

Les enseignants, les crédits et la période des cours sont indiqués sous réserve de modification.

Code	Matières	Enseignants	Sections	Crédits	Période des cours	
	Spécialisation A "COMPUTER ENGINEERING - SP"	Responsable : Prof. P. lenne		73		
CS-420	Advanced compiler construction	Schinz	IN	6		P
CS-470	Advanced computer architecture	lennen	IN	8		P
CS-471	Advanced multiprocessor architecture	Falsafi	IN	6	A	
EE-431	* Advanced VLSI design	Burg/Levisse	EL	4		P
CS-320	* Computer language processing	Kuncak	IN	6		P
CS-472	Design technologies for integrated systems	De Micheli	IN	6	A	
ENG-466	Distributed intelligent systems (pas donné en 2023-24)	Martinoli	SIE	5		P
CS-476	Embedded systems design	Kluter	IN	6		P
CS-550	Formal verification	Kuncak	IN	6	A	
EE-429	* Fundamentals of VLSI Design	Burg	EL	4	A	
EE-390a	* Lab on hardware-software digital systems codesign	Atienza/Peon	EL	3		P
EE-490b	* Lab in EDA based design	Koukab/Levisse	EL	4	A	
CS-522	Principles of computer systems	Argyaki/Candea	SC/IN	8	A	
CS-473	System programming for Systems-on-Chip	Kluter	IN	6	A	
	Spécialisation B "DATA ANALYTICS"	Responsable : Prof. M. Grossglauer/Prof. P. Thiran		122		
CS-450	Algorithms II	Svensson	IN	8	A	
COM-417	Advanced probability and applications	Shkel	SC	8		P
CS-401	Applied data analysis	West	SC	8	A	
CS-524	Computational complexity	Göös	IN	6	A	
COM-480	Data visualization	Vuillon	SC	6		P
CS-423	Distributed information systems	Aberer	SC	6	A	
COM-402	Information security and privacy	Payer	IN	8	A	
COM-404	Information theory and coding	Telatar	SC	8	A	
COM-308	* Internet analytics	Grossglauer	SC	6		P
CS-431	Introduction to natural language processing	Rajman/Chappelier/Bossetut	IN	6	A	
CS-433	Machine learning	Jaggi/Flammarion	IN	8	A	
COM-516	Markov chains and algorithmic applications	Lévêque/Macris	SC	6	A	
CS-552	Modern natural language processing	Bossetut	IN	8		P
COM-512	Networks out of control	Thiran P./Grossglauer	SC	6		P
COM-500	Statistical signal and data processing through applications	Ridolfi	SC	8		P
MATH-413	* Statistics for Data science	vacat	MA	8		P
CS-460	Systems for data management and data science	Ailamaki/Kerमारrec	IN	8		P
CS-455	Topics in theoretical computer science (pas donné en 2023-24)	Kapralov	IN	6	A	
	Spécialisation C "FOUNDATIONS OF SOFTWARE"	Responsable : Prof. M. Odersky		58		
CS-450	Algorithms II	Svensson	IN	8	A	
CS-420	Advanced compiler construction	Schinz	IN	6		P
CS-453	Concurrent computing	Guerraoui	SC	8	A	
CS-451	Distributed algorithms	Guerraoui	SC	8	A	
CS-550	Formal verification	Kuncak	IN	6	A	
CS-452	Foundations of software	Doeraene	IN	6	A	
CS-522	Principles of computer systems	Argyaki/Candea	SC/IN	8	A	
CS-460	Systems for data management and data science	Ailamaki/Kerमारrec	IN	8		P
	Spécialisation D "CYBER SECURITY - SP"	Responsable : Prof. C. Troncoso		99		
CS-450	Algorithms II	Svensson	IN	8	A	
CS-470	Advanced computer architecture	lennen	IN	8		P
COM-501	Advanced cryptography	Vaudenay	SC	6		P
CS-523	Advanced topics on privacy enhancing technologies	Troncoso	IN	8		P
EE-431	* Advanced VLSI design	Burg/Levisse	EL	4		P
COM-401	Cryptography and security	Vaudenay	SC	8	A	
CS-550	Formal verification	Kuncak	IN	6	A	
CS-459	Foundations of probabilistic proofs	Chiesa	IN	6	A	
EE-429	* Fundamentals of VLSI Design	Burg	EL	4	A	
COM-402	Information security and privacy	Payer	IN	8	A	
COM-405	Mobile networks (pas donné en 2023-24)	Al Hassanieh	SC	8		P
MATH-489	Number theory II.c - Cryptography	Jetchev	MA	5		P
CS-522	Principles of computer systems	Argyaki/Candea	SC/IN	8	A	
CS-412	Software security	Payer	IN	6		P
COM-506	Student seminar : security protocols and applications	Vaudenay	SC	3		P
COM-407	TCP/IP Networking	Nikolopoulos	SC	8	A	
CS-511	Topics in software security	Payer	IN	3	A	

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2023-2024 **INFORMATIQUE - spécialisations**

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Code	Matières	Enseignants	Sections	Crédits	Période des cours
	Spécialisation E "NETWORKING AND MOBILITY"	Responsable : Prof. K. Argyraki		60	
CS-450	Algorithms II	Svensson	IN	8	A
COM-401	Cryptography and security	Vaudenay	SC	8	A
CS-451	Distributed algorithms	Guerraoui	SC	8	A
CS-423	Distributed information systems	Aberer	SC	6	A
COM-402	Information security and privacy	Payer	IN	8	A
COM-405	Mobile networks (pas donnée en 2023-24)	Al Hassanieh	SC	8	P
COM-430	Modern digital communications : A hands-on approach	Chiurtu	SC	8	A
COM-512	Networks out of control	Thiran P./Grossglauser	SC	6	P
COM-407	TCP/IP networking	Nikolopoulos	SC	8	A
	Spécialisation F "SIGNAL, IMAGES AND INTERFACES"	Responsables : Prof. M. Pauly		102	
CS-440	Advanced computer graphics	Jakob	IN	6	P
EE-512	Applied biomedical signal processing	Lemay	EL	4	A
EE-554	Automatic speech processing	Magimai Doss	EL	3	A
BIO-410	Bioimage informatics	Sage/Seitz	SV	4	P
CS-413	Computational photography	Süsstrunk	SC	6	P
CS-341 *	Computer graphics	Pauly	IN	6	P
CS-442	Computer vision	Fua	IN	6	P
COM-418	Computers and music (pas donné en 2023-24)	Prandoni	SC	6	P
EE-559	Deep learning	Cavallaro	EL	4	P
CS-489	Experience design	Huang	IN	6	A
CS-457	Geometric Computing	Pauly	IN	6	A
MICRO-511	Image processing I	Unser/Van De Ville	MT	3	A
MICRO-512	Image processing II	Unser/Van de Ville/Liebling/Sage	MT	3	P
CS-433	Machine learning	Jaggi/Flammarion	IN	8	A
COM-514	Mathematical foundations of signal processing (pas donné en 2023-24)	Fageot	SC	6	A
COM-430	Modern digital communications : A hands-on approach	Chiurtu	SC	8	A
EE-511 *	Sensors in medical instrumentation	Aminian	EL	3	P
COM-303 *	Signal processing for communications	Prandoni	SC	6	P
COM-500	Statistical signal and data processing through applications	Ridolfi	SC	8	P
CS-458	The GC Maket Project (pas donné en 2023-24)	Pauly	IN	6	P
CS-444	Virtual reality	Boulic	IN	6	P
CS-503	Visual intelligence : machines and minds	Zamir	IN	6	P
	Spécialisation G "SOFTWARE SYSTEMS"	Responsable : Prof. G. Candea		80	
CS-420	Advanced compiler construction	Schinz	IN	6	P
CS-470	Advanced computer architecture	Ienne	IN	8	P
CS-471	Advanced multiprocessor architecture	Falsafi	IN	6	A
CS-453	Concurrent computing	Guerraoui	SC	6	A
CS-438	Decentralized systems engineering	Borso	IN	8	A
CS-451	Distributed algorithms	Guerraoui	SC	8	A
CS-452	Foundations of software	Doeraene	IN	6	A
COM-402	Information security and privacy	Payer	IN	8	A
COM-405	Mobile networks (pas donné en 2023-24)	Al Hassanieh	SC	8	P
CS-522	Principles of computer systems	Argyaki/Candea	SC/IN	8	A
CS-460	Systems for data management and data science	Ailamaki/Kermarrec	IN	8	P
COM-407	TCP/IP networking	Nikolopoulos	SC	8	A
	Spécialisation H "WIRELESS COMMUNICATIONS"	Responsable : Prof. E. Telatar		49	
COM-417	Advanced probability and applications	Shkel	SC	8	P
COM-404	Information theory and coding	Telatar	SC	8	A
COM-405	Mobile networks (pas donné en 2023-24)	Al Hassanieh	SC	8	P
COM-430	Modern digital communications : A hands-on approach	Chiurtu	SC	8	A
COM-512	Networks out of control	Thiran P./Grossglauser	SC	6	P
EE-345 *	Rayonnement et antennes	Skrivervik	EL	3	A
COM-500	Statistical signal and data processing through applications	Ridolfi	SC	8	P
COM-407	TCP/IP networking	Nikolopoulos	SC	8	A

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	Spécialisation I. "COMPUTER SCIENCE THEORY"	Responsable : Prof. O. Svensson		75		
CS-450	Algorithms II	Svensson	IN	8	A	
COM-417	Advanced probability and applications	Shkel	SC	8		P
CS-524	Computational complexity	Sokolov	IN	6	A	
CS-453	Concurrent computing	Guerraoui	SC	6	A	
CS-451	Distributed algorithms	Guerraoui	SC	8	A	
CS-459	Foundations of probabilistic proofs	Chiesa	IN	6	A	
MATH-483	Gödel and recursivity	Duparc	MA	5	A	
COM-404	Information theory and coding	Telatar	SC	8	A	
CS-433	Machine learning	Jaggi/Flammarion	IN	8	A	
COM-516	Markov chains and algorithmic applications	Lévêque/Macris	SC	6	A	
COM-300	* Modèles stochastiques pour les communications	Thiran	SC	6	A	
CS-448	Sublinear algorithms for big data analysis (pas donné en 2023-24)	Kapralov	IN	6	A	
CS-455	Topics in theoretical computer science (pas donné en 2023-24)	Kapralov	IN	6	A	
	Spécialisation J. "INTERNET INFORMATION SYSTEMS"	Responsable : Prof. B. Faltings et Prof. K. Aberer		78		
COM-401	Cryptography and security	Vaudenay	SC	8	A	
CS-451	Distributed algorithms	Guerraoui	SC	8	A	
CS-423	Distributed information systems	Aberer	SC	6	A	
CS-486	Interaction design	Pu	IN	6		P
CS-430	Intelligent agents	Faltings	IN	6	A	
CS-491	Introduction to IT consulting	Regev	SC	6	A	
CS-431	Introduction to natural language processing	Rajman/Chappelier/Bosselut	IN	6	A	
CS-433	Machine learning	Jaggi/Flammarion	IN	8	A	
CS-552	Modern natural language processing	Bosselut	IN	8		P
COM-512	Networks out of control	Thiran P./Grossglauser	SC	6		P
EE-593	Social Media	Gillet/Cardia	EL	2		P
CS-460	Systems for data management and data science	Ailamaki/Kermarrec	IN	8		P

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