

Half	Unit teaching	Subject headings	code	C	Hourly Volume Weekly			VHS	Assessment method		
					Course Coefficients	TD	TP		Continuous assessment	Exam final	
1	Fundamental EU Code: UEF 1.1.1 Credits: 10 Coefficients: 5	Analysis 1	IST.1.1	6	3	1h30	3h00	67h30	40%	60%	
		Algebra 1	IST.1.2	4	2	1h30	1h30	45h00	40%	60%	
	Fundamental EU Code: UEF 1.1.2 Credits: 14 Coefficients: 8	Elements of Chemistry (Structure of the matter)	IST.1.3	7	4	1h30	3h00	1h30	90h00	40% (20% TD + 20% TP)	60%
		Elements of Mechanics (Physics	IST.1.4	7	4	1h30	3h00	1h30	90h00	40% (20% TD + 20% TP)	60%
	Methodological EU Code: UEM 1.1 Credits: 4 Coefficients: 4	Probability and statistics	IST.1.5	2	2	1h30	1h30	45h00	40%	60%	
		Structure of computers and applications	IST.1.6	2	2			3:00 a.m. - 45:00 p.m.	100%		
	EU Transversal Code: UET1.1 Credits: 2 Coefficients: 2	Ethics and Professional Conduct Dimension (the foundations)	IST.1.7	1	1	1h30		10:30 p.m.		100%	
		Foreign language 1 (French or English)	IST.1.8	1	1		1h30	10:30 p.m.	100%		
Total Hourly Volume				30	19	9:00 a.m. 1:30 p.m. 6:00 a.m. 4:27 p.m.					



Half	Unit teaching	Subject headings	code	C	Hourly Volume Weekly			VHS	Assessment method	
					Coefficients	TD	TP		Continuous assessment	Exam final
2	Fundamental EU Code: UEF 1.2.1 Credits: 10 Coefficients: 5	Analysis 2	IST.2.1 6	3	1h30	3:00 a.m.		67h30	40%	60%
		Algebra 2	IST.2.2 4	2	1h30	1h30		45h00	40%	60%
	Fundamental EU Code: UEF 1.2.2 Credits: 14 Coefficients: 8	Electricity and Magnetism (physics 2)	IST.2.3 7	4	1h30	3:00 a.m.	1:30 a.m. 9:00 a.m.		40% (20% TD + 20% TP)	60%
		Thermodynamics	IST.2.4 7	4	1h30	3:00 a.m.	1:30 a.m. 9:00 a.m.		40% (20% TD + 20% TP)	60%
	Methodological EU Code: UEM 1.2 Credits: 4 Coefficients: 4	Technical drawing	IST.2.5 2	2			3:00 a.m. - 45:00 p.m.		100%	
		Programming (computer science 2)	IST.2.6 2	2			3:00 a.m. - 45:00 p.m.		100%	
	EUTransversal Code: UET1.2 Credits: 1 Coefficients: 1	Foreign Language 2 (English)	IST.2.7 1	1		1h30		10:30 p.m.	100%	
	EU Discovery Code: UED 1.2 Credits: 1 Coefficients: 1	Engineering professions	IST.2.8 1	1	1	1h30		10:30 p.m.		100%
Total Hourly Volume				30	19	7:30	12:00	9:00	427:30	



Semester 3:

Teaching Units Module Titles	Code	C	Coefficients	Hourly volume Weekly			Hourly Volume Biannual (15 weeks)	Assessment method		
				Course	TD	TP		Control continuous	Exam final	
Fundamental EU Code: UEF 2.1.1 Credits: 11 Coefficients: 6	Analysis 3	IST 3.1	6	3	1h30	3h00		67h30	40%	60%
	Numerical analysis 1	IST 3.2	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
Fundamental EU Code: UEF 2.1.2 Credits: 14 Coefficients: 8	Waves and vibrations	IST 3.3	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Fluid mechanics	IST 3.4	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Rational mechanics	IST 3.5	4	2	1h30	1h30		45h00	40%	60%
Methodological EU Code: UEM 2.1 Credits: 3 Coefficients: 3	Computer Science 3 (Matlab)	IST 3.6	2	2	1h30		1h30	45h00	40%	60%
	Computer Aided Design	IST 3.7	1	1				10:30 p.m.	100%	
Transversal EU Code: UET 2.1 Credits: 2 Coefficients: 2	Technical English	IST 3.8	2	2		3:00 a.m.		45h00	100%	
Total Hourly Volume for Semester 3			30		19 9:00 a.m. 12:00 p.m. 7:30 a.m.			427h30		



Semester 4:

Units Teaching	Module titles	Code	C	C	Hourly volume Weekly			Hourly Volume Biannual (15 weeks)	Assessment method	
					Course Coefficients	TD	TP		Continuous assessment	Exam final
Fundamental EU Code: UEF 2.2.1 Credits: 10 Coefficients: 6	Numerical analysis 2	IST 4.1	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Resistance of materials	IST 4.2 5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
Fundamental EU Code: UEF 2.2.2 Credits: 12 Coefficients: 6	Fundamental Electronics IST 4.3		4	2	1h30	1h30		45h00	40%	60%
	Basic electricity	IST 4.4 4		2	1h30	1h30		45h00	40%	60%
	Signal theory	IST 4.5	4	2	1h30	1h30		45h00	40%	60%
metrology Methodological EU Code: UEM 2.2 Credits: 7 Coefficients: 6	Measurement and	IST 4.6 3		2	1h30		1h30	45h00	40%	60%
	Computer Science 4	IST 4.7 2		2	1h30		1h30	45h00	40%	60%
	Assisted Design Computer	IST 4.8	2	2			3:00 a.m.	45h00	100%	
Transversal EU Code: UET 2.2 Credits: 1 Coefficients: 1	Techniques of expression, information and communication	IST 4.9	1	1		1h30		10:00 p.m.	100%	
Total Hourly Volume for Semester 4			30	19	10:30	9:00	9:00	427h30		



Semester 5:

Unit teaching	Subject headings	code	c	Coefficients	Hourly Volume Weekly			VHS	Assessment method	
					Course	TD	TP		Continuous assessment	Final exam
Fundamental EU Code: UEF 3.5.1 Credits: 10 Coefficients: 6	Fundamental Electrotechnics TEN5.1	5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	40% 60%
	Power electronics	TEN5.2	5	3	1h30	1h30	1h30	67h30	(20% TD + 20% TP)	60%
Fundamental EU Code: UEF 3.5.2 Credits: 14 Coefficients: 6	Thermal transfers 1	TEN5.3	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Applied Fluid Mechanics TEN5.4	5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Applied thermodynamics	TEN5.5	4	2	1h30	1h30		45h00	40%	60%
Methodological EU Code: UEM 3.5 Credits: 5 Coefficients: 4	Applied numerical methods-Python	TEN5.6	3	2	1h30		1h30	45h00	40%	60%
	Energy Conversion Renewables	TEN5.7	2	2	1h30		1h30	45h00	40%	60%
EUTransversal Code: UET 3.5 Credits: 1 Coefficients: 1	Technical English related to the specialty	TEN5.8	1	1	-	1h30	-	10:30 p.m.	100%	
Total Hourly Volume			30	19	10:30	9:00	9:00	427:30		



Semester 6:

Unit teaching	Subject headings			Hourly Volume Weekly			VHS	Assessment method			
				Course	TD	TP		Continuous assessment	Exam final		
Fundamental EU Code: UEF 3.6.1 Credits: 10 Coefficients: 6	Advanced power electronics	TEN6.1	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%	
	Actuators-sensors	TEN6.2	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%	
Fundamental EU Code: UEF 3.6.2 Credits: 12 Coefficients: 6	Solar radiation	TEN6.3	4	2	1h30	1h30		45h00	40%	60%	
	Thermal transfers 2	TEN6.4	4	2	1h30	1h30		45h00	40%	60%	
	Semiconductors and Materials Science	TEN6.5	4	2	1h30	1h30		45h00	40%	60%	
Methodological EU Code: UEM 3.6 Credits: 6 Coefficients: 5	Machine Learning	TEN6.6	3	2	1h30			1h30	45h00	40%	60%
	Servo and regulation	TEN6.7	2	2	1h30			1h30	45h00	40%	60%
	Internship in a company 1	TEN6.8	1			1	Hourly volume outside quota (in average 100 hours) Tutoring: 1.5 hours of practical work per week		100%		
EUTransversal Code: UET 3.6 Credits: 1 Coefficients: 1	Entrepreneurship and business management	TEN6.9	1		1	1h30			10:30 p.m.	100%	
EU Discovery Code: UED 3.2 Credits: 1 Coefficients: 1	Regulations and standards in Renewable Energies	TEN6.10	1		1	1h30			10:30 p.m.	100%	
Total Hourly Volume					30	19	1:30 p.m.	7:30 a.m.	7:30 a.m.	427:30 a.m.	



Semester 7:

Teaching unit	Subject headings	code	c	Coefficients	Hourly Volume Weekly			VHS	Assessment method	
					Course	TD	TP		Continuous assessment	Exam final
Fundamental EU Code: UEF 4.7.1 Credits: 15 Coefficients: 9	Photovoltaic systems	TEN7.1	5	3	1h30	1h30	1h30 67h30	40% (20% TD + 20% TP) 40%	60%	
	Solar thermal systems	TEN7.2	5	3	1h30	1h30	1h30 67h30			
	Electrical machines	TEN7.3	5	3	1h30	1h30	1h30 67h30			
Fundamental EU Code: UEF 4.7.2 Credits: 6 Coefficients: 4	Signal processing	TEN7.4	3	2	1h30	1h30	45h00	40%	60%	
	Electrical networks	TEN7.5	3	2	1h30	1h30	45h00	40%	60%	
Methodological EU Code: UEM 4.7 Credits: 7 Coefficients: 4	Deep learning	TEN7.6	5	3	1h30		3:00 a.m. 67:30 p.m.	40%	60%	
	Professional Personal Project	TEN7.7	2	1	Hourly volume outside quota Tutoring: 1.5 hours of practical work per week			100%		
EUTransversal Code: UET 4.7 Credits: 1, Coefficients: 1	Installation and maintenance of renewable systems	TEN7.8	1	1	1h30		10:30 p.m.		100%	
EU Discovery Code: UED 4.1 Credits: 1, Coefficients: 1	Health and safety and environment	TEN7.9	1	1	1h30		10:30 p.m.		100%	
Total Hourly Volume			30	19	12:00 7:30 9:00 427:30					



Semester 8:

Unit teaching	Subject headings	code	C	Coefficients	Hourly Volume Weekly			VHS	Assessment method	
					Tutorial Course		TP		Continuous assessment	Exam final
Fundamental EU Code: UEF 4.8.1 Credits: 10 Coefficients: 6	Wind systems	TEN8.1 5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Technology and Processes of hydrogen	TEN8.2 5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
Fundamental EU Code: UEF 4.8.2 Credits: 10 Coefficients: 6	Modeling and control of electrical machines	TEN8.3 5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
	Heat exchangers	TEN8.4 5		3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP)	60%
Methodological EU Code: UEM 4.8 Credits: 8 Coefficients: 5	Hybrid ER systems	TEN8.5 4 2			1h30			45h00	40%	60%
	Software applied to energy renewables (Ansys, Comsol, etc.)	TEN8.6 3		2			3:00 a.m.	45h00	100%	
	Internship in a company 2	TEN8.7 1		1	Hourly volume outside quota (on average 100 hours), Tutoring: 1.5 hours weekly practical work				100%	
EU Transversal Code: UET 4.8 Credits: 1 Coefficients: 1	Compliance with ethical standards and rules integrity	TEN8.8 1 and		1	1h30			10:30 p.m.		100%
EU Discovery Code: UED 4.8 Credits: 1 Coefficients: 1	Energy Audit	TEN8.9 1		1	1h30			10:30 p.m.		100%
Total Hourly Volume				30	19	10:30 a.m.	6:30 a.m.	12:00 p.m.	427h30	



Semester 9:

Unit teaching	Subject headings			Hourly Volume Weekly			VHS	Assessment method		
				Course	TD	TP		Continuous assessment	Exam final	
Fundamental EU Code: UEF 5.9.1 Credits: 15 Coefficients: 9	Solar and housing	TEN9.1	5	3	1h30	1h30	1h30	67h30	40% (20% TD + 20% TP) 40%	60%
	Energy storage and transport system	TEN9.2	5	3	1h30	1h30	1h30	67h30	(20% TD + 20% TP) 40%	60%
	Energy Systems Control renewables	TEN9.3	5	3	1h30	1h30	1h30	67h30	(20% TD + 20% TP)	60%
Fundamental EU Code: UEF 5.9.2 Credits: 7 Coefficients: 4	Hydraulic energy and other systems renewables	TEN9.4	4	2	1h30	1h30		45h00	40%	60%
	Life cycle analysis of energy systems renewables	TEN9.5	3	2	1h30	1h30		45h00	40%	60%
EU Methodology Code: UEM 5.9 Credits: 6 Coefficients: 4	Sizing and simulation of systems at renewable energies	TEN9.6	3	2	1h30			1h30 45h00	40%	60%
	API and Supervision	TEN9.7	3	2	1h30			1h30 45h00	40%	60%
EUTransversal Code: UET 9.1 Credits: 1 Coefficients: 1	Documentary research and design of memory	TEN9.8	1			1	1h30	10:30 p.m.		100%
EU Discovery Code: UED 5.9 Credits: 1 Coefficients: 1	Startup, Innovation and Patents	TEN9.9	1			1	1h30	10:30 p.m.		100%
Total Hourly Volume						30	19	1:30 p.m. 7:30 a.m. 7:30 a.m. 427:30 a.m.		



Semester 10:

Unit teaching	Subject headings	Ces	Coefficients	Hourly Volume Weekly			VHS	Assessment method	
				Course	TD	TP		Continuous assessment	Exam final
Fundamental EU Code: UEF 1.10.1	Final year project	30	19	-	-		-	-	100%

Credits: 30

The End of Studies Project (PFE) **must be related to the industrial sector or in a company, or within the framework of decree 1275 'start up'** is validated by a dissertation and a defense

This table is given for information purposes only.

	VHS	Coefficient	Credits
Internship in a company	11 weeks		15
Memory and defense	3 weeks		10
			5
Other (Supervision)	1 week		
Total Semester 10	15 weeks		30

**Evaluation of the End of Engineering Cycle Project**

- Scientific value (Jury assessment) /6
- Writing the Dissertation (Jury's Assessment) /4
- Presentation and answer to questions (Jury assessment) /4
- Assessment of the supervisor /3
- Presentation of the internship report (Jury assessment) /3

• **Evaluation of the End of Engineering Cycle Project according to Ministerial Decree No. 1275 of September 27, 2022 relating to the "one diploma,"**