MASTER'S DEGREE PROGRAM

Data Science and Advanced Analytics | Study plan 2026-27

NOVA IMS
INFORMATION MANAGEMENT SCHOOL

Year	Group Name	Curricular Unit (UC)	ECTS	Specialization: Business Analytics	Specialization: Data Science	Specialization: Data Engineering and Scalable Technologies	Specialization: Artificial Intelligence and Computational Systems
1st Year	Core Data Science and Analytics Techniques	Data Mining	7.5	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Elective UC
		Data Stream Mining	7.5				Mandatory UC
		Machine Learning	7.5	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Elective UC
		Exploratory Topics in Artificial Intelligence	7.5				Mandatory UC
		Statistics for Data Science	7.5	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Choose at least 7.5 ECTS (1 UC)	Elective UC
		Statistical Modeling	7.5				Mandatory UC
	Business--Oriented Analytics	Business Cases with Data Science	7.5	Choose at least 18 ECTS (3 UC)	Elective UCs	Elective UCs	Elective UCs
		Business Intelligence	7.5				
		Business Process Analytics	3.5				
		Ethics in Data Science	7.5				
		Digital Transformation	3.5				
	Advanced and Emerging AI Techniques	Deep Learning	7.5	Elective UCs	Choose at least 7.5 ECTS (1 UC)	Choose at least 8 ECTS (2 UCs)	Choose at least 7.5 ECTS (1 UC)
		Computational Intelligence for Optimization	7.5				
		Explainable AI	4		Choose at least 8 ECTS (2 UCs)		Mandatory Course Units (16 ECTS)
		Neural and Evolutionary Learning	4				
		Reinforcement Learning	4				
		Natural Language Processing	4				
		Network Analysis	4				Elective UC
	Big Data and Cloud Computing	Big Data Modelling and Management	3.5	Choose at least 3.5 ECTS (1 UC)	Choose at least 3.5 ECTS (1 UC)	Choose at least 7 ECTS (2 UCs)	Elective UCs
		Big Data and Cloud Computing	3.5				
		Big Data Analytics	3.5	Elective UCs	Elective UCs		
		Blockchain Development	3.5				
	Technology and Infrastructure	Programming for Data Science	4	Choose at least 4 ECTS (1 UC)	Choose at least 4 ECTS (1 UC)	Choose at least 4 ECTS (1 UC)	Unavailable in this specialization
		Programming Methods	4				Mandatory UC
		Storing and Retrieving Data	4	Elective UCs	Choose at least 4 ECTS (1 UC)	Choose at least 8 ECTS (2 UCs)	Unavailable in this specialization
		Parallel Computing	4				Elective UCs
		MLOPs	4				
2nd Year	Thesis	Research Methodologies	6	Mandatory UCs (60 ECTS)	Mandatory UCs (60 ECTS)	Mandatory UCs (60 ECTS)	Mandatory UCs (60 ECTS)
		Master Thesis	54				
		Total Mandadory ECTS		108 ECTS	109.5 ECTS	109.5 ECTS	110 ECTS
		Total Elective ECTS		12 ECTS	10.5 ECTS	10.5 ECTS	10 ECTS

FIELDS OF STUDY Business and Information Management Data Science and Analytics