Information Systems & Security

Your expertise is needed for developing new courses with a priority for the skills **highlighted in red**. Submit your course idea in the Call for Proposal.

Skill *(ranked by urgency and number of respondents)*	**What a course should teach** *(highlighted in red are the topics currently missing from the existing course portfolio)*	**Existing courses in the EPFL Extension School portfolio** *(links to webpages)*
Remain up to date with the latest technologies, emerging threats and best practices	**Threat landscape overview; current best practices (zero trust, MFA, secure development); interpreting security advisories.**	
Design and implement robust cybersecurity protocols to secure interconnected systems and networks	Core concepts of information security (confidentiality, integrity, availability), threat models, network and endpoint security controls, secure configuration, incident response basics; applying standards and best practices across interconnected systems and IoT.	DigiTRUST; Management du risque – Gouvernance et opérations
Manage data to ensure regulatory and legal compliance	Data protection basics (GDPR, FADP); **data classification; retention and deletion; records of processing; working with DPO/legal.**	AI Governance and regulatory frameworks
Manage computing infrastructure and energy efficiency for AI solutions	**Sizing and architecting compute/storage for AI; cloud vs on-prem; cost and energy optimisation; monitoring and scaling; sustainability aspects.**	
Design IoT networks for real-time monitoring and manage cloud-based analytics	**IoT architectures; connectivity options; security; ingest pipelines; real-time analytics and dashboards; operating IoT in production.**	Innovate with AI and Tech
Understand quantum computing and its impact on encryption schemes	Basics of quantum computing (qubits, superposition, entanglement), main algorithmic families (e.g. Shor, Grover) and why they matter for current public-key cryptography; roadmap for post-quantum cryptography and organisational preparedness.	
Implement blockchain systems	Principles of blockchain and distributed ledgers, consensus mechanisms, smart contracts, typical architecture stacks; evaluating use cases; basic hands-on deployment and interaction with a test network; governance, legal and energy considerations.	DigiTRUST; Innovate with AI and Tech