

Structure

The Programme will be structured into 2 years:

- Year 1 – M1: basic studies common to all Partners
 - General studies (languages, soft skills, ...)
 - Mathematics/Programming/Security
 - Communications
 - Data Science
- Year 2 – M2: specialization studies, specific to all Partners, Project, and Thesis
 - Communications, Automation, and Machine Learning (Aalto U.)
 - Communications, Data Science, and CyberSecurity (Grenoble INP)
 - Communications and Data Science (U. Lisboa)

Content

- Aalto U. (in blue: offered as remote course to 1st year students from other Universities)

Year	Area	Credits	Course Name	Credits
1st	General studies	6	ELEC-E0110 Academic skills in MSc studies	3
			Compulsory Language course	3
	Communications	10-15	ELEC-E7130 Internet Traffic Management and Analysis	5
			ELEC-E7230 Mobile communication Systems	5
	Data Science	8-13	CS-C3240 Machine learning	5
			CS-C1000 Artificial Intelligence	3
	Mathematics and Programming	5	MS-E1600 Probability Theory	5
Specialization	5	Track-specific specialization course ELEC-C8201 Control and Automation	5	
Project	6	Project Course	6	
2nd	Communications	5-15	ELEC-E7910 Special Project in Communications Engineering	5
	Data Science	5-15	ELEC-E7260 Machine Learning for Mobile Systems	5
	Automation	10-20	ELEC-E8123 Networked Control Systems	5
ELEC-E8101 Digital and optimal control			5	
MSc thesis	30	M.Sc. Thesis	30	

- Grenoble INP (in blue: offered as remote course to 1st year students from other Universities)

Year	Area	Credits	Course Name	Credits
1st	General studies	7	Research Methodology (elective)	3
			Technical Writing and Speaking in English	3

			French as a Foreign Language (elective)	3	
			French Culture for Foreigners	4	
			Python (elective)	4	
			Other from other Universities (elective)	4	
	Communications	13		Principles of Internet	8
				Digital Transmission from Técnico Lisboa	5
	Programming	12		Data Base Foundations	6
				Algorithmic Problem Solving	6
	Security	10		Introduction to Cybersecurity	10
	Project	6		Project Course	6
2nd	Communications	12	Wireless Networks an IoT	3	
			Mobile Communication Systems	4	
			Advanced Data Networks	5	
	Data Science	12		Fundamentals of Probabilistic Data Mining	3
				Machine Learning Fundamentals	3
				Advanced Algorithms for Machine Learning and Data Mining	3
	Security	9		Network Security	9
MSc thesis	30		M.Sc. Thesis	30	

- U. Lisboa (in blue: offered as remote course to 1st year students from other Universities)

Year	Area	Credits	Course Name	Credits	
1st	General studies	12	Engineering Project Management	6	
			"Soft skills option"	6	
	Communications	18		Digital Transmission	6
				Mobile Networks and Internet of Things	6
				Multimedia Communication	6
	Data Science	24		Object Oriented Programming	6
				Statistical Methods in Data Mining	6
Data Analysis and Integration				6	
Project	6		Information Systems and Data Bases	6	
2nd	Communications	18		Project in Electrical and Computers Eng.	6
				High Speed Networks	6
				Mobile Communications Systems	6
	Data Science	12		Programmable Networks	6
				Data Coding and Compression	6
MSc thesis	30		Machine Learning	6	
			M.Sc. Thesis	30	

- This programme structure is the basic one. Students will be able of choosing some alternative courses within each area.

The Project course in the 1st year will be done in teams of 3 students, one from each Partner.

The M.Sc. thesis should be co-supervised by a professor of the host Partner university and another from the home one.