Studies Plan

Informatique 2020-21

Master project

Language	Code	Section	Teacher	Specialization	Master 1 p	Master 2 l	e	p	MP Autumn l	e	p	MP Spring l	e	p	Exam Session	Exam	Credit
				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

Group 1

Language	Code	Section	Teacher	Specialization	Master 1 p	Master 2 l	e	p	Exam Session	Exam	Credit
				Advanced algorithms							
E	CS-450	IN	Kapralov **B C D E I**			4h	3h		Sum	Written	7
				Advanced computer architecture							
E	CS-470	IN	Ienne **A D G**			3h		2h	Sum	Written	6
				Cryptography and security							
E	COM-401	SC	Vaudenay **E G**	4h	2h				Win	Written	7
				Database systems							
E	CS-422	IN	Ailamaki **B C G**			3h	2h	2h	Sum	During the semester	7
				Decentralized systems engineering							
E	CS-438	IN	Ford **G**	2h	2h		2h		Win	Written	6
				Distributed algorithms							
E	CS-451	SC	Guerraoui **C E G I**	3h	2h		1h		Win	Written	6
				Foundations of software							
E	CS-452	IN	Odersky **C G**	2h	2h				Win	Written	4
				Information security and privacy							
E	COM-402	IN	Hubaux Oechslin **B D E**	3h	1h		2h		Win	Written	6
				Machine learning							
E	CS-433	IN	Flammarion Jaggi **B C I**	4h	2h				Win	Written	7
				TCP/IP networking							
E	COM-407	SC	Le Boudec **D E G H**	2h	2h		2h		Win	Written	6

Group 2 : Options

Language	Code	Section	Teacher	Specialization	Master 1 p	Master 2 l	e	p	Exam Session	Exam	Credit
				Advanced compiler construction							
E	CS-420	IN	Schinz **A C G**			2h		2h	Sum	During the semester	4
				Advanced computer graphics							
E	CS-440	IN	Jakob **F**			2h	1h		Sum	During the semester	6
				Advanced multiprocessor architecture							
E	CS-471	IN	**A G**	4h					Win	During the semester	6
				Advanced probability and applications							
E	COM-417	SC	Lévêque **B H I**			3h	2h		Sum	Written	6
				Advanced topics on privacy enhancing technologies							
E	CS-523	IN	González Troncoso **G**			3h	1h	2h	Sum	Written	7

	Code	Sect.	Professor	C	E	P	Sem.	Exam	Cr.
Applied biostatistics									
E	MATH-493	MA	Goldstein		2h	2h	Sum	During the semester	5
Applied data analysis									
E	CS-401	SC	West 🅱	2h	2h		Win	Written	6
Artificial neural networks									
E	CS-456	IN	Gerstner		2h	2h	Sum	Written	5
Automatic speech processing									
E	EE-554	EL	Bourlard 🅵	2h	1h		Win	Written	3
Biological modeling of neural networks									
E	BIO-465	IN	Gerstner		2h	2h	Sum	Written	4
Biomedical signal processing									
E	EE-512	EL	Vesin 🅳🅵	4h	2h		Win	Written	6
Business design for IT services									
E	CS-490	SC	Wegmann		3h		Sum	Oral	3
Cellular biology and biochemistry for engineers									
E	BIO-105	SV	Zufferey	2h	2h		Win	Written	4
Computational complexity									
E	CS-524	IN		3h	1h		Win	During the semester	4
Computational photography									
E	CS-413	SC	Süsstrunk 🅴		2h	2h	Sum	During the semester	5
Computer vision									
E	CS-442	IN	Fua 🅵		2h	1h	Sum	Written	4
Concurrent algorithms									
E	CS-453	SC	Guerraoui 🅲🅶🅸	3h	1h	1h	Win	Written	5
Data visualization									
E	COM-480	SC	Vuillon 🅱		2h	2h	Sum	During the semester	4
Deep learning									
E	EE-559	EL	Fleuret 🅳🅴🅵		2h	2h	Sum	Written	4
Design technologies for integrated systems									
E	CS-472	IN	De Micheli 🅐	3h	2h		Win	During the semester	6
Digital 3D geometry processing									
E	CS-446	IN	🅵	2h	1h	1h	Win	During the semester	5
Digital education & learning analytics									
E	CS-411	IN	Dillenbourg Jermann	2h	2h		Win	Oral	4
Distributed information systems									
E	CS-423	SC	Aberer 🅱🅴	2h	1h		Win	Written	4
Distributed intelligent systems									
E	ENG-466	SIE	Martinoli 🅐		2h	3h	Sum Win	Oral	5
Dynamical system theory for engineers									
E	COM-502	SC	Thiran	2h	1h		Win	Written	4
Embedded systems									
E	CS-473	IN	Beuchat 🅐	2h	2h		Win	Oral	4
Enterprise and service-oriented architecture									
E	CS-491	SC	Wegmann		6h		Sum	Oral	6
Experience design									
E	CS-489	IN	Huang 🅵	2h	4h		Win	During the semester	6
Formal verification									
E	CS-550	IN	Kuncak 🅐🅲	2h	2h	2h	Win	During the semester	6
Gödel and recursivity									
E	MATH-483	MA	Duparc 🅸	2h	2h		Win	Written	5
Image processing I									
E	MICRO-511	MT	Unser Van De Ville 🅵	3h			Win	Written	3
Image processing II									
E	MICRO-512	MT	Liebling Sage Unser Van De Ville 🅵		3h		Sum	Written	3
Industrial automation									
E	CS-487	SC	Sommer Tournier		2h	1h	Sum	Oral	3

	Course		Professor					Semester	Exam	Credits
	Information theory and coding									
E	COM-404	SC	Telatar 🅱️🅗ℹ️	4h	2h			Win	Written	7
	Intelligent agents									
E	CS-430	IN	Faltings	3h	3h			Win	During the semester	6
	Interaction design									
E	CS-486	IN	Pu / Faltings			2h	1h 1h	Sum	During the semester	4
	Introduction to natural language processing									
E	CS-431	IN	Chappelier 🅑 / Rajman	2h	2h			Win	Written	4
	Learning theory									
E	CS-526	IN	Macris / Urbanke			2h	2h	Sum	Written	4
	Machine learning for behavioral data									
E	CS-421	IN	Käser / Jacober			2h	2h	Sum	Written	4
	Markov chains and algorithmic applications									
E	COM-516	SC	Lévêque 🅑ℹ️ / Macris	2h	2h			Win	Written	4
	Mathematical foundations of signal processing									
E	COM-514	SC	Bejar 🅕 / Haro / Simeoni	3h	2h			Win	Written	6
	Mobile networks									
E	COM-405	SC	Hubaux 🅓🅔🅖🅗			2h	1h	Sum	Written	4
	Modern digital communications: a hands-on approach									
E	COM-430	SC	Rimoldi 🅔🅕🅗	2h		2h		Win	During the semester	6
	Networks out of control									
E	COM-512	SC	🅑🅔🅗			2h	1h	Sum	Written	4
	Number theory in cryptography									
E	MATH-489	MA	Serban 🅓			2h	2h	Sum	Written	5
	Optimization for machine learning									
E	CS-439	IN	Flammarion / Jaggi			2h	2h 1h	Sum	Written	5
	Optional project in computer science									
E	CS-596	IN	Profs divers		2h		2h	Sum / Win	During the semester	8
	Performance evaluation									
E	COM-503	SC	Le Boudec 🅑🅒🅔🅖			3h	1h 2h	Sum	Written	7
	Principles of computer systems									
E	CS-522	IN	Argyraki 🅐🅒🅖 / Candea	4h				Win	Written	7
	Probabilistic methods in combinatorics									
E	MATH-467	MA	Marcus ℹ️	2h	2h			Win	Written	5
	Real-time embedded systems									
E	CS-476	IN	Beuchat 🅐			2h	2h	Sum	During the semester	4
	Sensors in medical instrumentation									
E	EE-511	EL	Aminian 🅒🅕			2h	1h	Sum	Written	3
	Set theory									
E	MATH-318	MA	Duparc			2h	2h	Sum	Written	5
	Smart grids technologies									
E	EE-472	EL	Le Boudec / Paolone 🅗			2h	1h 2h	Sum	Written	5
	Social media									
E	EE-593	EL	Gillet 🅕			1h	1h	Sum	During the semester	2
	Software security									
E	CS-412	IN	Payer 🅓			3h	2h 1h	Sum	During the semester	6
	Statistical signal and data processing through applications									
E	COM-500	SC	Ridolfi 🅑🅕🅗			3h	2h	Sum	Written	6
	Sublinear algorithms for big data analysis									
E	CS-448	IN	ℹ️			3h		Sum	During the semester	4

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Technology ventures in IC											
E	CS-410	IN					2h	2h	Sum	*During the semester*	4
Topics in theoretical computer science											
E	CS-455	IN	Kapralov 🔴 🔵		3h	1h			Win	*During the semester*	4
Virtual reality											
E	CS-444	IN	Boulic 🟢				2h	1h	Sum	*During the semester*	4

Block "Projects & SHS"

Language	*Code*	*Section*	*Teacher*	*Specialization*	*Master 1* *p*	*l*	*Master 2* *e*	*p*	*Exam Session*	*Exam*	*Credit*
Semester project in Computer Science II											
E	CS-498	IN	*Profs divers*			2h		2h	*Sum Win*	*During the semester*	12
HSS : Introduction to project											
		SHS							Win		3
HSS : Project											
		SHS							Sum		3