COURSE CATALOGUE - MSC PROGRAMS

FALL 2025

International students enrolled in the ECE Exchange Programs can select English taught courses from the following Masters of Science programs:

- MSc Data Management
- MSc Artificial Intelligence
- MSc Cybersecurity Management
- Msc Technology Management & Entrepreneurship
- MSc Sustainable Energy Future

Please note that **all the English taught courses are taught at the Master's level.** Please take into account that **courses from different programs cannot be mixed**. Allocation to program and courses will be done **based on student completion of prerequisites and availabilities.**

Starting and ending dates will vary according to the program.

PROGRAMS	COURSES AND EXAMINATIONS
MSc Data Management	September 22th 2025 to December 19th 2025
MSc Artificial Intelligence	
MSc Cybersecurity Management	
MSc Sustainable Energy Future	

ABOUT

>A HIGH-LEVEL PROFESSIONAL POSTGRADUATE COURSE IN DIGITAL TECHNOLOGIES

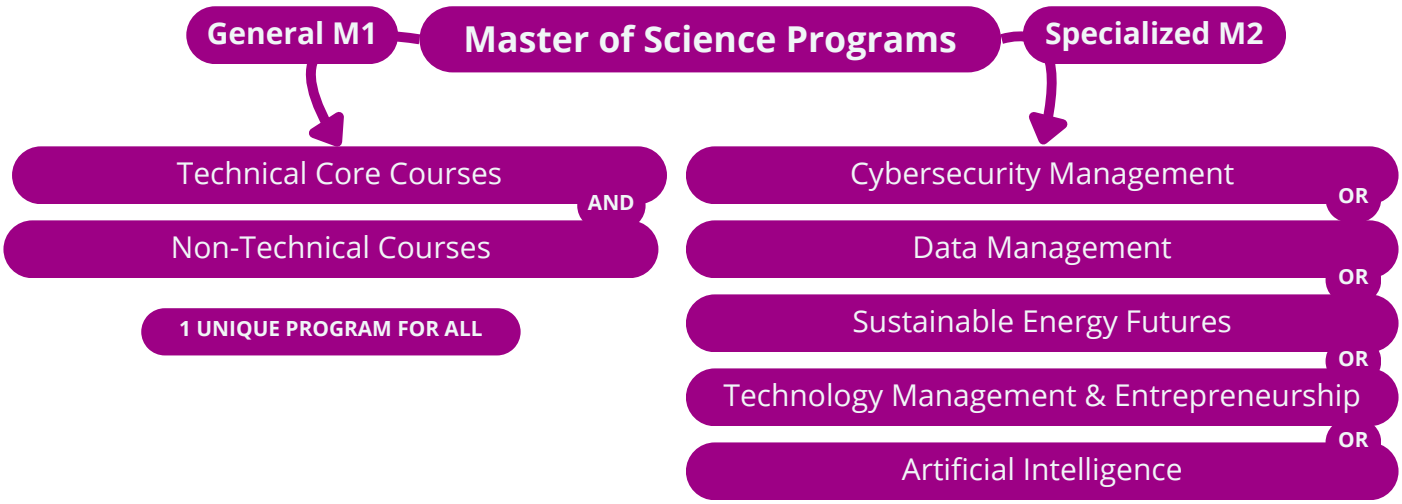
ECE Masters of Science Programs are **specialized training programs** whose ambition is to prepare our graduates to take up the challenges posed by the **digital and environmental transitions.** They implement a pedagogy of excellence that allows the consolidation of **scientific and technical fundamentals** while developing the **managerial skills** required by any future decision-maker.

THE FREEDOM TO CHOOSE YOUR PATH

At ECE, each student **chooses freely their path according to their tastes, personal aptitudes and professional project.**

All M1 courses in Fall are core courses - specializations courses are scheduled only in Spring.

Starting from M2, you will be able to apply for a specialized program.



COURSE CATALOGUE - MSC PROGRAMS - FALL 25

MSC - M1

FIRST SEMESTER - ENGLISH

MODULES	COURSES	HOURS	33 ECTS	ATTENDANCE
Core Courses	Digital Transformation and Business Models	18	3	In-person
	Digital Ecosystem and Regulation	12	2	In-person
	Information Systems Design	18	3	In-person
	Exploration of Disruptive Technologies	18	3	Hybrid (12h In-person, 6h online)
	DevOps Practices and Continuous Integration	18	3	In-person
	Information Systems Architecture and Performance	18	3	In-person
	Internet of Things and Connected Systems	18	3	In-person
	Blockchain and Crypto-economy	12	2	Hybrid (10h In-person, 2h online)
	AI Lab Project	30	3	In-person
	Data Science Project Management with Python	30	3	In-person
	French courses	30	5	In-person

COURSE CATALOGUE - MSC PROGRAMS - FALL 25

MSC DATA MANAGEMENT - M2

FIRST SEMESTER - ENGLISH

>ABOUT THE PROGRAM

This program will provide the managerial and technical skills required to master **Big Data analysis** in order to collect the information needed to make strategic decisions and create innovative services. You will learn **how to create information systems using data from its collection to its analysis and artificial intelligence techniques.**

>PREREQUISITES

A first-class undergraduate degree with honors in **mathematics** (covering calculus, linear algebra and statistics) and **computer science** (covering programming, data structures and algorithms), with some exposure to databases or information systems preferred.

MORE INFO HERE

MODULES	COURSES	HOURS	33 ECTS	ATTENDANCE
Core courses	Ethics of Digital Technologies	12	1	In-person
	French as a Foreign Language	30	5	In-person
Specializations	Mathematics for Data Science	18	2	In-person
	Advanced Machine Learning	24	3	In-person
	Deep Learning	18	3	In-person
	Data Analytics pipeline	18	3	Online
	Big Data Infrastructures	18	3	In-person
	Secure Data Architectures	18	3	In-person
	Generative AI for Data Engineering	18	3	In-person
	Cloud Computing Platforms	18	3	Online
	Data Geopolitics and Digital Sovereignty	18	2	In-person
	Emerging Data Architectures and Quantum Data Management	18	2	Online

COURSE CATALOGUE - MSC PROGRAMS - FALL 25

MSC ARTIFICIAL INTELLIGENCE - M2

FIRST SEMESTER - ENGLISH

>ABOUT THE PROGRAM

This program will provide the managerial and technical skills required to master **Big Data analysis** in order to collect the information needed to make strategic decisions and create innovative services. You will learn **how to create information systems using data from its collection to its analysis and artificial intelligence techniques.**

>PREREQUISITES

A first-class undergraduate degree with honors in **mathematics** (covering calculus, linear algebra and statistics) and **computer science** (covering programming, data structures and algorithms), with some exposure to databases or information systems preferred.

MORE INFO HERE

MODULES	COURSES	HOURS	33 ECTS	ATTENDANCE
Core courses	Ethics of Digital Technologies	12	1	In-person
	French as a Foreign Language	30	5	In-person
Specializations	Generative AI and Diffusion Models	30	4	Hybrid (24h In-person, 6h Online)
	Multi-LLM Architectures and Eco-Responsible AI	30	4	Hybrid (24h In-person, 6h Online)
	Distributed Systems and Cloud Computing in AI	30	4	In-person
	Emerging Technologies in AI	30	4	Hybrid (24h In-person, 6h Online)
	AI for Transformation and Interoperability	30	3	In-person
	Digital Ecosystems and Innovation Platforms	30	4	Hybrid (24h In-person, 6h Online)
	Impact and Regulation of Artificial Intelligence	18	2	In-person
	Security and Data Protection in Artificial Intelligence	18	2	In-person

COURSE CATALOGUE - MSC PROGRAMS - FALL 25

MSC CYBERSECURITY MANAGER - M2

FIRST SEMESTER - ENGLISH

- **Object-Oriented Programming:** Proficiency in an object-oriented programming language (Java or Python).
- **Essential Specific Knowledge:** Basic Python programming, In-depth knowledge of network systems (TCP/IP, firewalls, access management), Information Systems and Networks Security, Cybersecurity in cloud environment, Database management, Symmetric and asymmetric cryptography, Applied mathematics

MODULES	COURSES	HOURS	33 ECTS	ATTENDANCE
Core courses	Ethics of Digital Technologies	12	1	In-person
	French as a Foreign Language	30	5	In-person
Specializations	Cybersecurity Standards and Regulations	18	2	10h In-person/Online 6h Self-paced
	Identity & Access Management	18	3	In-person
	Cybersecurity Risk management	24	4	20h In-person 2h Self-paced
	Advanced Cryptography	30	5	24h In-person 4h Self-paced
	Assets, Threats, and Vulnerabilities	30	5	24h In-person 4h Self-paced
	Ethical Hacking and Penetration Testing	24	3	20h In-person 2h Self-paced
	Deepfake Detection and Digital Forensics	24	3	20h In-person 2h Self-paced
	Geopolitics of Cybersecurity and International Cyber Policy	18	2	12h In-person/Online 4h Self-paced

COURSE CATALOGUE - MSC PROGRAMS - FALL 25

MSC SUSTAINABLE ENERGY FUTURE - M2

FIRST SEMESTER - ENGLISH

MODULES	COURSES	HOURS	33 ECTS	ATTENDANCE
Core courses	Ethics of Digital Technologies	12	1	In-person
	French as a Foreign Language	30	5	In-person
Specializations	Energy Systems Performance Analysis	18	3	In-person
	Energy Resource Management and Optimization	18	3	In-person
	Sustainable Energy Transition Strategies	18	3	In-person
	Decision support for energy integration	18	3	In-person
	Circular Economy and Energy System	12	1	In-person
	Intelligent energy systems (Smart Grids)	18	3	In-person
	IoT and captors for energy	18	3	In-person
	Big Data and energy data analysis	18	3	In-person
	Energy Traceability Technologies	12	1	In-person
	Energy Transition and Sustainable Policies	18	2	In-person
	Climate Change and Risk Management	18	2	In-person