

HUM-333

Ethics of emerging technologies

Ienca Marcello

Cursus	Sem.	Type
Humanities and Social Sciences	BA5	Obl.
UNIL - Autres facultés	H	Opt.
UNIL - HEC	H	Opt.

Language of teaching	English
Credits	2
Session	Winter
Semester	Fall
Exam	During the semester
Workload	60h
Weeks	14
Hours	2 weekly
Courses	2 weekly
Number of positions	80

Remark

Une seule inscription à un cours SHS+MGT autorisée. En cas d'inscriptions multiples elles seront toutes supprimées sans notification

Summary

This course examines key technological developments and challenges from an ethical and policy perspective. The primary aim of this course is to get students to think critically about the ethical-social dimensions of technology, taking into account both normative and applied ethics questions.

Content

Students will learn to critically analyze the social-ethical implications of emerging technologies such as artificial intelligence, neurotechnology, robotics, genetic editing, social computing, etc. They will also learn the methods and theoretical frameworks needed to conduct an ethical impact assessment of these technologies and, more generally, to make socially responsible use of emerging technologies in both clinical and research settings.

Keywords

ethics, bioethics, neuroethics, technology assessment, artificial intelligence, societal implications, technology policy, technology governance, science and society

Learning Prerequisites**Required courses**

None

Important concepts to start the course

Curiosity, respect for other people's views, and willingness to change one's moral beliefs based on logic and evidence.

Learning Outcomes

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

- Assess / Evaluate systematically the risk & benefits of a certain technological innovation in a certain domain of application.
- Discriminate the potential for unethical use or misuse of technology
- Assess / Evaluate technological innovation into a broader societal perspective which also takes into account its cultural impacts, issues of equity of distribution and access to knowledge, and on the rights of individuals

- Discuss considerations surrounding technological innovation in a global society.
- Anticipate ethically-aligned technological solutions

Transversal skills

- Communicate effectively with professionals from other disciplines.
- Respect relevant legal guidelines and ethical codes for the profession.
- Take feedback (critique) and respond in an appropriate manner.

Teaching methods

Lectures and interactive seminars

Expected student activities

- Analyse d'une étude de cas
- Discussion de groupe
- Évaluation des risques et des avantages
- Simulation du Comité d'examen éthique
- Courtes présentations

Assessment methods

- Group presentations
- Short essay

Supervision

Office hours	Yes
Assistants	Yes
Forum	No

Resources

Bibliography

- Floridi, L. (2019). Establishing the rules for building trustworthy AI. *Nature Machine Intelligence*, 1(6), 261-262.
- Gebru, T. (2020). Race and gender. In *The Oxford handbook of ethics of AI*, 251-269.
- Greely, H. T. (2021). *CRISPR People: The Science and Ethics of Editing Humans*. MIT Press (extracts only).
- Ienca, M., & Andorno, R. (2017). Towards new human rights in the age of neuroscience and neurotechnology. *Life sciences, society and policy*, 13(1), 1-27.
- Ienca, M., Pollicino, O., Liguori, L., Andorno, R., & Stefanini, E. (2022). *Cambridge Handbook of Information Technology, Life Sciences and Human Rights*. Cambridge University Press (selected chapters).
- Jonas, H. (1982). Technology as a Subject for Ethics. *Social Research*, 891-898.
- Levy, N. (2007). *Neuroethics: Challenges for the 21st century*. Cambridge University Press (extracts only).
- Sandel, M. J. (2007). *The case against perfection: Ethics in the age of genetic engineering*. Harvard university press (extracts only).

- Savulescu, J., & Bostrom, N. (Eds.). (2009). *Human enhancement*. OUP Oxford (selected chapters).
- Susser, D., Roessler, B., & Nissenbaum, H. (2019). Online manipulation: Hidden influences in a digital world. *Geo. L. Tech. Rev.*, 4, 1.
- Tegmark, M. (2017). *Life 3.0: Being human in the age of artificial intelligence*. Knopf (extracts only).
- Veliz, C. (2020). *Privacy is power*. Random House Australia (extracts only).
- Zou, J., & Schiebinger, L. (2018). AI can be sexist and racist: it's time to make it fair. *Nature*.
- Zuboff, S. (2015). Big other: surveillance capitalism and the prospects of an information civilization. *Journal of information technology*, 30(1), 75-89.

Ressources en bibliothèque

- Gebru, T. (2020). Race and gender. In *The Oxford handbook of ethics of AI*
- Greely, H. T. (2021). *CRISPR People: The Science and Ethics of Editing Humans*
- Ienca, M., & Andorno, R. (2017). Towards new human rights in the age of neuroscience and neurotechnology
- Ienca, M., Pollicino, O., Liguori, L., Andorno, R., & Stefanini, E. (2022). *Cambridge Handbook of Information Technology, Life Sciences and Human Rights*
- Levy, N. (2007). *Neuroethics: Challenges for the 21st century*
- Sandel, M. J. (2007). *The case against perfection: Ethics in the age of genetic engineering*
- Savulescu, J., & Bostrom, N. (Eds.). (2009). *Human enhancement*
- Tegmark, M. (2017). *Life 3.0: Being human in the age of artificial intelligence*
- Veliz, C. (2020). *Privacy is power*
- Zou, J., & Schiebinger, L. (2018). AI can be sexist and racist: it's time to make it fair.

Moodle Link

- <https://go.epfl.ch/HUM-333>