Innovation and Society: Rethinking Emerging Technologies for Social Benefit

Registration Form:

https://forms.gle/LsL4ntdqMDJw8pAd7

Course Convener: Dr. Canan Urhan

Course Type: Graduate Microcredit Course Credit

Delivery: Hybrid (Module 1&2 online, Module 3 and presentations face-to-face)

Schedule: March 28 (Module 1) / April 1 (Module 2) / April 8 (Module 3) /April 11 (Project Presentations)

Module 1: 3 subject deliberation (lecture) hours + 4 preparation hours

Module 2: 3 subject deliberation (lecture) hours + 3 preparation hours

Module 3: 4 Team Work hours + 10 Preparation hours

Project Presentations: 3 hours, **Total:** 30 hours

Language: English

Quota: 15-40 student

Course Description

This course explores how emerging technologies, particularly AI, biotech, health, food, climate and digital platform infrastructures, are developed, governed, and adopted across society. It introduces students to understand how innovation is shaped by social, economic, political and institutional contexts. Special emphasis is placed on the diffusion of entrepreneurial ideologies, the role of venture capital, and the narratives of disruption and founder mythology associated with Silicon Valley. The course also explores socially beneficial, bottom-up approaches to innovation, including participatory and transdisciplinary practices aimed at shaping technology for the public good.

This course is offered to students from across faculties, particularly those in engineering disciplines, design, innovation management, and social sciences interested in linking critical theory with practice-oriented innovation thinking.

Module 1: Theoretical Issues and Contemporary Debates Around Emerging Technologies

March 28 | 3 hrs | Online

Module 1 Format
Readings to be completed before class. Sessions will consist of lectures and structured discussions based on readings.

Subject Breakdown

Origins and interactions of Emerging Technologies and Infrastructure Development

- Introduction to the sociopolitical aspects of technology

Venture Capital, Entrepreneurial Ideology, and the Startup Narrative

- Historical background: early computing, cybernetics, public R&D programs
- The venture capital model and its impact on innovation pathways
- The global spread of startup thinking, 'disruption' narratives, and the founder myth
- Hype, Hope, and Technological Promises

Critical perspectives on platformization, data and surveillance capitalism

- Platform business models and data extraction
- Surveillance capitalism and predictive control
- Platform labor and algorithmic management

Critical perspectives on biotech, health, longevity and wellness tech sectors

- Biotechnology I: Life as Capital
- Biotechnology II: Wellness, Longevity, and the Quantified Self

Module 2: Social Innovation Otherwise: Infrastructures from Below

April 1 | 3 hrs | Online

Module 2 Format

Each week is centered around a case study or theme, supplemented by in-depth discussions. The module integrates Participatory Action Research (PAR), Living Lab, and Transdisciplinary Innovation methodologies to analyze infrastructure from the bottom-up.

Subject Breakdown

Social Innovation Governance Models

- Social innovation critique and introduction to PAR (Participatory Action Research)
- Citizen science and living lab approaches
- Transdisciplinary research and innovation
- Decentralized Autonomous Organizations and Platform Coops
- Climate Tech, Agriculture, Food, IoT, and Agent-Based Systems
- IoT and digital tools in agriculture
- Local control, commoning and transdisciplinary tech design

- Social Innovation in Health and Education
- Practice-based communities and shared ownership models

Student group presentations (%30) and anonymous peer evaluation along with them will be delivered.

Module 3: Co-Creation Lab – Project Development and Prototyping

April 8 | 3 hrs | Face-to-Face

Module 3 Format

Classroom sessions are structured around team co-creation and project mentorship.

Activities include:
- Group ideation and concept building
- Roundtables and structured feedback sessions
- Iterative prototyping and instructor mentorship

TEAM PROJECT PRESENTATIONS

April 11 | 3 hrs | Face-to-Face

Evaluation

- Team Project (100%)

Attendance is mandatory. Any absence must be reported to the instructor before the class via e-mail: curhan@itu.edu.tr

Learning Outcomes
- Understand how emerging technologies are shaped by systems of power and ownership
- Critically assess startup and social innovation ideologies from a structural lens
- Learn participatory, transdisciplinary, and practice-based research methods
- Collaboratively create projects that embody bottom-up design principles and public interest