

**EUROPEAN MASTER OF SCIENCE IN NUCLEAR FUSION AND ENGINEERING PHYSICS – FUSION EP**

**PROGRAMME 2<sup>nd</sup> YEAR: TRACK FUSION TECHNOLOGY**

	AMU / INSTN		CTU		UCM / UC3M		UGent		U Stuttgart	
SECOND YEAR – TRACK FUSION TECHNOLOGY	Elective courses: 12 ECTS from :		Elective courses: 12 ECTS from:		Elective courses: 12 ECTS from:		Elective courses: 12 ECTS from:		Elective courses: 12 ECTS from:	
	Plasma-Wall Interaction, Discharge Plasmas	6	Tokamak physics	6	Fusion Reactor Physics	6	Computer Control of Industrial Processes	6	Numerical Investigation of Mode Propagation in Corrugated Waveguides	2
	Atomic and Molecular Physics, Spectroscopy	6	Fusion technology	6	Plasma Diagnostics and Materials Technology	6	Antennas and Propagation	6	Magnet-Technology for Fusion reactors including practice	4
	Strong Heat Flux and Irradiation Effects on Materials	4	ITER components, related research and programme	3	Advanced Materials for Fusion	3	Machine Learning	6	Vacuum techn. & D/T Fuel cycle	4
	Superconductors for Fusion	4	Fusion practicum	3	Plasma-Wall Interaction in Fusion Plasmas	3	Nuclear Instrumentation	6	Thermal and neutronically loaded materials	4
	Power Sources: HF, Laser	4			Engineering in Fusion Devices: Robotics	3	Micro-analysis and Structure Determination in Materials Science	6	Fusion technology B (materials , heating systems, neutronics and nuclear data, reactor safety)	4
					Reactor Components (blankets, divertors) and Technology	3	Physics of Semiconductor Devices	6	Introduction to Neutron Cross Section Theory and Nuclear Data Generation	4
					Nuclear Physics and Fusion	3	Computational Materials Physics	6	Thermo and Fluid Dynamics	3
					Plasma Technology Applied to Industry	3	Thin Films: Physics and Technology	6	Comput. Materials Modeling	3
					Engineering in Fusion Devices: Design, Safety and Fuelling Technology	6			Modeling of Two-Phase Flows	3
	Language & Culture	6	Language & Culture	6	Language & Culture	6	Language & Culture	6	Language & Culture	6
Joint Experimentation and Analysis Session in Prague (6 ECTS)										
Joint Practicum in Cadarache (6 ECTS)										
Master Thesis (30 ECTS)										