

Master Energy - Thermal and Energy Engineering

	Type	COEF	ECTS	CM	TD	TP	Total
Semester 07	Oblig.	0	30,0	100,0	96,0	65,0	261,0
UE1 - Industrial sphere 1	Facul.	0	6,0		38,0		38,0
ELC1 - English	Oblig.	0.5	3,0		20,0		20,0
ELC2 - Professional communication	Oblig.	0.5	3,0		18,0		18,0
UE2 - Fluid mechanics	Oblig.	1	6,0	26,0	14,0	27,0	67,0
ELC1 - Fluid dynamics	Oblig.	0.67	4,0	26,0	14,0	15,0	55,0
ELC2 - Introduction to Computational Fluid Dynamics (CFD)	Oblig.	0.33	2,0			12,0	12,0
UE3 - Transferts thermiques et fluidiques	Oblig.	1	6,0	38,0	22,0	20,0	80,0
ELC1 - Forced and natural convection	Oblig.	0.34	2,0	14,0	10,0	8,0	32,0
ELC2 - Heat exchangers	Oblig.	0.33	2,0	12,0	4,0	4,0	20,0
ELC3 - Transferts thermiques diphasiques et transfert de matière	Oblig.	0.33	2,0	12,0	8,0	8,0	28,0
UE4 - Engineering sciences	Oblig.	1	6,0	36,0	22,0	18,0	76,0
ELC1 - Acoustics and vibration of systems	Oblig.	0.5	3,0	20,0	10,0	9,0	39,0
ELC2 - Refrigeration machines and heat pumps	Oblig.	0.34	2,0	10,0	8,0	6,0	24,0
ELC3 - Fluid machinery technologies	Oblig.	0.16	1,0	6,0	4,0	3,0	13,0
UE5 - Integrative project 1	Facul.	0	6,0				
Semester 08	Oblig.	0	30,0	122,0	89,0	69,0	280,0
UE6 - Industrial sphere 2	Oblig.	0	6,0	18,0	38,0		56,0
ELC1 - English	Oblig.	0.34	2,0		20,0		20,0
ELC2 - Energy transition economics	Oblig.	0.33	2,0	18,0			18,0
ELC3 - Project management	Oblig.	0.33	2,0		18,0		18,0
UE7 - Energy production	Oblig.	1	6,0	46,0	24,0	8,0	78,0
ELC1 - Combustion	Oblig.	0.24	2,0	12,0	6,0		18,0
ELC2 - Nuclear and Hydrogen-Energy	Oblig.	0.4	2,0	16,0	8,0	8,0	32,0
ELC3 - Turbomachinery	Oblig.	0.36	2,0	18,0	10,0		28,0
UE8 - Modeling in energetics	Oblig.	1	6,0	20,0	10,0	39,0	69,0
ELC1 - Computational codes in fluid dynamics and finite elements	Oblig.	0.5	3,0			30,0	30,0
ELC2 - Numerical methods and mathematical tools for engineers	Oblig.	0.5	3,0	20,0	10,0	9,0	39,0
UE9 - Energy efficiency	Oblig.	1	6,0	38,0	17,0	22,0	77,0
ELC1 - Energy efficiency in buildings and Life Cycle Assessment (LCA)	Oblig.	0.34	2,0	16,0	4,0	6,0	26,0
ELC2 - Renewable energies	Oblig.	0.5	3,0	14,0	8,0	16,0	38,0
ELC3 - Refrigeration systems	Oblig.	0.26	1,0	8,0	5,0		13,0
UE10 - Integrative project 2	Optional	0	6,0				
Semester 09	Oblig.	0	30,0	77,0	83,0	104,0	264,0
UE1 - Industrial sphere 3	Facul.	0	6,0	6,0	44,0		50,0
ELC1 - English	Oblig.	0.4	2,0		20,0		20,0
ELC2 - Legal and economic culture	Oblig.	0.36	2,0	6,0	12,0		18,0
ELC3 - Entrepreneurship	Oblig.	0.24	2,0		12,0		12,0
UE2 - Numerical engineering	Oblig.	0	6,0			63,0	63,0
ELC1 - Calculation codes in thermal and fluid dynamics	Oblig.	0.52	2,0			33,0	33,0
ELC2 - Dynamic thermal simulation	Oblig.	0.28	2,0			18,0	18,0
ELC3 - CAD - CAM	Oblig.	0.2	2,0			12,0	12,0
UE3 - Thermal systems	Oblig.	1	6,0	28,0	16,0	32,0	76,0
ELC1 - Conventional thermal power plants	Oblig.	0.36	2,0	16,0	12,0		28,0
ELC2 - Fluid and energy management	Oblig.	0.2	2,0	12,0	4,0		16,0
ELC3 - Technological practical work	Oblig.	0.4	2,0			32,0	32,0
UE4 - Advanced energetics (option 1)	Elective	1	6,0	43,0	23,0	9,0	75,0
ELC1 - Innovative energy machines	Oblig.	0.24	2,0	12,0	6,0		18,0
ELC2 - Advanced metrology	Oblig.	0.52	2,0	19,0	11,0	9,0	39,0
ELC3 - Exergy analysis	Oblig.	0.24	2,0	12,0	6,0		18,0
UE4 - Building energetics (option 2)	Elective	1	6,0	40,0	19,0	16,0	75,0
ELC1 - Energy business management	Oblig.	0.24	2,0	14,0	4,0		18,0
ELC2 - Building thermal science	Oblig.	0.46	2,0	14,0	9,0	12,0	35,0
ELC3 - Heating and air conditioning	Oblig.	0.3	2,0	12,0	6,0	4,0	22,0
UE5 - Integrative project 3	Optional	0	6,0				
Semester 10	Oblig.	0	30,0				
UE6 - Internship	Oblig.	4	30,0				