

CODE	MATIERES	ENSEIGNANTS sous réserve de modification	SEMESTRES										CREDITS ECTS	EXAMENS				
			MA1 - EPFL				MA2 - ETHZ		MA3 - PSI					HIVER	ETE	FORME		
			c	e	TP	c.b. p	i.p	c	e	c	e	p						
Groupe 1 "Compulsory core courses"													70					
PHYS-443	Physics of nuclear reactors	Hursin/Pautz	4	2									6		H		oral	
PHYS-451	Radiation and reactor experiments	Pakari/Hursin/Lamirand		4									6		sem A		***	
PHYS-450	Radiation biology, protection and applications	Damet/Grilj/Pakari	2	1									4		H		écrit	
ETH-401	Fuel cycle and waste management	R. Eichler, S. Churakov, O. Leupin, L. Robers						2	1					4		E	**	
ETH-402	Nuclear Fuels and Materials	Pouchon/Spätig						3						4		E	oral	
ETH-522	Reliability Engineering and quantitative risk analysis	Divers enseignants						2	1					4		E	écrit	
ETH-403	Technology and safety of nuclear power plants	Manera						4	1					6		E	écrit	
MGT-nnn	Course of entrepreneurship	Divers enseignants				---	4	---						4		em A ou sem		
ETH-530	Advanced topics in nuclear rear (block course)	Pouchon/Streit/Spätig								2	1			4	sem A			
ETH-532	Beyond-design-basis safety (block course)	vacat.								2	1			4	sem A			
ETH-533	Decommissioning of nuclear po (block course)	Pautz								2	1			4	sem A			
ETH-531	Nuclear computations lab	Ferroukhi/Freixa/Pautz								1	3			4	sem A			
ETH-590	Semester Project Nuclear Engineering	Divers enseignants											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		H		écrit	
PHYS-405	Experimental methods in physics	Dwir/Cantoni	2	1									3		H		oral	
ME-453	Hydraulic turbomachines	Vagnoni	3	1									4		H		écrit	
MICRO-511	Image processing I	Unser/Van De Ville	3										3		H		écrit	
PHYS-455	Introduction to medical radiation physics	Bochud	2	1									4		H		écrit	
PHYS-448	Introduction to particle accelerators	Seidel	2	2									4		H		écrit	
ME-454	Modelling and optimization of energy systems	Maréchal	2	2									4		H		oral	
PHYS-640	Neutron and X-ray Scattering of Quantum Materials	Fogh/Schmitt	2	2									4		H		oral	
PHYS-445	Nuclear fusion and plasma physics	Fasoli	2	2									4		H		oral	
PHYS-461	Nuclear interaction : from reactors to stars	Rochman	2	2									4		H		écrit	
MATH-468	Numerics for fluids, structures & electromagnetics (pas donné en 2024-25)	vacat.	2	2									5		H		oral	
PHYS-423	Plasma I	Theiler	2	3									6		H		oral	
PHYS-452	Radiation detection	Lamirand	2	1									4		H		oral	
ETH-441	Advanced Techniques for the Risk Analysis of Technical Systems	Sansavini						2	1					4		E	**	
ETH-427	Biomedical Imaging	Kozerke/Prüssmann						5						6		E	**	
ETH-433	Computational Multiphase Thermal Fluid Dynamics	Prasser/Dehbi/Niceno						2	1					4		E	**	
ETH-444	Computational Neuroimaging Clinic	Stephan						2						3		E	**	
ETH-454	Electrochemical Energy Conversion and Storage Technologies	Gubler/Fabbri/Herranz Salañer						3						4		E	**	
ETH-445	Introduction to Quantum Mechanics for Engineers	Norris						2	2					4		E	**	
ETH-446	Magnetic Resonance Imaging in Medicine	Kozerke/Weiger						3						4		E	**	
ETH-442	Materials Analysis by Nuclear Techniques	Doebeli						2	1					6		E	**	
ETH-452	Medical Physics II	Manser						2	1					6		E	**	
ETH-453	Micro and Nano-Tomography of Biological Tissues	Stampanoni/Kaestner						3						4		E	**	
ETH-447	Monte Carlo in Medical Physics	Stampanoni/Fix						3						4		E	**	
ETH-434	Multiphase Flow	Prasser						3						4		E	**	
ETH-443	Physics Against Cancer: The Physics of Imaging and Treating Cancer	Lomax/Schneider						2	1					6		E	**	
ETH-404	Physics of Nuclear Reactor II	Pelloni/Mikityuk/Pautz						3						4		E	**	
ETH-448	Radiation Imaging for Industrial Applications	Prasser/Adams						2	1					4		E	**	
ETH-449	Therapeutic Applications of Particle Physics: Principles and Practice of Particle Therapy	Lomax						2	1					6		E	**	
PHYS-490	Elective project nuclear engineering	Divers enseignants						8						8	sem A	sem P		
	"Free" elective courses																	
---	Master courses from the catalogue of courses EPFL or ETHZ	Divers enseignants												max. 8 credits	H	E	**	
Total des crédits du cycle master													90					
PHYS-598	Projet de master en génie nucléaire	(dans un laboratoire de recherche nucléaire d'une institution du domaine des EPF ou en entreprise)						900h						30				oral
Total des crédits du master													120					

Remarques :** Selon plan d'études de l'ETHZ : <https://ethz.ch/en/studies/master/degree-programmes/engineering-sciences/nuclear-engineering.html>

** sans retrait = No withdrawal = not possible to withdraw from this course after the registration deadline

Code ETH-4nn = enseignement donné à l'ETH

Code ETH-5nn = enseignement donné au PSI