



Courses			Master 1	Master 2	Exam Session	Exam	Credit		
Language	Code	Section	Teacher	Specialization	o p	l e p			
E	<b>Advanced multiprocessor architecture</b> CS-471	IN	Falsafi	4h	8h		Win	During the semester	8
E	<b>Algorithms II</b> CS-450	IN	Kapralov Svensson	4h	3h		Win	Written	8
E	<b>Applied data analysis</b> CS-401	SC	Brbic	2h	2h		Win	Written	8
E	<b>Atomistic and quantum simulations of materials</b> MSE-468	MX	Pizzi			3h 1h	Sum	During the semester	4
E	<b>Computational linear algebra</b> MATH-453	MA	Kressner			2h 2h	Sum	Written	5
E	<b>Computational methods in molecular quantum mechanics</b> CH-452	CGC	Bonella	2h	1h		Win	Oral	4
E	<b>Computational neurosciences: neuronal dynamics</b> NX-465	NX	Gerstner			2h 2h	Sum	Written	5
E	<b>Deep learning</b> EE-559	EL	Cavallaro			2h 2h	Sum	During the semester	4
E	<b>Deep learning in biomedicine</b> CS-502	IN				2h 1h 2h	Sum	During the semester	6
E	<b>Deep reinforcement learning</b> CS-456	IN	Gulcehre			2h 1h 1h	Sum	Written	6
E	<b>Distributed intelligent systems</b> ENG-466	SIE	Martinoli	2h	2h		Win	Oral	5
E	<b>Dynamical system theory for engineers</b> COM-502	SC	Thiran			3h 1h	Sum	Written	6
E	<b>Environmental transport phenomena</b> ENG-420	SIE	Crouzy Porté-Agel	2h	1h 2h		Win	Written	5
E	<b>Foundations of Data Science</b> COM-406	IN	Gastpar Urbanke	4h	2h		Win	Written	8
E	<b>Geometric computing</b> CS-457	IN	Pauly	3h	1h 1h		Win	Written	6
E	<b>HPC for numerical methods and data analysis</b> MATH-505	MA	Grigori	2h	2h		Win	During the semester	5
E	<b>Hydrodynamics</b> ME-444	GM	Gallaire			2h 2h	Sum	Written	5
E	<b>Image processing II</b> MICRO-512	MT	Liebling Sage Unser Van De Ville			3h	Sum	Written	3
E	<b>Information security and privacy</b> COM-402	IN	Payer	3h	1h 2h		Win	Written	8
E	<b>Instability</b> ME-466	GM	Gallaire	2h	1h		Win	Written	3
E	<b>Introduction to electronic structure methods</b> CH-353	CGC	Röthlisberger	2h	2h		Win	During the semester	4
E	<b>Mathematical modelling of behavior</b> MATH-463	MA	Bierlaire	2h	2h		Win	Written	5
E	<b>Mathematics of data: from theory to computation</b> EE-556	EL	Cevher	3h	3h		Win	Written	6
E	<b>Molecular quantum dynamics</b> CH-453	CGC	Vanicek			2h 1h	Sum	Oral	3
E	<b>Numerical approximation of PDEs</b> MATH-451	MA	Buffa			2h 2h	Sum	Written	5
E	<b>Numerical flow simulation</b> ME-474	GM	Boujo	2h	2h		Win	During the semester	5

E	<b>Numerical integration of dynamical systems</b>								
	MATH-452	MA	Blumenthal	2h	2h	Sum	Written	5	
E	<b>Numerical integration of stochastic differential equations</b>								
	MATH-450	MA	Nobile	2h	2h	Win	Written	5	
E	<b>Numerical methods for conservation laws</b>								
	MATH-459	MA	Licht	2h	2h	Win	Oral	5	
E	<b>Numerics for fluids, structures &amp; electromagnetics</b>								
	MATH-468	MA		2h	2h	Win	Oral	5	
E	<b>Optimization for machine learning</b>								
	CS-439	IN	Flammarion Jaggi	2h	2h	1h	Sum	Written	8
E	<b>Principles and applications of systems biology</b>								
	ChE-411	CGC	Hatzimanikatis	2h	1h	Win	During the semester	3	
E	<b>Randomized matrix computations</b>								
	MATH-403	MA	Kressner	2h	2h	Win	Oral	5	
E	<b>Statistics for data science</b>								
	MATH-413	MA	Chandak Limnios	4h	2h	Sum	Written	8	
E	<b>Stochastic simulation</b>								
	MATH-414	MA	Nobile	2h	2h	Win	Written	5	
E	<b>Structural biology</b>								
	BIO-315	SV	Dal Peraro	2h	2h	Sum	During the semester	4	
E	<b>Systems for data management and data science</b>								
	CS-460	IN	Ailamaki Kermarrec	2h	2h	2h	Sum	Written	8
E	<b>Turbulence</b>								
	ME-467	GM	Schneider	3h	2h	Sum	During the semester	5	
E	<b>Understanding advanced molecular simulation</b>								
	CH-420	CGC	Smit	2h	1h	Sum	During the semester	4	

**Master project**

Courses			MP Autumn	MP Spring	Exam Session	Exam	Credit	
Language	Code	Section	Teacher	Specialization	p	l	e	p
	<b>Projet de master en science et ingénierie computationnelles</b>							
	MATH-598	MA	Profs divers	900h	900h	Sum Win	Oral	30