2026

Program of the Advanced Master Engineering of cybersecurity (Mastère Spécialisé® Ingénierie de la Cybersécurité)

IMT Nord Europe
École Mines-Télécom
IMT-Université de Lille

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

I'M TOMORROW

INTITULÉ COURS	Teaching format	Hours
FSIS – Fundamentals of Intelligent Systems Security		**60**
Network Modelling: Markov Chains and Graph Theory	Lectures/ labs	**18**
Supervised Machine Learning	Lectures	**7,5**
Probability and Statistical Estimation	Labs	**18**
Digital Systems Architecture	Lectures	**7,5**
Network Security, Principles of Cryptography and Network Virtualization	Labs	**6**
Programming Languages Refresher: Python and Java	Lectures	**3**
PMS - Principles and Models of Security		**92**
Legal and Regulatory Issues in Cybersecurity	Lectures/ Labs	**30**
Cryptography: Foundations and Applications	Lectures/ Labs	**21**
Organizational Auditing: Risk Analysis Fundamentals and the ISO 2700x Family of Standards	Lectures	**4,5**
Dependability and System Reliability	Lectures	**15**
Security Management and Security Information and Event Management (SIEM)	Lectures	**6**
Risk Analysis Projects	Project	**7,5**
Professional Seminars and Industrial Visits	Confs/Visits	**8**
SRS – Network and Systems Security		**101,5**
Computer Networks: Models, Architectures and Protocols	Lectures	**9**
Ethical Hacking, Technical Auditing, Cyber Attacks and Cyber Defence	Lectures/ Labs	**15**
Intrusion Detection Systems (IDS) and SIEM Technologies	Lectures	**15**
Digital Forensics and Cybercrime Investigation	Lectures	**7,5**
Access Control Models and Kerberos Authentication	Lectures	**13,5**
Network Security and Stormshield CSNA Certification Preparation	Lectures	**27**
Authentication, Biometrics, Artificial Intelligence and Cybersecurity	Lectures/ Labs	**7,5**
Guest Lectures and Professional Seminars	Conferences	**7**
CIS – Cybersecurity of Industrial Systems and Services		**114**
Industrial Control Systems (ICS) Security	Lectures	**10,5**
Business Continuity Planning and Risk Management	Lectures	**10,5**
Advanced Network Security II: Voice over IP (VoIP) Security	Lectures	**10,5**
Evaluation Methodologies for Authentication Mechanisms, Attack and Counter-Attack Techniques (Spoofing and Anti-Spoofing)	Lectures	**7,5**
Cloud Security, Software Defined Networking (SDN) and Network Function Virtualization (NFV)	Lectures/ Labs	**16,5**
IoT Services Security and Cyber Range Exercises	Lectures/ Labs	**18**
Secure Software Development	Lectures/ Labs	**33**
Wireless Network Security	Lectures/ Labs	**7,5**
STP – Scientific and Technical Project "Monitoring, Detection and Mitigation of VoIP/SIP Attacks: Simulation and Deployment"	Projet	**171,5**
Security Operations Centre (SOC) and SIEM Industrial Visit (Orange Cyberdefense)	visits	**4**
Raspberry Pi Laboratory Sessions	Labs	**31,5**
Applied Research Project and Literature Review	Labs	**76,5**
VoIP, SDN, OpenFlow, sFlow and JSON Technologies	Lectures	**9**
Academic and Professional Support		**40**
Internship Search Support and Career Guidance	Workshops	**20**
Professional Thesis Supervision and Coaching	Workshops	**20**
24-week Industrial Internship (max : 924h)		**924**