best to address an issue raised by one of the four risk domains. Students will be divided into teams, each tasked with representing the positions of a particular impacted interest group. Each group will testify as to how it views the particular risk and proposes that it be addressed. One group will be responsible for interrogating the witnesses. And one group will be the judges who together pick the winner. Each student will serve as a judge once and will not receive a grade for doing so. These sessions will occupy the entirety of class time.

### **Readings**

I have attempted to excerpt the most relevant sections from assigned works in order to optimize the time spent reading and limit the number of books required for purchase. Readings are approximately



200 pages per week. All readings except for the two required books are available on the course Canvas site.

The following books should be purchased as we will read them in their entirety. Each is available in paperback as well as in electronic form:

Reich, Rob et al., *System Error: Where Big Tech Went Wrong and How We Can Reboot*  
Andy Greenberg, *Sandworm: A New Era of Cyberwar and the Hunt for the Kremlin's Most Dangerous Hackers*

Completion of the assigned reading in advance of our meetings is critical to success in the course.

### Grading & Grading Policy

Grading for this course will be on a standard A through F grading scale based on three components weighted as indicated in the table below:

Class Participation	20%
Mock Hearings	45% (15% Each)
Course Paper (Topic will be a Risk Domain not covered in the course; details to be provided)	35%

A few key notes:

1. Grading for this class places significant importance on performance in the classroom. As such, it goes without saying that attendance is required and will be tracked. Students with more than 2 unexcused absences will not receive a passing grade for the course.
2. To earn a passing grade, students taking the course pass/fail must attend a minimum of 8 class sessions, participate actively and complete the Course Paper.
3. The course paper is due on June 2<sup>nd</sup>. Papers should be submitted through Canvas. Papers which bear a timestamp later than 8:00 PM Central Time on June 2<sup>nd</sup> will not be graded. Specific guidelines and instructions for the paper will be made available on Canvas the 2<sup>nd</sup> week of class.
4. I recognize that for some, participation may be challenging. Students may attend office hours and/or schedule private consultations with me as a way of further demonstrating engagement with the course. Doing so is not required and students can achieve a full participation grade even if they never attend office hours.
5. Both the Instructor and the TA are available via e-mail to address questions and concerns. As a rule, it's best to address substantive questions with the Instructor and Procedural/Logistical questions with the TA.
6. We may, on occasion, use Zoom for virtual meetings and interactions. The following is a reminder of the University of Chicago's policy with respect to this technology. It states that, by attending course sessions, students acknowledge that:
  - a. *They will not: (i) record, share, or disseminate University of Chicago course sessions, videos, transcripts, audio, or chats; (ii) retain such materials after the end of the course; or (iii) use such materials for any purpose other than in connection with participation in the course.*

- b. They will not share links to University of Chicago course sessions with any persons not authorized to be in the course session. Sharing course materials with persons authorized to be in the relevant course is permitted. Syllabi, handouts, slides, and other documents may be shared at the discretion of the instructor.
- c. Course recordings, content, and materials may be covered by copyrights held by the University, the instructor, or third parties. Any unauthorized use of such recordings or course materials may violate such copyrights.
- d. Any violation of this policy will be referred to the Area Dean of Students.

### Course Outline

#### **Week 1 – Innovation, Disruption, and Risk: Framing the Course (3/31)**

*Class Agenda:* Presentation One: “Technology & Social Progress: A Not so Whiggish Perspective”  
Discussion: Does Technology have Values?  
Presentation Two: “Disruption and its Non-Market Consequences”

*Reading:* Christensen, Clayton M. *The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail* (Excerpts)  
Pinker, Steven, *Enlightenment Now: The Case for Reason, Science, Humanism, and Progress* (Excerpts)  
Reich, Rob et. al. *System Error: Where Big Tech Went Wrong and How We Can Reboot*. (Preface, Introduction, and Part One)  
Schumpeter, Joseph A., “The Process of Creative Destruction,” in *Capitalism, Socialism and Democracy*

#### **Risk Domain One: Economy**

#### **Week 2 – The Changing Face of Work (4/7)**

*Class Agenda:* Presentation One: “Of Workers and Robots”  
Discussion: Who will Run the Workplace of the Future?  
Presentation Two: “The Whole is Less than the Sum of the Gigs”

*Reading:* Acemoglu, Daron and Pascal Restrepo, “Tasks, Automation, and the Rise in US Wage Equality”  
Brynjolfsson, Erik, “The Turing Trap: The Promise & Peril of Human-Like Artificial Intelligence”  
Korinek, Anton and Joseph E. Stiglitz, “Steering Technological Progress”  
Reich et al., *System Error*, Ch. 6  
David Weil, *The Fissured Workplace*, Ch. 1,3

#### **Week 3 -- Making it Work in California? (4/14)**

*Class Agenda:* Mock hearing related to California’s battles through Assembly Bill 5, Proposition 22, and subsequent court cases to provide benefits and protections to “gig workers.”

*Reading:* Fact Pack regarding California “gig worker” legislation and litigation.

## Risk Domain Two: Culture

### Week 4 – Truth, Bias and the Challenge of Objectivity (4/21)

*Class Agenda:* Presentation One: “Winners and Losers when the Machine Makes the Rules”  
Discussion: Can AI be Fairer than We Are?  
Presentation Two: “Democratic Facts and Authoritarian Regimes”

*Reading:* Kleinberg, Jon et. al., “Discrimination in the Age of Algorithms”  
McKinsey Global Institute, “Notes from the AI frontier: Tacking bias in AI (and in humans)”  
Reich et al., System Error, Chs. 4, 7  
Wall Street Journal, “the facebook files” (Excerpts)

### Week 5 – Content and its Responsibilities (4/28)

*Class Agenda:* Mock Hearing regarding potential changes to Section 230 (1996) of the Communications Act of 1934 which provides websites and social media companies immunity from liability for content they promote or distribute.

*Reading:* Fact Pack regarding Section 230 and the debate over its revision.

## Risk Domain Three: Infrastructure

### Week 6 -- Wars Without Soldiers: The Public and Private Face of Cyber Risk (5/5)

*Class Agenda:* Presentation One: “Cyber War: Playing Offense and Defense at the Same Time”  
Discussion: Should Cyber Vulnerabilities Ever be a Secret?  
Presentation Two: “Insuring the Uninsurable”

*Reading:* Andy Greenberg, *Sandworm: A New Era of Cyberwar and the Hunt for the Kremlin's Most Dangerous Hackers*  
Jon Bateman, “War, Terrorism, and Catastrophe in Cyber Insurance: Understanding and Reforming Exclusions”

### Week 7 – Towards a New International Order (5/12)

*Class Agenda:* Mock Hearing regarding attempts to create a new international agreement regarding cybercrime as the only existing one, The Budapest Convention, is more than 20 years old.

*Reading:* Fact pack regarding The Budapest Convention and recent attempts within the United Nations to address more contemporary issues surround cyber-crime and cyber warfare.

## Risk Domain Four: Power

### Week 8 – Who’s Information Anyway? (5/19)

*Class Agenda:* Presentation One: “Sometimes Too Much Knowledge is a Bad Thing”  
Discussion: Do We Really Deserve to be Forgotten?  
Presentation Two: “Cryptocurrency and the Limits of Monetary Policy”

*Reading:* The Guardian, “‘There’s cameras everywhere’: testimonies detail far reaching surveillance of Uyghurs in China”  
Reich et. al. System Error, Chs. 5, 8  
Reiners, Lee “Cryptocurrency and the State: An Unholy Alliance”  
Zuboff, Shoshana. “The Age of Surveillance Capitalism” (Excerpts)

### Week 9 – Taking Back the Data (5/26)

*Class Agenda:* Mock Hearing simulating a closed-door meeting of the Federal Reserve’s Open Market Committee regarding the question as to whether the US should create its own cryptocurrency.

*Reading:* Fact Pack regarding Cryptocurrency

## Academic Integrity

All University of Chicago students are expected to uphold the highest standards of academic Integrity and honesty. Among other things, this means that students shall not represent another's work as their own, use un-allowed materials during exams, or otherwise gain unfair academic advantage.

- The University's policies regarding academic integrity and dishonesty are described [here](#). It is worth explicitly stating the University's approach here: "It is contrary to justice, academic integrity, and to the spirit of intellectual inquiry to submit another's statements or ideas as one's own work. To do so is plagiarism or cheating, offenses punishable under the University's disciplinary system. Because these offenses undercut the distinctive moral and intellectual character of the University, we take them very seriously."
- The Harris School's policies are available in the *Harris Student Handbook* Canvas site.
  - The *Academic Honesty and Plagiarism* section expresses the main principles.
  - Detailed guidelines for more specialized student work (e.g., problem sets including computer code) are offered in the section titled *Harris Integrity Policy for Problem Sets Involving Code*.
  - Harris's specific procedures for handling suspected violations of these policies are available in the section *Harris Procedures for Allegations of Plagiarism, Cheating, and Academic Dishonesty* and are also re-produced as an Appendix to this document.
  - All students suspected of academic dishonesty will be reported to the Harris Dean of Students for investigation and adjudication. The disciplinary process can result in sanctions up to and including suspension or expulsion from the University.
  - In addition to disciplinary sanctions, I will impose a grade penalty of "F" for students who have committed academic dishonesty.

## Disability Accommodations

The University's policies regarding students with disabilities are available [here](#). Students who have disability accommodations awarded by the University Student Disability Services Office should inform the Harris Dean of Students office by the end of the first week of class. The Harris Dean of Students Office will work with the student and instructor to coordinate the students' accommodations implementation.

Harris students are not required to submit their accommodations letter to the instructor. Students from other divisions in the University must submit their accommodations letter to either the instructor or the Harris Dean of Students Office.

Students who do not yet have formal accommodations in place but who feel they need accommodations on a temporary or ongoing basis should contact the Harris Dean of Students Office or Student Disability Services.



## Diversity and Inclusion

The Harris School welcomes, values, and respects students, faculty, and staff from a wide range of backgrounds and experiences, and we believe that rigorous inquiry and effective public policy problem-solving requires the expression and understanding of diverse viewpoints, experiences, and traditions. The University and the Harris School have developed distinct but overlapping principles and guidelines to insure that we remain a place where difficult issues are discussed with kindness and respect for all.

- The University's policies are available [here](#). Specifically, the University identifies the freedom of expression as being "vital to our shared goal of the pursuit of knowledge, as is the right of all members of the community to explore new ideas and learn from one another. To preserve an environment of spirited and open debate, we should all have the opportunity to contribute to intellectual exchanges and participate fully in the life of the University."
- The Harris School's commitments to lively, principled, and respectful engagement are available [here](#): "Consistent with the University of Chicago's commitment to open discourse and free expression, Harris encourages members of the leadership, faculty, student body, and administrative staff to respect and engage with others of differing backgrounds or perspectives, even when the ideas or insights shared may be viewed as unpopular or controversial." We foster thought-provoking discourse by encouraging community members not only to speak freely about all issues but also to listen carefully and respectfully to the views of others.