UAB
Universitat Autònoma de Barcelona

Study Abroad Programmes
Universitat Autònoma de Barcelona

PRE-ESTABLISHED PROGRAMME
ETHICS IN ARTIFICIAL INTELLIGENCE

Course contact hours: 45
Recommended credits: 6 ECTS – 3 US
Language: English

Prerequisites

You do not need any previous specific knowledge to take this course.

Objectives and Contextualization

As an example of a general-purpose technology, artificial intelligence (AI) is present in more and more facets of our lives, creating concerns about its proper use as it evolves.

This course explores the ethical issues surrounding developing and deploying artificial intelligence (AI) technologies. Students will learn about the philosophical, social, and legal considerations related to AI and create an understanding of the potential impacts of these technologies on society. Topics may include bias and fairness in algorithmic decision-making, privacy and surveillance, responsibility and accountability for AI systems, and the ethical implications of automation and job displacement. Through readings, discussions, and case studies, students will develop critical thinking skills and ethical frameworks to analyse and evaluate AI technologies and their impacts.

Some possible sources of inspiration are:

How do we prevent algorithms' ethical biases? How best to embed AI systems in our professional and social relations? Is surveillance capitalism ethical? What ethical codes should guide AI applications like self-driving cars? Are AI systems moral agents? How is our brain considering trust in AI? Do AI systems need to pay taxes? Is the future of AI a threat to our existence? Is it ethical to fall in love with a robot? Can a robot express real feelings?

Competencies

At the end of the course, students will develop the following generic competencies:

- Critical thinking and analysis.
- Creative thinking for problem solving.
- Capacity to learn autonomously.
- Capacity for generating new ideas.
- Ethical commitment.
- Basic knowledge of the field of study.
- Ability to work in a team.

Learning Outcomes

After completing this course, students will be able to:

1. Identify the ethical challenges of AI development and implementation.
2. Analyze real-life scenarios where AI is involved.
3. Apply adequate philosophical and ethical frameworks to different case studies.
4. Read news about AI development in a critical way.
5. Deconstruct ethical problems related to the use of AI.
6. Produce written ethical guidelines in a business context.
7. Judge actions associated with the performance of AI in socioeconomic environments.
8. Generate opinions and recommendations to deal with AI in business.
9. Carry out their research in the field of study.
10. Demonstrate their ability to reason logically.

Content

Part One: Introduction

- Chapter 1: What is ethics?
- Chapter 2: Why AI ethics?

Part Two: Applied ethics

- Chapter 3: AI and philosophy of technology.
- Chapter 4: Applied ethics and AI.
- Chapter 5: AI and transhumanism.
- Chapter 6: The moral status of AI.

Part Three: AI in business

- Chapter 7: AI in the workplace: Application areas and ethical concerns.
- Chapter 8: AI challenges.

Part Four: Topics of interest

- Chapter 9: AI and gender bias.
- Chapter 10: AI and political theory.
- Chapter 11: Ethics of AI for sustainable development goals.

Methodology

This course combines five complementary methodologies and approaches to teaching, each designed to cater to different learning styles and educational goals:

1. Lecture-Based Teaching: used mainly during Part One.
2. Active Learning: Students engage actively in the learning process through discussions, group work, problem-solving activities, and hands-on experiences.
3. Problem-Based Learning (PBL): Students learn by actively solving open-ended, real-world problems, encouraging critical thinking and problem-solving skills.

4. Socratic Method: The teacher poses thought-provoking questions to stimulate critical thinking and guide students to discover knowledge independently.
5. Cooperative Learning: Students work in small groups to achieve shared learning goals, fostering teamwork and peer support.

Activities

Directed: (all in the classroom)

Class sessions (practice)	21 hours
Class sessions (theory)	8 hours
Assessment	6 hours

Supervised: (all in the classroom)

Project development	10 hours

Autonomous work

Project (group work)	50 hours
Independent readings	25 hours
Reflective writing	25 hours
Online Debate Forums	5 hours

Assessment

Continuous assessment elements enable students to actively engage with the course material and ethical dilemmas in AI. They foster a deeper understanding of the subject, encourage critical thinking, and provide valuable feedback throughout the learning process. These are some of the suggested assessment elements:

1. Ethical dilemma case studies. Students analyse real-life or hypothetical scenarios where AI is involved in decision-making and propose solutions based on moral principles.
2. Online discussions: Forums in Canvas where students can converse about AI ethics topics, share their perspectives, and respond to their peers' viewpoints.
3. Article reviews: Students read and critically analyse academic articles or news reports about AI ethics, summarizing key points and evaluating the arguments presented.
4. Group project: In small groups, students research and present the ethical implications of their assigned topic and propose responsible AI guidelines.
5. Ethics codes and guidelines: In small groups, students develop their own AI ethics codes or guidelines for AI development and deployment, explaining their reasoning for each principle.
6. Exams: Students demonstrate that they have achieved a good level of understanding, knowledge, and skills related to the field of study. The exams mainly focus on creative thinking, i.e., their ability to reason logically, draw connections between concepts, and synthesize information effectively.

Assessment Activities

Title	weighting	hours*	learning outcomes
Ethical dilemma case studies	10%	20	1,2,3,7
Online discussions	5%	5	1,2,3,4,5,8
Article reviews	10%	20	1,2,4,5,8,9
Group project	25%	52	1,2,3,5,7,8,9,10
Ethics codes and guidelines	5%	10	1,6,8
Participation	20%	39	1,2,7,8
Mid-term exam	10%	2	2,3,8,10
Final exam	15%	2	2,3,8,10

*hours include autonomous work

Bibliography

There is no mandatory textbook for this course. The following list shows some recommended readings, all related to the course content.

Bartneck, C., Lütge, C., Wagner, A., and Welsh, S. (2021). *An Introduction to Ethics in Robotics and AI*. Springer Nature.

Boddington, P. (2023). *AI Ethics: a Textbook*. Springer Nature.

Boylan, M., and Teays, W. (Eds.). (2022). *Ethics in the AI, Technology, and Information Age*. Rowman and Littlefield.

Coeckelbergh, M. (2020). *AI Ethics*. MIT Press.

Mazzi, F., and Floridi, L. (2023). *Ethics of Artificial Intelligence for the Sustainable Development Goals.* Springer International Publishing AG.

Risse, M. (2023). *Political Theory of the Digital Age: Where Artificial Intelligence Might Take Us*. Cambridge University Press.

Vallverdú, J. (Ed.). (2023). *Gender in AI and Robotics: The Gender Challenges from an Interdisciplinary Perspective* (Vol. 235). Springer Nature.

Software

This course requires the use of Canvas as an LMS.