

STUDY PLAN

Computer Engineering Year 1 (Semester 1)										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U1.1	Engineering Tools I	<u>Engineering Mathematics (Discrete Math)</u>	42	0	0	35	3	7	3	7
		<u>Acquisition and Digital Signal Processing</u>	18	3	0	30	2		2	
		<u>Introduction to Artificial Intelligence *</u>	21	0	0	30	2		2	
U1.2	Programming I	<u>Algorithmics and Data Structures</u>	42	0	0	35	3	9	3	9
		<u>C Programming Workshop *</u>	0	21	21	35	3		3	
		<u>Web Development I</u>	0	21	21	35	3		3	
U1.3	Network and Architecture I	<u>Introduction to Networks (CCNA Certification Level 1) *</u>	0	21	21	14	2	4	2	4
		<u>Computer Architectures & Microprocessors</u>	21	0	0	30	2		2	
U1.4	Systems and Database	<u>Operating Systems Fundamentals</u>	21	21	0	14	2	5	2,5	5
		<u>Database Fundamentals</u>	21	21	0	35	3		2,5	
U1.5	Languages and Communication I	<u>Communication Techniques</u>	21	0	0	21	1,5	3	1,5	3
		<u>Technical English I</u>	21	0	0	21	1.5		1.5	
U1.6	Project	<u>Supervised Project I</u>	0	0	21	30	2	2	2	2
SUB TOTAL			228	108	84	365	30	30	30	30
Total Semester Workload			785							

One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

(*) Module taught in English Language

Computer Engineering Year 1 (Semester 2)										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U2.1	Engineering Tools II	<u>Probability and statistics</u>	31,5	0	0	35	2,5	5	2,5	5
		<u>Operational Research and Optimization</u>	31,5	0	0	35	2,5		2,5	
U2.2	Object Oriented Programming	<u>Object-Oriented Programming</u>	21	21	10,5	42	4	7	4	7
		<u>Object Oriented Modeling</u>	42	0	0	35	3		3	
U2.3	DBMS and Cyber Security	<u>Database Management Systems (DBMS)</u>	21	21	0	35	3	5	3	5
		<u>Introduction to Cyber Security</u>	21	10,5	0	21	2		2	
U2.4	Programming II	<u>Python Programming Language *</u>	10,5	10,5	10,5	21	2	4	2	4
		<u>Web Development II</u>	0	21	10,5	21	2		2	
U2.5	Network and Architecture II	<u>System Architecture, Embedded Systems and IoT</u>	9	12	0	21	1,5	4	1,5	4
		<u>Computer Networks (CCNA Certification Level 2) *</u>	0	21	21	21	2,5		2,5	
U2.6	Languages and Communication II	<u>Engineering Ethics</u>	21	0	0	21	1,5	3	1,5	3
		<u>Technical English II</u>	21	0	0	21	1,5		1,5	
U2.7	PROJET	<u>Supervised Project II</u>	0	0	21	30	2	2	2	2
SUB TOTAL			229,5	117	73,5	359	30	30	30	30
Total Semester Workload			779							

One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

(*) Module taught in English Language

Computer Engineering Year 2 (Semester 3)										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U3.1	Optimization	<u>Language Theory and Compilation</u>	21	0	0	21	2	7	2	7
		<u>Graph theory</u>	21	0	0	21	2		2	
		<u>Complexity and Optimization of Algorithms</u>	31,5	0	0	35	3		3	
U3.2	Web Programming	<u>Advanced web programming</u>	0	21	21	35	3	6	3	6
		<u>JEE Technologies</u>	0	21	21	35	3		3	
U3.3	Advanced Databases	<u>Distributed Databases</u>	21	21	0	35	3	6	3	6
		<u>Data Mining</u>	21	21	0	21	3		3	
U3.4	Big Data & Cloud	<u>Big Data *</u>	0	21	21	42	3	6	3	6
		<u>Virtualization and cloud computing *</u>	21	21	0	35	3		3	
U3.5	Soft skills & Languages I	<u>Scientific Writing *</u>	0	0	21	21	1,5	5	1,5	5
		<u>Project management</u>	21	0	0	21	1,5		1,5	
		<u>English TOIEC I</u>	21	0	0	21	2		2	
SUB TOTAL			178,5	126	84	343	30	30	30	30
Total Semester Workload			700,5							

One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

(*) Module taught in English Language

Computer Engineering Year 2 (Semester 4) – Option 1: Software engineering										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U4.1	Advanced Web Technologies	<u>JEE Framework (Spring Boot)</u>	0	21	21	35	3	6	3	6
		<u>Server-side Javascript (Node JS)</u>	0	21	21	35	3		3	
U4.2	Software Engineering I	<u>Software Engineering</u>	0	0	21	21	3	7	3	7
		<u>Software Validation & Verification (ISTQB)</u>	21	21	0	35	2		2	
		<u>Collaborative Work Tools (git)</u>	0	0	21	21	2		2	
U4.3	Software Architecture	<u>Service Oriented Architecture (SOA)</u>	0	21	21	21	3	6	3	6
		<u>Software Architecture and Design Patterns</u>	21	21	0	21	3		3	
U4.4	Data science	<u>Machine Learning *</u>	0	21	21	42	3	6	3	6
		<u>Business Intelligence *</u>	0	21	21	42	3		3	
U4.5	Soft skills & Languages II	<u>Business Management</u>	21	0	0	21	1,5	3	1,5	3
		<u>English TOIEC II</u>	42	0	0	35	1,5		1,5	
U4.6	Project	<u>End of Year Project</u>	0	0	21	42	2	2	2	2
Total Semester Workload			105	147	168	329	30	30	30	30

One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

(*) Module taught in English Language

Computer Engineering Year 2 (Semester 4) – Option 2: Artificial Intelligence										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U4.1	Statistics	<u>Inferential Statistics</u>	21	21	0	35	3	6	3	6
		<u>Statistics Workshop with R</u>	0	21	0	21	3		3	
U4.2	Artificial Intelligence	<u>Deep Learning *</u>	0	21	21	42	3	9	3	9
		<u>Multi-agent Systems</u>	21	21	0	21	3		3	
		<u>Data Preprocessing and Visualization *</u>	0	21	21	35	3		3	
U4.3	Information Technologies	<u>BlockChain Technology</u>	21	0	0	21	2	4	2	4
		<u>Information Technology Management (ERP, CRM)</u>	21	0	0	21	2		2	
U4.4	Data science	<u>Machine Learning *</u>	0	21	21	42	3	6	3	6
		<u>Business Intelligence *</u>	0	21	21	42	3		3	
U4.5	Soft skills & Languages II	<u>Business Management</u>	21	0	0	21	1,5	3	1,5	3
		<u>English TOIEC II</u>	42	0	0	35	1,5		1,5	
U4.6	Project	<u>End of Year Project</u>	0	0	21	42	2	2	2	2
			147	147	105	378	30	30	30	30
Total Semester Workload			777							

The Total Semester ECTS Credits = 30 One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

() Module thought in English Language*

Computer Engineering Year 3 (Semester 5) – Option 1: Software engineering										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U5.1	Software Engineering II	<u>Micro-service Architecture</u>	0	21	21	35	2	4	2	4
		<u>DevOps</u>	0	21	21	35	2		2	
U5.2	Advanced Web Programming	<u>Python Web Framework (Django)</u>	0	21	21	35	3	9	3	9
		<u>.NET Technologies</u>	0	21	21	35	3		3	
		<u>Front-end Framework *</u>	0	21	21	21	3		3	
U5.3	Mobile and Java Programming	<u>Mobile Programming</u>	0	21	21	35	3	6	3	6
		<u>Advanced Java Programming (OCA Certification)</u>	21	21	0	35	3		3	
U5.4	Information Technologies	<u>BlockChain Technology</u>	21	0	0	21	2	4	2	4
		<u>Information Technology Management (ERP, CRM)</u>	21	0	0	21	2		2	
U5.5	Advanced Databases	<u>Database Administration</u>	21	21	0	21	2	4	2	4
		<u>NoSQL Databases *</u>	21	21	0	21	2		2	
U5.6	Entrepreneurship and Marketing	<u>Entrepreneurship and innovation</u>	21	0	0	10,5	1,5	3	1,5	3
		<u>Digital Marketing</u>	21	0	0	10,5	1,5		1,5	
			147	189	126	336	30	30	30	30
Total Semester Workload			798							

One semester of study length is 14 weeks and 1 week for exams

The Total Semester ECTS Credits = 30

(*) Module thought in English Language

Computer Engineering Year 3 (Semester 5) – Option 2: Artificial Intelligence										
Code	UNIT	Modules	Semester Credit Hours				COEFFICIENT		ECTS Credits	
			Lecture	Workshop	Project	Self-Study	Module	Unit	Module	Unit
U5.1	Analysis and Optimization Methods	<u>Time Series Analysis</u>	21	21	0	21	3	6	3	6
		Optimization and heuristics	21	21	0	21	3		3	
U5.2	Advanced IA	<u>Natural Language Processing</u>	0	21	21	42	3	9	3	9
		<u>Computer Vision</u>	0	21	21	42	3		3	
		<u>Generative IA</u>	0	21	21	42	3		3	
U5.3	Intelligent Systems	<u>Federated Learning *</u>	21	0	0	21	2	4	2	4
		<u>Recommender Systems *</u>	0	21	21	35	2		2	
U5.4	Project Management and Governance	<u>Data Science Project Management & MLOps *</u>	0	0	21	35	2,5	4	2,5	4
		<u>Data Governance *</u>	21	0	0	21	1,5		1,5	
U5.5	Advanced Databases	<u>Database Administration</u>	21	21	0	21	2	4	2	4
		<u>NoSQL Databases *</u>	21	21	0	21	2		2	
U5.6	Entrepreneurship and Marketing	<u>Entrepreneurship and innovation</u>	21	0	0	10,5	1,5	3	1,5	3
		<u>Digital Marketing</u>	21	0	0	10,5	1,5		1,5	
			168	168	105	343	30	30	30	30
Total Semester Workload			784							

One semester of study length is 14 weeks and 1 week for exams
The Total Semester ECTS Credits = 30

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Computer Engineering Year 3 (Semester 6)				
Code	UNIT	Credit Hours	COEFFICIENT	ECTS Credits
U 6.1	<u>Graduation Research Project (4-6 months)</u>	560	20	20
U 6.2	<u>Internship 1 (1-2 months)</u>	140	5	5
U 6.3	<u>Internship 2 (1-2 months)</u>	140	5	5
Total Semester Workload		840	30	30

The Average Workload during Internship is 35H/Week
The Total Semester ECTS Credits = 30