EPFL

HUM-387 **How technology shapes the workplace of the future**

Cursus	Sem.	Type
Humanities and Social Sciences	BA6	Obl.

Language of teaching	English
Credits	2
Session	Summer
Semester	Spring
Exam	During the semester
Workload	60h
Weeks	14
Hours	**2 weekly**
Lecture	2 weekly
Number of positions	**80**

Remark

Pas donné en 2023-24. Une seule inscription à un cours SHS+MGT autorisée. En cas d'inscriptions multiples elles seront toutes supprimées sans notification

Summary

Artificial intelligence, big data, and advances in computing power have triggered a technological revolution that may have enormous bearing on the workplace and the labor market. This course provides you with tools to analyze these developments, and discuss their impact on our lives.

Content

The class is taught by several professors from different institutions and disciplines to provide comprehensive and in-depth coverage of technological advances and their impact on how we will work in the future. Nearly each lesson will be taught by a different professor providing an introduction and discussion of topics such as

- visual extensions, automation, augmentation, and surveillance in the workplace
- the use of AI at recruitment and at work,
- changes in worker skills, in the nature of jobs and the labor market itself,
- legal, ethical, and cultural aspects of the use of new technology at work

Throughout this course, students will be encouraged to think about the benefits and challenges of these developments. To experience how technological changes may affect education and learning, some parts of this class will be taught using Virtual Reality.

Keywords

Artificial Intelligence, Technological Revolution, Automation, Augmentation, Ethics, Culture
POLY-perspective :
- interdisciplinary perspective
- global perspective

https://www.epfl.ch/schools/cdh/cdhs-vision/

Learning Prerequisites

Required courses

None

Recommended courses
None

Important concepts to start the course
Technological abilities to replace or augment work, Economics, Prediction. Basis of analysis and calculus to understand the complexity of different AI and ML algorithms.
Knowledge of structure and use computers and electronic systems, including smartphones, smartwatches, tablets, etc.

Learning Outcomes

By the end of the course, the student must be able to:

 • Discuss the impact of AI, augmentation and automation

 • Identify challenges for individuals, firms, and governments

 • Elaborate ethical and legal challenges

 • Sketch basics of the digital transformation

Transversal skills

 • Assess one's own level of skill acquisition, and plan their on-going learning goals.

 • Summarize an article or a technical report.

 • Communicate effectively with professionals from other disciplines.

Teaching methods

 • Lecture

 • Discussions (in class and online)

Expected student activities

 • *Participate in process of knowledge creation*

 • *Discuss learnings from class*

 • *Summarize topics in varous formats (written, movie, etc.)*

Assessment methods

All students:
Your grade is based on two elements:
A. Once every other week students will contribute a point for discussion or an idea that goes beyond class, which they submit before or after class on the Moodle forum. References to papers, movies, or other material are greatly appreciated. Each student needs to submit at least six separate contributions. A contribution either starts a new discussion thread or responds to a thread.
B. In mixed groups of three individuals, students will prepare a contribution to the final unit of the class, which is a virtual exhibition on the topic "Future Workers on the Future of Work". Contributions can take many forms (video, infographic, story board etc.), and will be presented during the last class. More detailed information will be provided during class. Examples from previous years

- Debate on Future of Work (2021)
- Car Museum in VR (2022)

In addition, UNIL students:
C. Paper (individiual task): UNIL students earn 3ECTS from this class and hand in a paper (of about 1200 words) that discusses one particular hypothesis about how technology affects work, or vice versa. They state the hypothesis, and provide arguments in favor, or against, the hypothesis, and offer a conclusion.

Supervision

Office hours	No
Assistants	Yes
Forum	Yes

Resources

Virtual desktop infrastructure (VDI)

No

Bibliography

- The future of work : robots, AI, and automation / Darrell M. West (2018)
- Zuboff, S., The Age of Surveillance Capitalism
- AI, the future of work? : work of the future! : on how artificial intelligence, robotics and automation are transforming jobs and the economy in Europe
- The Globotics Upheaval (Richard Baldwin)

Ressources en bibliothèque

- The future of work : robots, AI, and automation / Darrell M. West (2018)
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- The Globotics Upheaval (Richard Baldwin)
- AI, the future of work? : work of the future! : on how artificial intelligence, robotics and automation are transforming jobs and the economy in Europe

Websites

- https://moodle.unil.ch/course/view.php?id=12734

Videos

- https://www.youtube.com/watch?v=04DvWptiyCA
- https://www.youtube.com/watch?v=IS7AZv6kKcI

Prerequisite for

This course is a good preparation for the Master in Sustainable Management and Technology offered by EPFL, UNIL and IMD.