Digitalization and Society: The Fourth Industrial Revolution
Fall semester, 2025

Preliminary Syllabus (September 2025): ***Updated syllabus and homework assignments distributed prior to first class meeting***

MKTG - GB 2133 01 (Tuesday, 10/28/2025 – 12/9/2025: 1:30 – 4:20 PM)
Classroom: Kaufman Management Center, Room 3-120

MKTG - GB 2133 10 (Wednesday, 10/29/2025 – 12/10/2025: 6:00 PM – 9:00 PM)
Classroom: Kaufman Management Center, Room 4-90)

Prof: Kenneth Krushel
Email: kkrushel@stern.nyu.edu
Office Hours: by appointment

Why This Course Now

We are witnessing a transformation in the basic logic of how economic value is created, captured, and contested. The shift is as fundamental as the move from agrarian to industrial economies, but compressed into decades (or even years) rather than centuries. The challenge for leaders is not simply adapting to new tools, but recognizing when the underlying structures of competition itself are being rewritten. **This course develops the analytical sophistication to navigate that distinction.**

I – Course Overview

Our course examines an industrial transformation that is fast, diffuse, and difficult to define. It is reshaping how firms compete, create value, and exercise judgment under uncertainty. Companies find themselves reconsidering what business they are in, how they organize to deliver it, and how they navigate regulatory and geopolitical realities.

Consider one marker of speed and scale. Chatbots date to the 1960s. The transformer architecture appeared in 2017. The breakthrough came in 2022 with ChatGPT. By 2025, conversational AI serves hundreds of millions of users worldwide. The repercussions cascade: pressure on search and advertising models, the rise of agentic task-performing services, new channels for disinformation, disputes over intellectual property, strain on educational structures, and geopolitics reorganized around compute and supply chains. This course helps you make sense of that cascade and act with judgment rather than react to noise.

We treat digitalization not as a technical project but as the interplay of science, engineering, markets, culture, and power. Because each field speaks its own language, we work across disciplines to build managerial fluency: ethical reasoning, strategic foresight, and a clear view of how regulation, institutions, and cultural assumptions shape business models.

The word AI is absent from the title by design. We avoid headline shorthand to focus on underlying forces. The goal is discernment: the capacity to read ambiguous trends, evaluate competing strategies, and respond thoughtfully to turbulence. We will not settle every debate; we will get better at asking the right questions.

We draw on multiple analytical approaches. Historical analysis of earlier industrial revolutions - steam and rail, electricity and mass production, computing and the internet - provides one analytical window for testing what patterns carry forward and what breaks.

We also consider other analytical approaches: economic theory, philosophical frameworks, and cultural analysis contribute to understanding how digitalization operates across different domains. Some continuities prove durable: long adoption curves, the need for complementary investments, regulation that lags innovation, displacement alongside job creation, and the role of platforms. The present also contains discontinuities: software with near zero replication cost, learning systems that improve autonomously, data network effects that can tip markets overnight, autonomous agents, and geopolitics organized around compute resources.
Our task is to know when familiar frameworks illuminate current challenges and when they mislead.

We will engage with machine learning, large language models, agentic systems, and autonomy, but the emphasis is strategic rather than technical. We will study exponential scale, near zero marginal cost, and network effects, weaponization of social media, and their respective business consequences: platform dominance, data asymmetries, automation, labor market shifts, and new forms of value creation.

This is not a tools course or an ethics seminar. It is a strategic inquiry into how digitalization changes the context for business decisions. You will develop frameworks for reading uncertain situations, surfacing risks and opportunities, and designing organizations that can adapt to technological change.

The course is structured as six three-hour sessions. Attendance is essential. Classes combine lectures, discussions, and analysis of current developments. Each session connects to assigned readings. Your preparation and participation contribute to everyone's learning.

Classes will combine interactive lectures and discussions. Course sessions are tied to assigned readings: it's important that students keep up with the reading and be prepared to discuss them in class.

II – Learning Goals and Objectives

For the modern business leader, digitalization is not a vertical to be mastered, but a medium through which all strategy now moves. This course builds range in five areas:

1. Strategic pattern recognition
Read digitalization trends with discernment. Use historical analysis, economic reasoning, and cultural insights to test what patterns persist and what changes. Ask better questions when information is incomplete.

2. Value creation analysis
Understand how digital forces shift where value is created, captured, and lost. Recognize patterns like network effects and near-zero marginal costs, and how these change business scope and operations.

3. Cross-jurisdictional navigation
Evaluate how regulation, data governance, and geopolitical considerations around compute and supply chains affect strategy in different markets.

4. Ethical reasoning frameworks
Identify tensions in data use, automation, and algorithmic decision-making. Articulate competing principles and develop practical frameworks for responsible business practices.

5. Executive communication

Build vocabulary and mental models for discussing digitalization with clarity. Compare different narratives, contribute meaningfully to strategic discussions, and demonstrate sound judgment under uncertainty.

⇨ **Homework, including for our initial meeting, will be available in our Brightspace « Assignment » section at least one week prior to each class session«**

III – Class Sessions (preliminary listing – updated by October 15)

Class 1 – Creating Context

Technological invention, industrial revolutions, and the onset of digitalization

How invention and technology influenced society before the digital era. Historical patterns in disruptive technology adoption. Business structure and value creation responses to technological change. "Radical amazement" and the challenge of perspective. What makes the digital marketplace different from earlier transformations.

- How "invention" and technology have influenced society prior to the "digital era"
- Historical patterns and predictive arcs of disruptive technology
- Business structure and value creation models' response to technology innovation
- "Radical amazement"
- The digital marketplace

Class 2 – Making Sense of Artificial Intelligence

Beyond the demos: what AI means for business

AI functions as idea, infrastructure, industry, and form of power. Making strategic sense of this "disembodied computation." Practical understanding of AI and machine learning. The human cost of AI and orders of consequence. Business model implications. Automation, robotics, and employment effects.

- A practical understanding of AI and the underpinnings of machine learning
- The human cost of AI: orders of consequence
- Changing business models
- Robotics and unemployment concerns

Class 3 – Weaponization of Social Media; Aggregation Theory; Anti-Trust and digital technology

Epic Games, Apple, and digital ecosystems

Free speech meets algorithmic amplification. Government regulation across jurisdictions. Epic vs. Apple: competition in digital ecosystems. How platforms create and capture value through

aggregation theory. The metaverse (AR, VR, XR): virtual spaces and business models. Antitrust questions in digital markets.

- Free Speech and Social Media
- Government regulation
- Epic Games: building moats vs. building monopolies
- Digital ecosystems and value creation models
- Aggregation Theory
- The Metaverse (AR, VR, XR): virtual civil society
- Recurring/services revenue and company valuation metrics
- Redefining anti-trust

Class 4 – Generative AI and Synthetic Media

When people form relationships with machines

The 2022 generative AI breakthrough and its aftermath. Expected productivity gains versus actual adoption patterns: people forming relations with AI systems as companions and advisors. Business models under threat. Intellectual property and copyright relevance. Synthetic media ethics. Walter Benjamin's "The Work of Art in the Age of Mechanical Reproduction" and questions of authenticity.

- What is Generative AI?
- LLMs and Chatbots
- Synthetic Media: ethics
- Business models under threat?
- IP Theft: Relevance of copyright in a digital era
- Avatars and digital intimacy
- Walter Benjamin: "The Work of Art in the Age of Mechanical Reproduction"

Class 5 – Surveillance Capitalism

We search Google; Google searches us

Data collection as economic logic and business model foundation. Information asymmetries between platforms and users. Equal opportunity surveillance and hedonic adaptation. Different regulatory approaches in the US and Europe. Ethics frameworks for data use in business contexts.

- Economic logic as inevitable consequence of digitalization
- Equal opportunity surveillance
- Information asymmetry: hedonic adaptation
- Ethics and AI
- United States and European interpretation of digital/AI regulation

Class 6 – Ethics, AI and Future Considerations (the crystal ball)

Human-AI interaction and institutional questions

Who owns the digital rails? AI alignment and goal specification. The uncanny valley: questions of human replication and authenticity. Biometric data and affective computing. Designing human-AI collaboration. Questions of machine moral status and their practical implications.

- Who owns the digital rails?
- Digital alignment
- Uncanny Valley: can you replicate yourself?
- Biometric Data and Affective Computing
- Human-AI interactions
- Moral status of machines

Reading assignments will be distributed with the updated syllabus by October 15.

IV – Grading and Assessment

Two essay examinations, both take-home assignments. The final exam will be due one week following our final class meeting. Overall evaluation based on:

- Essay Exam 1 (40%)
- Essay Exam 2 (40%)
- Class attendance and participation (20%)

V – Course Policies

Attendance and Participation

Consistent attendance and engaged participation are essential. Class begins promptly. Submit all work by stated deadlines unless you receive prior approval for an extension.
Participation evaluation considers preparation quality, analytical depth, ability to identify key issues, original insights, and constructive engagement with others' contributions.

Academic Integrity

The Stern Honor Code applies: "I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do."

- ***Students are to adhere to the Stern Code of Conduct:*** https://www.stern.nyu.edu/uc/codeofconduct.

NYU Code of Ethical Conduct

The Code of Ethical Conduct applies to every member of the University community

https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/code-of-ethical-conduct.html

Use of Generative AI

You may use AI tools as part of your learning process, but not as a substitute for your own thinking and analysis. Cite any AI-generated content as you would other sources. Failure to acknowledge AI use constitutes academic dishonesty. https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html

Accommodations and Support

Students requiring academic accommodations should contact me early in the semester and provide documentation from the Moses Center for Student Accessibility (mosescsa@nyu.edu, 212-998-4980).

For wellness resources, consult the NYU Stern Well-being Resource Hub, or call: 212-443-9999 https://www.nyu.edu/students/health-and-wellness/wellness-exchange.html#:~:text=The%20Wellness%20Exchange%20is%20your,at%20212%2D443%2D9999.

.