

Study Plan EPFL and Transfer to ETHZ

(legend see bottom)

Cyber security 2023-24

Master project

Code	Course	<i>l</i>	<i>e</i>	<i>p</i>	Semester	CP	Exam	Category ETHZ	Core/Core Elective	Overlap / cannot be combined
CS-597	Master project					30		no transfer		

Group 1

Code	Course	<i>l</i>	<i>e</i>	<i>p</i>	Semester	CP	Exam	Category ETHZ	Core/Core Elective	Overlap / cannot be combined
CS-450	Algorithms II	4	3		autumn	8	written	TI	Core	263-4500 Advanced Algorithms
CS-470	Advanced computer architecture	3		2	spring	8	written	DMS	Core Elective	
CS-523	Advanced topics on privacy enhancing technologies	3	1	2	spring	8	written	CybSec	Core Elective	
COM-401	Cryptography and security	4	2		autumn	8	written	CybSec	Core Elective	
CS-438	Decentralized systems engineering	2	2	2	autumn	8	oral	DMS	Core Elective	
CS-451	Distributed algorithms	3	2	1	autumn	8	written	DMS	Core	
CS-451	Distributed algorithms	3	2	1	autumn	8	written	TI	Core Elective	
COM-402	Information security and privacy	3	1	2	autumn	8	written	CybSec	Core Elective	
CS-433	Machine learning	4	2		autumn	8	written	TI	Core	252-0535 Advanced Machine Learning
CS-433	Machine learning	4	2		autumn	8	written	DMS	Core Elective	252-0535 Advanced Machine Learning
CS-433	Machine learning	4	2		autumn	8	written	MI	Core	252-0535 Advanced Machine Learning
CS-460	Systems for data management and data science	2	2	2	spring	8	written	DMS	Core Elective	
COM-407	TCP/IP networking	2	2	2	autumn	8	written	no transfer		

Group 2

Code	Course	<i>l</i>	<i>e</i>	<i>p</i>	Semester	CP	Exam	Category ETHZ	Core/Core Elective	Overlap / cannot be combined
CS-420	Advanced compiler construction	2		2	spring	6	during the semester	Free Elective		
CS-440	Advanced computer graphics	2	2		spring	6	during the semester	VC	Core	252-0543-01 Computer Graphics
COM-501	Advanced cryptography	2	2		spring	6	written	CybSec	Core Elective	
CS-471	Advanced multiprocessor architecture	4			autumn	6	during the semester	DMS	Core Elective	
COM-417	Advanced probability and applications	4	2		spring	8	written	TI	Core Elective	
CS-500	AI product management	2	2	3	autumn	6	during the semester			
EE-512	Applied biomedical signal processing	2		2	autumn	4	written	MI	Core Elective	
MATH-493	Applied biostatistics	2	2		spring	5	during the semester	MI	Core Elective	

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CS-401	Applied data analysis	2		2	autumn	8	written	MI	Core Elective	
CS-456	Artificial neural networks/reinforcement learning	2	2		spring	6	written	MI	Core Elective	
EE-554	Automatic speech processing	2	1		autumn	3	written	MI	Core Elective	
MICRO-452	Basics of mobile robotics	2	2		autumn	4	written	VC	Core Elective	
MGT-416	Causal inference (not offered in 2023/24)	2	1		spring	4				during the semester
MATH-352	Causal thinking	2	2		autumn	5	written	Free Elective		
BIO-105	Cellular biology and biochemistry for engineers	2	2		autumn	4	written	Free Elective		
CS-524	Computational complexity	2	2		autumn	6		TI	Core Elective	252-0851 Algorithmen und Komplexität
NX-465	Computational neuroscience: neuronal dynamics	2	2		spring	5	written	Free Elective		
CS-413	Computational photography	2		2	spring	6		VC	Core Elective	during the semester
CS-442	Computer vision	2	1		spring	6	written	VC	Core	263-5902 Computer Vision
CS-453	Concurrent computing	3	1	1	autumn	6	written	Free Elective		
COM-480	Data visualization	2		2	spring	6		VC	Core Elective	during the semester
COM-480	Data visualization	2		2	spring	6		MI	Core Elective	during the semester
EE-559	Deep learning	2	2		spring	4		MI	Core Elective	during the semester
CS-472	Design technologies for integrated systems	3		2	autumn	6		DMS	Core Elective	during the semester
CS-411	Digital education	2		2	autumn	6	written	Free Elective		
Code	Course	l	e	p	Semester	CP	Exam	Category ETHZ	Core/Core Elective	Overlap / cannot be combined
CS-423	Distributed information systems	2	1		autumn	6	written	DMS	Core Elective	
ENG-466	Distributed intelligent systems (not offered in 2023/24)	2	3		spring	5	written	DMS	Core Elective	
COM-502	Dynamical system theory for engineers (not offered in 2023/24)	2	1		spring	6	written	no transfer		
CS-476	Embedded system design	2		2	spring	6		DMS	Core Elective	during the semester
DH-415	Ethics and law of AI	2		1	autumn	4		Free Elective		during the semester
CS-489	Experience design	2		4	autumn	6		Free Elective		during the semester
CS-550	Formal verification	2	2	2	autumn	6		CybSec	Core	during the semester
COM-406	Foundations of Data Science	4	2		autumn	8	written	DMS	Core Elective	
COM-406	Foundations of Data Science	4	2		autumn	8	written	MI	Core	
CS-459	Foundations of probabilistic proofs	4	1		autumn	6		TI	Core Elective	during the semester

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CS-452	Foundations of software	2	2		autumn	6	written	CybSec	Core Elective	
MATH-483	Gödel and recursivity	2	2		autumn	5	written	TI	Core Elective	401-3033 Die Gödel'schen Sätze
MICRO-511	Image processing I	3			autumn	3	written	VC		
MICRO-512	Image processing II	3			spring	3	written	VC		
CS-487	Industrial automation	2		1	spring	3	oral	Free Elective		
COM-404	Information theory and coding	4	2		autumn	8	written	CybSec	Core Elective	
CS-430	Intelligent agents	3	3		autumn	6	during the semester	MI	Core Elective	
CS-486	Interaction design	2	1	1	spring	6	during the semester	Free Elective		
CS-491	Introduction to IT consulting	6			autumn	6	oral	Free Elective		
CS-431	Introduction to natural language processing	2	2		autumn	6	written	MI	Core Elective	
CS-526	Learning theory	2	2		spring	6	written	MI	Core Elective	
CS-421	Machine learning for behavioral data (not offered in 20	2		2	spring	6	written	MI	Core Elective	
MGT-427	Management de projet et analyse du risque (in French)	2	1		autumn	4	during the semester	Free Elective		
COM-516	Markov chains and algorithmic applications	2	1	1	autumn	6	written	TI	Core Elective	252-0417 Randomized Algorithms and Probabilistic Methods
Code	Course	<i>l</i>	<i>e</i>	<i>p</i>	Semester	CP	Exam	Category ETHZ	Core/Core Elective	Overlap / cannot be combined
COM-514	Mathematical foundations of signal processing (not offe	3	2		autumn	6	written	MI	Core Elective	227-0427 Adv. Signal Analysis, Modeling, and ML
COM-514	Mathematical foundations of signal processing (not offe	3	2		autumn	6	written	TI	Core Elective	227-0427 Adv. Signal Analysis, Modeling, and ML
COM-405	Mobile networks (not offered in 2023/24)	2	1		spring	8	written	DMS	Core Elective	
COM-430	Modern digital communications: a hands-on approach	2		2	autumn	8	during the semester	DMS	Core Elective	
COM-512	Networks out of control	2	1		spring	6	written	MI	Core Elective	
MATH-489	Number theory II.c - Cryptography	2	2		spring	5	written	CybSec	Core Elective	
CS-439	Optimization for machine learning	2	2	1	spring	8	written	MI	Core Elective	
CS-439	Optimization for machine learning	2	2	1	spring	8	written	TI	Core Elective	
CS-596	Optional research project in computer science II	2			autumn/spring	8	during the semester	Free Elective		
CS-522	Principles of computer systems	4			autumn	8	during the semester	DMS	Core Elective	263-3800 Advanced Operating Systems
EE-593	Social media	1		1	spring	2	during the semester	Free Elective		
CS-412	Software security	3	2	1	spring	6	during the semester	CybSec	Core	
PHYS-512	Statistical physics of computation	2	2		autumn	4	written	TI	Core Elective	
COM-500	Statistical signal and data processing through applicati	3	2		spring	8	written	DMS	Core Elective	
COM-506	Student seminar: security protocols and applications	2			spring	3	during the semester	CybSec	Seminar	
CS-448	Sublinear algorithms for big data analysis (not offered in	2	1		spring	6	during the semester	MI	Core Elective	

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CS-473	System programming for Systems-on-Chip	2		2	autumn	6	during the semester	Free Elective			
CS-510	Topics in software security	1	1		autumn	3	during the semester	CybSec		Seminar	
CS-455	Topics in theoretical computer science - not offered in 2024	3	1		autumn	6	during the semester	TI		Core Elective	
CS-444	Virtual reality	2	1		spring	6	during the semester	VC		Core Elective	

Projects / Social and Human Sciences (SHS) Program

Code	Course	<i>l</i>	<i>e</i>	<i>p</i>	Semester	CP	Exam	Category	ETHZ	Core/Core Elective	Overlap / cannot be combined
HUM-nnn	SHS: Introduction to project	2		1	autumn	3	during the semester	SiP			
HUM-nnn	SHS: Project			3	spring	3	during the semester	SiP			
CS-496	Research project in Cyber Security				autumn/ spring	12	during the semester	CybSec		Semester Project	260-0100 Semester project

Legend	
<i>l</i>	lecture
<i>e</i>	exercise
<i>p</i>	practical course/project
CybSec	Cyber Security
DMS	Data Management Systems
MI	Machine Intelligence
TI	Theoretical Computer Science
VC	Visual and Interactive Computing
SiP	Science in Perspective