

IDENTIFICATION

Course code : ESI-SPI-CI-IN4-S7-UE5-EC4
ECTS : 1

DURATION

Lectures : 8
Tutorial classes : 20
Labs : 10
Total : 38

Project :
Personnal work :

ASSESSMENT

Continuous assessments and evaluated practical work.

TEACHING MATERIALS

Slides, guided and practical work sheets.

LANGUAGE

English

CONTACT

Understand the legal and ethical challenges faced by computer engineers in their professional practice. Through the study of personal data protection law (GDPR), intellectual property law and the regulatory framework for artificial intelligence (AI Act), students will acquire the essential legal reflexes to design, develop and deploy digital systems compliant with European and national legal requirements, while respecting the fundamental rights of individuals.

UE : UE7-DATA

COURSE : Law and Ethics in Computer Engineering

SCOPE OF THE COURSE

OBJECTIVES

COMPETENCE AND SKILLS

- Identify and apply legal obligations arising from the GDPR when designing and developing an IT system processing personal data
- Implement *privacy by design* and *privacy by default* principles in a software or application development project
- Conduct a Data Protection Impact Assessment (DPIA) and derive appropriate technical and organizational measures
- Identify intellectual property rights applicable to a digital creation and adopt best practices regarding the use of content generated or used by AI
- Analyze obligations imposed by the Artificial Intelligence Regulation (AI Act) based on the risk class of the developed system and align them with GDPR requirements
- Adopt an ethical and responsible stance in the practice of computer engineering, integrating legal dimensions from the design phase

PROGRAM

— Introduction to Digital Law :

- Hierarchy of norms in France ; integration of European law (directives and regulations).
- Overview of the legal framework applicable to digital : GDPR, AI Act, intellectual property law.

— General Data Protection Regulation (GDPR) :

- Fundamental definitions : personal data, processing, controller, processor, DPO, processing register, legal bases.
- Conditions for appointing a DPO ; fundamental principles : lawfulness, purpose limitation, data minimization, accuracy, storage limitation, security and confidentiality.
- Consent : validity conditions, proof and right to withdraw.
- Data subject rights : access, rectification, erasure, portability, restriction, objection.
- Data Protection Impact Assessments (DPIAs / PIAs) : definition, conditions for conducting, balancing of interests.
- Incident management : notification deadline to the CNIL, declaration conditions.
- Sanctions for non-compliance with the GDPR.

— Intellectual Property (IP) Law :

- International, European and national sources ; distinction between economic rights and moral rights.
- Types : copyright, patent, trademarks, designs and models, geographical indications, trade secrets, e-Soleau envelope.

- Principles of exclusivity, temporality and territoriality according to the type of IP.
 - Specific case of IP and AI : citation obligations, *Creative Commons* licenses (BY, NC, ND, SA), U.S. *copyright*, NFTs.
 - Works created by AI : 100% AI creation vs shared AI/human creation; what about copyright?
 - Best practices regarding AI : legal monitoring, contractual clauses, preference for licensed models.
- **GDPR and Artificial Intelligence Regulation (AI Act) :**
- New European bodies : European AI Board, AI Office, Advisory Forum, Independent Scientific Panel of Experts.
 - Classification of AI systems by risk level (AI Act) and implications for connected objects.
 - Proportional application of the GDPR to data processing by AI.
 - Obligations of AI system providers and users ; CNIL recommendations on automated individual decision-making.
 - Balancing act : competitiveness / GDPR compliance / respect for intellectual property.
 - Practical case — *to-do list* for creating compliant AI : purpose, controller, legal basis, data minimization, retention period, data subject rights, *privacy by design* and *by default*, DPIA.

BIBLIOGRAPHY

- Gilles Vercken & Stéphane Leriche - *Droit de l'informatique et des réseaux* - Lamy, latest edition
- Jean Frayssinet - *Informatique, fichiers et libertés* - Litec
- CNIL - *Practical GDPR Guide for Developers* : <https://www.cnil.fr/en/gdpr-developers>
- CNIL - *Guide to the Security of Personal Data* : <https://www.cnil.fr/en/personal-data-security>
- CNIL - *Recommendations on the Development of AI Systems* : <https://www.cnil.fr/en/artificial-intelligence>
- European Commission - *General Data Protection Regulation (GDPR)* : <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016R0679>
- European Commission - *Artificial Intelligence Regulation (AI Act)* : <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689>
- INPI - *Intellectual Property Resources* : <https://www.inpi.fr/en>
- Creative Commons - *Licenses and Tools* : <https://creativecommons.org/licenses/>
- ANSSI - *Security Recommendations for Mobile Applications* : <https://www.ssi.gouv.fr/en/guide/>

REQUIREMENTS

- **Expected transversal skills :**
- General knowledge of how a computer system, a web application and a mobile application work

- Basic understanding of data processing and storage (databases, APIs, cloud services)
- Ability to read and analyze regulatory texts and official documents
- Proficiency in written French for drafting legal and technical documents
- Curiosity about societal, ethical and legal issues in digital technology