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[data engineer curriculum](#) [2]

Data Engineer

Department of Data Science Engineer

Curriculum

The training is organized in three semesters (S1, S2, S3) allowing to provide all engineering students of the program with a solid background in scientific and technical tools. At the end of the two semesters S4 and S5, specialization courses representing a main issue for the profession "Data Engineer", are provided. Semester 6 is reserved for a final year project.

S1	Basic and specialized scientific and technical modules	Mathematics for data sciences	Algebra
			Probability and statistics
		Telecommunication basics	Introduction to telecommunication systems
			Introduction to telecommunication networks
		The engineer and their societal environment	Project management
	Role and ethical responsibilities		
	Algorithms and programming I	Algorithms and data structures	
		Object oriented programming	

	Systems and Networks I	Introduction to
		Computer net
	Electronics	Analogue and
		Computer and
	Optimization tools	Numerical ana
		Operational re
Language, Communication and ICT modules.	Languages and Communication	English Studie
		Expression an
Basic and specialized scientific and technical modules	Modeling and Statistics	Applied Statist
		Stochastic Mo
		S2 MS3: Data
	Fundamental computer science	Design and ar
		Language the
		Theoretical co
	Systems Administration	Operating sys

		System Admin
	Networks & Telecoms	Introduction t
		Corporate net
	Databases	Unstructured
		Relational Da
Management modules	Corporate finance	Financial acco
		Financial diag
Language, Communication and ICT modules.	Languages and Communication	English
		Expression an
	Project	Mini-project e Business vent
	Project	Mini-Project :
S3	Basic and specialized scientific and technical modules	Analysis and Design of Software Systems
		Object-orient
		Software dev
		WEB / J2EE pr
	Advanced programming	Parallelism an

		Client-server
	Virtualization, Cloud and Distributed Architecture	Virtualization Cloud Computing Architecture
	Foundations of Big Data	Introduction to Introduction to
	TCP / IP Networks and Security	TCP/IP protocols Basics of security Security Systems
	Multivariate Statistical Models	Regression models Time series
Management Modules	Management Techniques	project Management Risk Management
Language, Communication and ICT modules.	Languages and Communication	English Expression and
Basic and specialized scientific and technical	Advanced Algorithms and Intelligent Systems	Logic Programming

modules		Machine Learning Algorithmic Programming Advanced Learning Data mining Text Mining (and Analytics) Data warehouse Real time systems Real-time P2P Geographic Information Systems IT project Management IT service management
Management Modules	Marketing and usages 2.0	Traditional marketing Digital Marketing
Language, Communication and ICT	Languages and Communication	English

S5	modules.		Expression an
		Project (Research & Development)	Mini-Project D
			Mini-Project B
	Basic and specialized scientific and technical modules	Big Data and Advanced NoSQL	Advanced NoS
			Advanced Big
		Advanced Secure Mobile and Web Development	Cross platform
			Development
		GRSSI	Governance o
		IT security sta	
	Digital transformation and customer relationship	TDRC 1	
		CRM	
		TDGRC 2 Digi	
	Information System Security Management	Risk Analysis	
		Security audit	
	Cycle of conferences and seminars	challenge / ca	

		Management
		Knowledge Re
Management modules	Protection of personal data and intellectual property rights	Cyber Law
		Intellectual pr
Language, Communication and ICT modules.	Languages and Communication	English
		Expression an
Final year project		

[3] [Return](#) [4]

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