

Studies Plan

Informatique 2023-24

Block "Projects & SHS"

Courses			Master 1	Master 2	Exam Session	Exam	Credit
Language	Code	Section	Teacher	Specialization	on p	l e p	
E	Research project in Computer Science II						
	CS-498	IN	Profs divers		2h	2h	Sum
							Win
							During the semester
							3
							3

Group 1

Courses			Master 1	Master 2	Exam Session	Exam	Credit
Language	Code	Section	Teacher	Specialization	on p	l e p	
E	Advanced computer architecture						
	CS-470	IN	lenne		3h	2h	Sum
							Written
							8
E	Algorithms II						
	CS-450	IN	Svensson		4h	3h	Win
							Written
							8
E	Cryptography and security						
	COM-401	SC	Vaudenay		4h	2h	Win
							Written
							8
E	Decentralized systems engineering						
	CS-438	IN	Borsò		2h	2h	2h
							Win
							Oral
							8
E	Distributed algorithms						
	CS-451	SC	Guerraoui		2h	1h	3h
							Win
							Written
							8
E	Information security and privacy						
	COM-402	IN	Payer		3h	1h	2h
							Win
							Written
							8
E	Machine learning						
	CS-433	IN	Flammarion Jaggi		4h	2h	
							Win
							Written
							8
E	Modern natural language processing						
	CS-552	IN	Bosselut		3h	2h	1h
							Sum
							During the semester
							8
E	Systems for data management and data science						
	CS-460	IN	Ailamaki Kermarrec		2h	2h	2h
							Sum
							Written
							8
E	TCP/IP networking						
	COM-407	SC	Nikolopoulos		2h	2h	2h
							Win
							Written
							8

Group 2 : Options

Courses			Master 1	Master 2	Exam Session	Exam	Credit
Language	Code	Section	Teacher	Specialization	on p	l e p	
E	Advanced compiler construction						
	CS-420	IN	Schinz		2h	2h	Sum
							During the semester
							6
E	Advanced computer graphics						
	CS-440	IN	Jakob		2h	2h	Sum
							During the semester
							6
E	Advanced cryptography						
	COM-501	SC	Vaudenay		2h	2h	Sum
							Written
							6
E	Advanced multiprocessor architecture						
	CS-471	IN	Falsafi		4h		Win
							During the semester
							6
E	Advanced probability and applications						
	COM-417	SC	Shkel		4h	2h	Sum
							Written
							8
E	Advanced topics on privacy enhancing technologies						
	CS-523	IN	González Troncoso		3h	1h	2h
							Sum
							Written
							8

E	AI product management CS-500	IN	Kaboli Roshan Zamir	2h 2h 3h		Win	During the 6 semester
E	Applied biomedical signal processing EE-512	EL	Lemay	2h 2h		Win	Written 4
E	Applied biostatistics MATH-493	MA	Goldstein		2h 2h	Sum	During the 5 semester
E	Applied data analysis CS-401	SC	West	2h 2h		Win	Written 8
E	Artificial neural networks/reinforcement learning CS-456	IN	Gerstner		2h 2h	Sum	Written 6
E	Automatic speech processing EE-554	EL	Magimai Doss	2h 1h		Win	Written 3
E	Basics of mobile robotics MICRO-452	MT	Mondada	2h 2h		Win	Written 4
E	Bioimage informatics BIO-410	SV	Sage Seitz		2h 2h	Sum	Written 4
E	Causal inference MGT-416	MTE			2h 1h	Sum	During the 4 semester
E	Causal thinking MATH-352	MA	Stensrud	2h 2h		Win	Written 5
E	Cellular biology and biochemistry for engineers BIO-105	SV	Zufferey	2h 2h		Win	Written 4
E	Computational complexity CS-524	IN	Sokolov	2h 2h		Win	During the 6 semester
E	Computational neurosciences: neuronal dynamics NX-465	NX	Gerstner		2h 2h	Sum	Written 5
E	Computational photography CS-413	SC	Süsstrunk		2h 2h	Sum	During the 6 semester
E	Computers and music COM-418	SC			2h 1h	Sum	During the 6 semester
E	Computer vision CS-442	IN	Fua		2h 1h	Sum	Written 6
E	Concurrent computing CS-453	SC	Guerraoui	2h 1h 2h		Win	Written 6
E	Data visualization COM-480	SC	Vuillon		2h 2h	Sum	During the 6 semester
E	Deep learning EE-559	EL	Cavallaro		2h 2h	Sum	During the 4 semester
E	Deep learning in biomedicine CS-502	IN	Brbic	2h 2h 1h		Win	During the 6 semester
E	Design technologies for integrated systems CS-472	IN	De Micheli	3h 2h		Win	During the 6 semester
E	Digital education CS-411	IN	Dillenbourg Jermann	2h 2h		Win	Written 6
E	Distributed information systems CS-423	SC	Aberer	2h 1h		Win	Written 6
E	Distributed intelligent systems ENG-466	SIE			2h 3h	Sum	Oral 5
E	Dynamical system theory for engineers COM-502	SC			2h 1h	Sum	Written 6
E	Embedded system design CS-476	IN	Kluter		2h 2h	Sum	During the 6 semester
E	Ethics and law of AI DH-415	DH	Rochel	2h 1h		Win	Written 4
E	Experience design CS-489	IN	Huang	2h 4h		Win	During the 6 semester

E	Formal verification CS-550	IN	Kuncak	2h	2h	2h	Win	During the semester	6	
E	Foundations of probabilistic proofs CS-459	IN	Chiesa	4h	1h		Win	During the semester	6	
E	Foundations of software CS-452	IN	Doeraene	2h	2h		Win	Written	6	
E	Geometric computing CS-457	IN	Pauly	3h	2h		Win	Written	6	
E	Gödel and recursivity MATH-483	MA		2h	2h		Win	Written	5	
E	Image processing I MICRO-511	MT	Unser Van De Ville	3h			Win	Written	3	
E	Image processing II MICRO-512	MT	Liebling Sage Unser Van De Ville		3h		Sum	Written	3	
E	Industrial automation CS-487	SC	Sommer Tournier		2h	1h	Sum	Oral	3	
E	Information theory and coding COM-404	SC	Telatar	4h	2h		Win	Written	8	
E	Intelligent agents CS-430	IN	Faltings	3h	3h		Win	During the semester	6	
E	Interaction design CS-486	IN	Pu Faltings		2h	1h	1h	Sum	During the semester	6
E	Introduction to IT consulting CS-491	IN	Regev	6h			Win	Oral	6	
E	Introduction to natural language processing CS-431	IN	Bosselut Chappelier Rajman	2h	2h		Win	Written	6	
E	Learning theory CS-526	IN	Macris		2h	2h	Sum	Written	6	
E	Machine learning for behavioral data CS-421	IN			2h	2h	Sum	Written	6	
E	Markov chains and algorithmic applications COM-516	SC	Lévêque Macris	2h	1h	1h	Win	Written	6	
E	Mathematical foundations of signal processing COM-514	SC		3h	2h		Win	Written	6	
E	Mobile networks COM-405	SC			3h	2h	Sum	Written	8	
E	Modern digital communications: a hands-on approach COM-430	SC	Chiurtu	2h	2h		Win	During the semester	8	
E	Networks out of control COM-512	SC	Grossglauser Thiran		2h	1h	Sum	Written	6	
E	Number theory II.c - Cryptography MATH-489	MA	Jetchev	2h	2h		Sum	Written	5	
E	Optimization for machine learning CS-439	IN	Flammarion Jaggi		2h	2h	1h	Sum	Written	8
E	Optional research project in computer science II CS-596	IN	Profs divers		8h		8h	Sum Win	During the semester	8
E	Principles of computer systems CS-522	IN	Argyrazi Candea	4h			Win	During the semester	8	
F	Project management and risk analysis MGT-427	MTE	Wieser	2h	1h		Win	During the semester	4	

E	Social media EE-593	EL		1h	1h	Sum	During the 2 semester
E	Software security CS-412	IN	Payer	3h	2h 1h	Sum	During the 6 semester
E	Statistical physics of computation PHYS-512	PH	Krzakala Zdeborová	2h	2h	Win	Written 4
E	Statistical signal and data processing through applications COM-500	SC	Ridolfi	3h	2h	Sum	Written 8
E	Student seminar: security protocols and applications COM-506	SC	Vaudenay	2h		Sum	During the 3 semester
E	Sublinear algorithms for big data analysis CS-448	IN		2h	1h	Win	During the 6 semester
E	System programming for Systems-on-chip CS-473	IN	Kluter	2h	2h	Win	During the 6 semester
E	The GC maker project CS-458	IN			6h	Sum	During the 6 semester
E	Topics in software security CS-510	IN	Payer	1h	1h	Win	During the 3 semester
E	Topics in theoretical computer science CS-455	IN		3h	1h	Win	During the 6 semester
E	Virtual reality CS-444	IN	Boulic	2h	1h	Sum	During the 6 semester
E	Visual intelligence : machines and minds CS-503	IN	Roshan Zamir	2h	2h	Sum	During the 6 semester

Master project

Courses	Language	Code	Section	Teacher	Specialization	Master 1	Master 2	MP Autumn	MP Spring	Exam Session	Exam	Credit
						p	l e p	l e p	l e p			
Internship credited with Master Project (master in Computer Science)												
E		CS-595	IN	Profs divers		320h	320h	320h	320h	Sum Win	Term paper 0	
Master project in Computer Science												
E		CS-599	IN	Profs divers				900h	900h	Sum Win	Oral	30