UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Informatica Giuridica

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Learning objectives

The continuous development and widespread dissemination of IT tools in contemporary society has brought out new training needs within legal studies.

On the one hand, new technologies have made available new IT tools that have modified many aspects of legal practice, offering innovative tools for legal operators at all levels (from private citizens to the highest public institutions) in the conduct of the most diverse legal activities: from the search for regulatory and jurisprudential documents to the drafting and stipulation of contracts, from the interaction of citizens with the Public Administration to the drafting of public regulations, from the collection of IT evidence to the court procedure itself.

On the other hand, the dissemination of IT tools has led to the need to introduce new specific disciplines not only to regulate, standardize and recognize legal value to new IT legal procedures, but also to defend citizens and societies from the abuses that can be perpetrated through IT technologies.

The course of Legal Informatics aims to provide students with the nowadays crucial training first about the *information technology concerning the law*, through the acquisition of the knowledge and skills necessary for a conscious use of legal IT tools, systems and procedures, and second about the *law concerning information technology*, through the examination of the most relevant technical and theoretical assumptions concerning the different areas of regulation of IT, and by promoting autonomous and critical reasoning

Contents

After examining the conceptual distinction between *information technology concerning the law* and *law concerning information technology*, basic notions of contemporary computer science will be addressed relating to the operation of computers, software, IT networks and the latest developments in artificial intelligence.

Subsequently, we will examine IT tools that have been developed to digitalize legal data, to build legal data repositories, to implement legal IT procedures (through the introduction of the civil telematics process, for instance), with a focus on security, encryption and digital signature profiles.

Finally, some aspects of IT law will be examined with regard to digital document, e-commerce, digital administration, cybercrime and the acquisition of computer evidence.

Detailed program

1. Information technology concerning the law and law concerning information technology

2. Fundaments of computer science

2.1. Computers and algorithms, centralized computers, personal computers, computer networks

2.2. The basic components of a computer

2.3. Analog vs. binary systems, Boole's algebra
2.4. Algorithms and programs
2.5. Open source software
2.6. Client-server networks, peer-to-peer networks, virtualization, and cloud computing
2.7. Communication systems and protocols
2.8. Internet basics: the network of networks, public and private IP addresses
2.9. Developments in artificial intelligence

3. Digitizing legal data

3.1. Conceptual data and models
3.2. Organizing data
3.3. Databases and information retrieval
3.4. Markup languages
3.5. Computerization of legal data
3.6. Open data

4. Digitizing legal procedures: the civil law telematic procedure

5. Document and communications encryption and cybersecurity

5.1. Encryption, algorithm and keys
5.2. Symmetric key encryption
5.3. Asymmetric keys encryption
5.4. The digital signature: integrity and authenticity of the document
5.5. The legal discipline of digital signing
5.6. Certified Electronic Mail (PEC)

6. Law concerning information technology

6.1. The legal value of digital documents
6.2. The Digital Administration Code
6.3. Digital citizen’s rights
6.4. E-commerce and e-contracts
6.5. Privacy protection and the EU General Data Protection Regulation (GDPR)
6.6. Copyright in the digital age

7. Cybercrimes

8. Computer probes and digital forensics: tools and limits

8.1. Identifying digital evidence
8.2. Acquisition of digital evidence
8.3. Digital evidence preservation and analysis

Prerequisites

No special prerequisites, other than the knowledge of the law that has been acquired in the previous years, are required to attend classes: all basic computer notions will be introduced and discussed during the lectures.

Teaching methods

Classes aim at providing relevant knowledge and skills through the development of autonomous skills and critical reasoning and will therefore be based on discussion and dialogue with students on all topics of the course.

Autonomous reasoning will be solicited concerning the identification of problems relating to the use of IT tools in the information society. The development of argumentative skills will be promoted, including through classroom comparison between the students themselves.

Assessment methods

Assessment methods consist of a final oral examination and will aim to ascertain the awareness of the theoretical and practical problems associated with the use of modern information technology both in the field of law and, more generally, of legal profiles involved in the use of information technology within the information society.

Textbooks and Reading Materials

Reference texts:

Reference texts **for attending students** will include chapters from the following books, as it will be detailed in classes:

1. Giovanni Sartor, *L'informatica giuridica e le tecnologie dell'informazione. Corso d'informatica giuridica*, terza edizione, Torino, Giappichelli, 2016.

2. Claudio Di Cocco / Giovanni Sartor, *Temi di diritto dell'informatica*, terza edizione, Torino, Giappichelli, 2017.

Further texts concerning specific subjects may be distributed during the lectures.

Reference texts **for non-attending students** consists of the following books **in their entirety**:

1. Giovanni Sartor, *L'informatica giuridica e le tecnologie dell'informazione. Corso d'informatica giuridica*, terza edizione, Torino, Giappichelli, 2016.

2. Claudio Di Cocco / Giovanni Sartor, *Temi di diritto dell'informatica*, terza edizione, Torino, Giappichelli, 2017.