UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Computer Forensic

2526-3-A5810031

Learning objectives

Knowledge and Understanding
Upon completion of the course, the student will have gained in-depth knowledge of the principal information technologies applied to law, understanding the legal implications of using digital tools within legal contexts. Additionally, they will be able to critically identify issues related to cybersecurity and privacy.

Applying Knowledge and Understanding
The student will be able to competently utilize digital legal databases, advanced research tools, and IT systems for document management. They will correctly apply regulations concerning personal data protection and cybersecurity, proposing technologically suitable solutions for specific legal cases.

Independent Judgment
The student will develop the ability to autonomously evaluate information technologies applied to law, identifying their benefits, limitations, and potential risks. They will also critically analyze specific cases, evaluating the ethical and legal implications related to the use of digital technologies.

Communication Skills
The student will be capable of clearly and persuasively expressing their evaluations regarding the use of IT tools in legal contexts, effectively communicating the identified technical and legal solutions in both specialized and general contexts.

Learning Skills
The student will develop skills for independently staying current with regulatory and technological developments in the sector, acquiring a structured approach to continuously integrate interdisciplinary knowledge from computer science and law.

Contents

The course on Legal Informatics comprehensively addresses the intersections between law and digital technologies, introducing students to key theoretical and practical issues in the field. Beginning with fundamental definitions and the historical development of legal informatics, the curriculum explores the legal implications of the information society, focusing particularly on the central role of data and digital networks.

The course then examines the significance and impact of open-source tools and open data on transparency and public participation in governmental administration. It delves into concepts such as digital identity, electronic document management, and digital administration, emphasizing the regulatory frameworks of the GDPR and cybersecurity.

Adopting a multidisciplinary approach, the course also includes a focus on cybercrimes and digital forensics, providing in-depth insights into digital investigative techniques. Artificial intelligence, decision-making algorithms, and Big Data are analyzed from legal and regulatory perspectives, as is the use of blockchain technology in digital copyright.

The educational journey concludes with an analysis of emerging challenges presented by data governance and digital platforms, equipping students with critical tools to independently address future developments in legal informatics.

Detailed program

Introduction to the discipline
What is Legal Informatics?
Information Society and Data Society
Digitalization of society and the central role of data
Computer Architecture and Networks
Hardware/software organization, system functionality, and the internet
Open Source, Open Data, and Transparency
The value of free software and open data in decision-making processes
Digital Identity and Digital Administration
Electronic documents, digital signatures, SPID, and digital public administration
Personal Data Protection and GDPR
Fundamental principles, guidelines from the Data Protection Authority, and practical cases
Cybersecurity
Threats, minimum measures, and Italian and EU regulations
Cybercrime and Computer Forensics
Legal sources and types of cyber offenses
Artificial Intelligence and Algorithms
AI, decision-making algorithms, ethical issues, and profiling
Big Data and Data Governance
Mass data collection, EU regulations, potentials, and risks
Blockchain, Digital Assets, and Copyright
Distributed storage, tokens, and digital copyright
Future Perspectives and Digital Philosophy
Emerging challenges at the intersection of law and technology

Prerequisites

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Teaching methods

The course will be delivered through face-to-face classroom lectures (direct instruction—DE). Lectures will be structured to provide a clear and in-depth theoretical exposition of content, accompanied by systematic presentations of relevant examples and case studies. The instructor will utilize multimedia educational materials, interactive presentations, and guided practical demonstrations to facilitate learning. Additionally, periodic sessions dedicated to discussion and addressing questions arising from lectures will be scheduled, aiming to encourage interaction and ensure comprehensive understanding of the topics covered.

Assessment methods

Final written examination: it will include open-ended questions, case analyses, and brief exercises aimed at evaluating the student's ability to apply computer science knowledge within a legal context, as well as their independent judgment.

The examinations will be assessed according to the following criteria:

- Accuracy and completeness of demonstrated knowledge;
- Ability to apply theoretical knowledge to practical cases;
- Clarity of presentation and argumentative skills;
- Independent judgment and critical thinking in resolving legal-informatics problems.

Grades will be assigned based on the degree of achievement of these criteria, particularly rewarding critical analysis and practical application of acquired knowledge.

Textbooks and Reading Materials

The most recent texts will be indicated prior to the start of the course.

Sustainable Development Goals