Libera Università Internazionale
degli Studi Sociali Guido Carli

LUISS

Syllabus

Academic Year	2026/2027
Program	Data Science and Management
Course	Data Privacy and Security
Term	II semester
Year	1
SSD	IINF-05/A
Credits	6

INSTRUCTIONAL GOALS	The course provides essential knowledge in data privacy and cybersecurity, blending theoretical concepts with practical skills. Students will explore core principles of modern cryptography, secure network communication, blockchain technologies, and common software vulnerabilities (particularly those relevant to web security). In addition, the course includes real-world case studies and examines regulations in the context of cybersecurity and privacy.
INTENDED LEARNING OUTCOMES They describe what a learner is expected to know, understand and be able to demonstrate after completion of a learning path.	**Making judgements**: Students are expected to be able to reflect on the managerial and social responsibilities of applying digital technologies in the development of enterprise systems. Throughout the entire course, students will be invited to apply their multidisciplinary knowledge to critically assess realistic scenarios for strategic and tactical decision making. **Communication skills:** This course will give the students the possibility to acquire and to understand major terms and concepts so as to communicate effectively their ideas, findings, proposals, analysis, and critical reasoning in the area of data privacy and security. **Learning skills:** This course will empower students with the capability to learn how to use networking and security tools, and to apply them to real-world problems in an independent and critical way.
Pre-requisites	Good programming skills and basic knowledge of information systems and IT architectures.
Course content	• Cryptography: symmetric and asymmetric ciphers, hashing, and digital signatures; Authentication: password, MFA, certificates; • Core concepts behind networks: TCP/IP; • Blockchain technologies; • Anonymous communications: TOR network, Dark Web; • Software vulnerabilities: CWE, Zero day vs n-day, CVE, CVSS, OWASP Top 10; • Web security: server-side and client-side vulnerabilities;

	• Cybersecurity case studies and regulations.
Reference Books	• Slides set of the course and other teaching materials (on MyLUISS).
Teaching Methods	• Frontal lectures • Hands-on lectures
Assessment	• Hands-on (30%) • Report on a real-world vulnerabiil (30%) • Written exam (40%).