



SECOND CYCLE DEGREES/TWO-YEAR MASTER IN  
**OFFSHORE ENGINEERING  
FOR ENERGY TRANSITION**

Course structure diagram A.Y. 2024/2025

1) First year

Mandatory courses	SSD	PERIOD	CFU
Numerical methods	MAT/08	1	6
Subsea energy systems	ING-IND/25	1	9
Offshore surveys	ICAR/06	1	6
Principles and applications of separation technologies	ING-IND/24	2	12
<i>Offshore structures and materials durability I.C.</i>			
Materials durability	ING-IND/22	2	9
Principles of structural analysis and reliability	ICAR/09	2	3
<i>The marine environment I.C.</i>			
Ocean and coastal engineering and marine renewable energy sources	ICAR/01	1	6
Introduction to marine geotechnics	ICAR/07	1	3

2) Second year

Mandatory courses	SSD	PERIOD	CFU
HSE management	ING-IND/25	1	6

2.1) ELECTIVE COURSES CFU Choose one of the two groups of courses:

GROUP: ENERGY TECHNOLOGIES	SSD	PERIOD	CFU
Modelling tools for process engineering analysis	ING-IND/24	1	6
Technologies and processes for offshore energy production	ING-IND/25	1	6
<i>Offshore engineering equipment design I.C.</i>			
Equipment design processes	ING-IND/25	2	9
Laboratory of fluid machines and energy systems for offshore applications	-	2	3
<i>Management and operations of offshore activities I.C.</i>			
Offshore infrastructure operations and maintenance	ICAR/08	1	6
Principles of project management	ING-IND/35	2	3

GROUP: MARINE RENEWABLE ENERGY SYSTEMS	SSD	PERIOD	CFU
Foundations and anchors	ICAR/07	2	6
Operational management of offshore assets	ING-IND/25	E	9
<i>Fixed and floating facilities I.C.</i>			
Structural modelling	ICAR/08	1	6
Structural design	ICAR/09	1	6
<i>Wind and ocean energy I.C.</i>			
Design project of electric engineering for wind and ocean energy	-	1	3
Principles of wind and ocean energy conversion	ICAR/01	1	3



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3) Final examination:

GROUP: A		PERIOD	CFU
Final Examination		E	18
GROUP: B		PERIOD	CFU
Internship for Preparation for the Final Examination		E	15 + 3
Internship Abroad for Preparation for the Final Examination		E	15 + 3
Preparation for the Final Examination Abroad		E	15 + 3

4) Courses freely chosen by the students (9 - 12 CFU) Choose at least 9 credits. The course board suggests to attend to the following courses:

	SSD	PERIOD	CFU
Bioremediation and exploitation of bioresources	CHIM/11	1	6
Port transport operations	ICAR/05	1	6
Naval engineering and design	ING/IND15	2	6
Harbour geotechnics	ICAR/07	2	3
Marine pollution	CHIM/11	1	3
Laboratory of fluid machines and energy systems for offshore applications (only for GROUP: MARINE RENEWABLE ENERGY SYSTEMS)	ING-IND/08	1	3
Design project of electric engineering for wind and ocean energy (only for GROUP: ENERGY TECHNOLOGIES)	ING-IND/31	1	3
Principles of wind and ocean energy conversion (only for GROUP: ENERGY TECHNOLOGIES)	ICAR/01	1	3
Modelling tools for process engineering analysis (only for GROUP: MARINE RENEWABLE ENERGY SYSTEMS)	ING-IND/24	1	6
Technologies and processes for offshore energy production (only for GROUP: MARINE RENEWABLE ENERGY SYSTEMS)	ING-IND/25	1	6
Internship		E	6