37:575:313: 19415 Technological Change and the World of Work (3 credits)

Spring 2021

Wednesday 6:10-9:00pm (Remote)

Professor Helen Liu

xiangmin.liu@rutgers.edu

School of Management and Labor Relations, Rutgers University

Course Description

This course serves as an engagement, education, and interaction on the topics of new technologies and the changing nature of work and employment. In this course, we will draw knowledge from multidisciplinary academic fields and explore a wide variety of topics related to technological innovations, labor markets, and the workforce. For example, we will discuss emerging issues such as automation and job loss, digital platforms and the gig economy, and algorithmic staffing. We will also discuss the implications of these changes for workers, employers, and the larger society.

Learning Goals

This course is designed to meet the following SMLR and LSER Learning Goals:

School of Management and Labor Relations (SMLR):

-- Demonstrate an understanding of how to apply knowledge necessary for effective work performance. (Goal VI)

Labor Studies and Employment Relations (LSER) Department:

-- Apply employment relations concepts, and substantive institutional knowledge, to understanding contemporary developments related to work. (Goal 2).

Learning Materials

There is no required textbook for this class. Most course readings will be available via the course website. Readings will draw from academic articles, popular press articles, book excerpts, and business cases. Please check Canvas **at least twice a week**.

Student Responsibilities

1. Individual assignments. All students must read the articles and cases posted on Canvas, and be prepared to participate in class discussions. Unless you have written documentation of a University approved excuse, assignments and projects are due on the assigned date. Late submission will be penalized at 10% per day.

2. Team case study. The class will divide into groups of 2-3 students. Each group will be responsible for summarizing and leading a 40-min interactive discussion on the given case during class hours. **Students must turn in their presentation slides to the instructor by 10am, the day of the class.** T**he case presentation will be evaluated by peer students and the**

slides will be graded by the instructor. In addition, each group member will be graded by their fellow group members on their overall contribution to the group presentation.

3. Tests. There are in-class exams on the textbook material and any material covered in class. These exams are opened-book and consist of a combination of multiple-choice items and short answer questions. Tests are not specifically cumulative.

4. Class participation. Attendance at every class is **required**. Absences for illness, religious holidays and other events recognized by Rutgers University will be excused. If you know you are going to miss a class because of a religious holiday, I would appreciate an email prior to the holiday.

Grading Policy

In-class exams	=	200
Individual assignments		
Weekly forum participation	=	100
Final reflection	=	100
Team case study		
Presentation and moderated discussion	=	200
Presentation slides	=	100
Class participation and attendance	=	100
Total points	=	800 points

University Academic Support and Policies

- Course Tools Tutorials
- Rutgers Student Support Services
- Student Health & Wellness Services
- Rutgers Academic Integrity
- Turnitin For Canvas - For Students
- Technical Support
- Resources to Enhance Your Learning Experience
- Access to LinkedIn Learning
- University Software Portal - Free Access
- APA Formatting and Style Guide (OWL)
- Tools for your assignments and presentations
- Discussion Post Guidelines

Course Overview (Tentative)

Unit 1: Course Overview

Required readings:

1. The Jobs Americans Do.
2. The Fourth Industrial Revolution: what it means, how to respond.
3. How to define new technologies: Insights from a BLS report.

Group discussion:

The importance of being human in a world of automation.

Unit 2: Technology and Workplace Transformation: What Do We Learn From Past Experiences?

Required readings:

1. Nye, David E. 2006. Can We Define "Technology"?
2. BLS Report: Major Economic Theories on New Technologies
3. Wajcman, J., 2010. Feminist theories of technology
4. Ogbonnaya-Ogburu, I.F., et al. 2020. Critical Race Theory for HCI.

Group discussion:

Kochan & Mindell Discussion on Industrial Revolutions and Work

Automation threatens jobs. Can education create new ones?

Unit 3: Old And New Technologies, And Their Impact On Work

Required readings:

1. Elliott, S.W., 2018. Artificial Intelligence, Robots, and Work: Is This Time Different?
2. Top 10 Recent Advancements in Robotics
3. Furman. J. Automation and the Future of Work: Will This Time Be Different?

Group discussion:

The Most Common* Job In Each State 1978-2014

Tech forum: Autonomous Vehicles

Trucking and the Rise of Autonomous Vehicles (AV)

Unit 4: Technology, Skills, and Wages

Required readings:

1. Porter, E., 2019. Tech Is Splitting the US Work Force in Two.
2. Kochan and Dyer. 2020. America's Challenge and Opportunity: Building a New Social Contract at Work.

Group discussion:

The digital future of work: What skills will be needed?

Tech forum: Automation

Davenport, T.H. and Kirby, J., 2015. Beyond automation.

A Regional Reality Check: Mapping Automation-Proof Jobs and Skills

Unit 5: Task-based Models with Automation

Required readings:

1. Bernstein and Raman. 2015. The Great Decoupling: An Interview with Erik Brynjolfsson and Andrew McAfee.
2. Davenport, T.H. and Ronanki, R., 2018. Artificial intelligence for the real world

Group discussion:
Fastest growing occupations: 2019-2029
Tech forum: Artificial Intelligence
Using AI for interviews

Unit 6: Technology and the Geography of Jobs
Required readings:
1. Moretti, E. 2012. The New Geography of Jobs.
2. Lepore, J., 2019. Are robots competing for your job? Probably, but don't count yourself out.
3. Smarter, Smaller, Safer Robots. 2015. Harvard Business Review.
Group discussion:
Technology, Work, and Urban Ecosystems: How Should Cities and Regions Respond?
Tech forum: The Robot Revolution
The Case of Amazon Robotics

Unit 7: Technology, Globalization, and Work
Required readings:
1. Fuchs, E.R., 2014. Global manufacturing and the future of technology. Science.
2. The Economist. 2019. Uncovering tomorrow's innovation hotspots.
Group discussion:
How smart, connected products are transforming competition
Tech forum: Internet of Things
If workers slack off, the wristband will know.

Unit 8: Rethinking skills and education
Required readings:
1. Models for Adapting Technology into the Workplace
2. Kochan & Dyer. 2019. Married for Life: Workers and Educators
Group discussion:
How technologies change your careers and competencies
Tech forum: Virtual Reality
What will future jobs look like?

Rutgers Spring Recess March 13-21 (No classes)

Unit 9: Digital labor platforms and crowdwork
Required readings:
1. Weil, D. 2017. The Fissured Workplace. Chapter 1.
2. Howcroft, D. and Bergvall-Kåreborn, B., 2019. A typology of crowdwork platforms.
Group discussion:
How to Thrive in the Gig Economy
Tech forum: How the Platform Ecosystem Works
PBS Video: With food-delivery apps like Uber Eats, who's actually making money?

Unit 10: The Gig Economy and the Uberization of Work

Required readings:

1. BLS. Career Outlook. Working in a gig economy
2. Business perspective: Uber's plan to get more people into fewer cars | Travis Kalanick
3. Workers' perspective: Rosenblat, A., 2018. Uberland: How algorithms are rewriting the rules of work.
4. Greenhouse, S., 2015. Uber: On the road to nowhere. The American Prospect.

Group discussion:

Is the 'gig' economy uprooting the American workforce?

Tech forum: The Economics of Uber

Nice Guys of the Gig Economy? The cases of Hello Alfred and Managed by Q

Unit 11 Algorithmic Management

Required readings:

1. Mateescu & Nguyen. 2019. Algorithmic Management in the Workplace
2. Rosenblat, A., 2018. When your boss is an algorithm. New York Times.
3. Cappelli, P., 2020. Stop Overengineering People Management. Harvard Business Review, 98(5), pp.56-63.

Group discussion:

Workplace surveillance and algorithmic control

Tech focus: What's an algorithm?

On Amazon's Time

Unit 12 Re-imaging Worker Power

Required readings:

1. Kochan, T.A. 2019. Challenges and Opportunities for U.S. Labor Management Relations and Workplace Dispute Resolution
2. The latest frontier in worker activism: Zoom union organizing
3. Unions Need to Think Small to Get Big

Group discussion: New Models of Worker Voice and Advocacy

Example 1: Instacart shoppers and Gig Worker Collective
Example 2: Amazon warehouse workers walkouts (safety)
Example 3: Google Walkout (sexual harassment)
Example 4. Amazon software to track unions

Tech forum: Digital Organizing

The case of Coworker.org

Unit 13 Social implications

Required readings:

Weil, D., 2014. The fissured workplace. Chapter 8 Rethinking Responsibility and Chapter 9 Rethinking Enforcement

Group discussion: Finland's Universal Income Experiment

Unit 14 Final reflection