UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Informatica per le Pubbliche Amministrazioni

2425-3-E1401A024

Learning objectives

The course "Computer Science for Public Administrations" aims to provide students with an introduction to the main aspects of computer science, with a particular focus on those most relevant to public administrations. The goal of the course is not so much to develop technical skills, but rather to offer a high-level, yet accurate and detailed, overview of the main topics in computer science.

- Knowledge and Understanding
  Understanding of the functioning of computer networks, the main types of cryptography, blockchain technologies, the different kinds of artificial intelligence, and of the most relevant legal implications related to these topics.

- Applying Knowledge and Understanding
  Be able to select the best digital tool for key legal applications and public administration, with particular attention to data and communication confidentiality. Be capable of using major artificial intelligence models with an awareness of their potential and limitations.

- Making Judgments
  Be able to critically assess computer science solutions adopted in public administrations and the legal sector, identifying their advantages, limitations, and regulatory implications.

- Communication Skills
  Be able to interact with IT experts and public administrators to understand and discuss the adoption of digital tools.

- Learning Skills
  Be able to critically evaluate innovative computer science tools, assessing their usefulness, challenges, and legal implications.

Contents

After an introduction to computer science and information representation, the course will cover a topic of great current relevance: artificial intelligence. Additionally, there will be an introduction to networks and the internet, with a focus on cybersecurity and privacy. In this context, the course will also address the Dark Web and blockchain, two topics whose understanding is essential for accurately interpreting the current reality. Finally, there will be a brief introduction to open source software and free licenses.

Detailed program

- Introduction to Computer Science
- Information Representation
- Artificial Intelligence
- Web, Security, Privacy, and the Dark Web
- Blockchain, Cryptocurrencies, and Smart Contracts
- Open Source Software and Free Licenses

Prerequisites

Ability to read simple texts in English.

Teaching methods

- 21 lectures of 2 hours each, conducted in Italian, in person.
- Availability of lecture recordings.

Assessment methods

The assessment will be conducted through a written exam with open-ended questions. No midterm exams are planned.
The questions will be of a general nature and will aim to assess the understanding of both the theoretical aspects related to the topics covered during the course and their practical implications. It will be essential to demonstrate an understanding of the main advantages and limitations of the technologies discussed in class, as well as the ability to select the most suitable tool to support the most common needs in the legal field.
Attention will also be given to the proper use of language and the ability to personally elaborate on the concepts.

Textbooks and Reading Materials

Materials provided on the e-learning platform and lecture recordings.

Sustainable Development Goals