

CODE	MATIERES	ENSEIGNANTS sous réserve de modification	SEMESTRES							CREDITS	FORME		
			MA1-EPFL			MA2-ETHZ		MA3-PSI					
			cours	exercices	TP/projet	cours	exercices	cours	exercices			project	
Groupe 1 "Compulsory core courses"											70		
PHYS-443	Physics of nuclear reactors	Hursin/Pautz+Manera	4	2							6		oral
PHYS-451	Radiation and reactor experiments	Hursin/Lamirand/Pakari			4	no withdrawal					6		sem A
PHYS-450	Radiation biology, protection and applications	Damet/Grilj/Pakari	2	1							4		écrit
ETH-401	Fuel cycle and waste managment	Prof. divers (R. Eichler, S. Churakov, O. Leupin, L. Roberts (ETHZ))				2	1					4	**
ETH-402	Nuclear Fuels and Materials	Pouchon/Spätig				2	1					4	**
ETH-522	Reliability Engineering and quantitative risk analysis	Prof. divers (V. Dang, L. Podofillini (PSI))				2	1					4	**
ETH-403	Technology and safety of nuclear power plants	Prof. divers (Manera (PSI))				4	1					6	**
---	To be choosen : MGT or FIN master course from the catalogue of courses EPFL or ETHZ (Course of entrepreneurship)	Prof. divers	4								min. 4 credits		
ETH-530	Adv topics in nuclear reactor materials	Pouchon/Streit/Spätig						2	1			4	sem A
ETH-532	Beyond-design-basis safety	Prof. divers (Manera/Lind/Paladino (PSI))						2	1			4	sem A
ETH-533	Decommissioning of nuclear power plants	Prof. divers (Manera, Leibundgut (PSI))						2	1			4	sem A
ETH-531	Nuclear computations lab	Pautz/Prof. divers (Ferroukhi/Freixa (PSI))						1	3			4	sem A
ETH-590	Semester Project Nuclear Engineering	Prof. divers								8		8	sem A
PHYS-595	Stage d'ingénierie (master en Génie nucléaire)	(12 à 25 semaines)								8		8	sem A
Groupe 2 "Elective core courses"											20		
ME-409	Energy conversion and renewable energy	Maréchal/Nguyen T.-V.	2	1	1						4		écrit
ME-453	Hydraulic turbomachines	Vagnoni	3	1							4		écrit
MICRO-511	Image processing I	Preti/Unser/Van De Ville	2	1							3		écrit
PHYS-455	Introduction to medical radiation physics	Bochud	2	1							4		écrit
PHYS-448	Introduction to particle accelerators	Pieloni	2	2							4		écrit
PHYS-640	Neutron and X-ray Scattering for Quantum Materials	Rønnow/Schmitt+Lacmann	2	2							4		oral
PHYS-445	Nuclear fusion and plasma physics	Fasoli	2	2							4		oral
MATH-468	Numerics for fluids, structures & electromagnetics (pas donné vacat.		2	2							5		oral
PHYS-423	Plasma I	Theiler	2	3							6		oral
PHYS-452	Radiation detection	Lamirand	2	1							4		oral
ETH-441	Adv Techniques for the Risk Analysis of Technical Systems	Prof. divers (Sansavini (ETHZ))				2	1					4	**
ETH-433	Computational Multiphase Thermal Fluid Dynamics	Prof. divers (Coletti/Dehbi/Sato (ETHZ))				2	1					4	**
ETH-454	Electrochemical Energy Conversion and Storage Technology	Prof. divers (Gubler/Fabbri/Herranz Salazar (ETHZ))				2	1					4	**
ETH-446	Magnetic Resonance Imaging in Medicine	Prof. divers (Kozerke/Weiger (ETHZ))				3						4	**
ETH-442	Materials Analysis by Nuclear Techniques	Prof. divers (Vockenhuber (ETHZ))				2	1					6	**
ETH-452	Medical Physics II	Prof. divers (Manser (ETHZ))				2	1					6	**
ETH-447	Monte Carlo in Medical Physics	Prof. divers (Fix/Stampanoni (ETHZ))				3						4	**
ETH-434	Multiphase Flow	Prof. divers (Coletti (ETHZ))				3						4	**
ETH-443	Physics Against Cancer: The Physics of Imaging and Treatment	Prof. divers (Lomax/Schneider (ETHZ))				2	1					6	**
ETH-404	Physics of Nuclear Reactor II	Pautz/Prof. divers (Pelloni/Mikityuk (ETHZ))				3						4	**
ETH-445	Quantum Mechanics	Prof. divers (Norris (ETHZ))				2	2					4	**
ETH-449	Therapeutic Applications of Particle Physics: Principles and Fundamentals	Prof. divers (Lomax (ETHZ))				2	1					6	**
PHYS-490	Elective project nuclear engineering	Prof. divers	8								8		
	"Free" elective courses												
---	Master courses from the catalogue of courses EPFL or ETHZ (provided the tutor supports this choice)										max. 8 credits		**
Total des crédits du cycle master											90		
PHYS-598	Projet de master en génie nucléaire										30		oral
Total des crédits du master											120		