MASTER (LM) DEGREE COURSE IN

ENERGY ENGINEERING

Study programme for students enrolled in the academic year 2026-2027

Course unit title	Type of educational activity (B = core, C = related or supplementary, D = elective, E = final examination, F = other activities)	Subject area	Scientific-disciplinary sector (SSD)	Compulsory (O) or Optional (Z)	Teaching delivery mode: on-campus (A), blended (B), online (C)	ECTS credits
Compulsory course units – Year 1						
APPLIED ENERGY	B	Energetica e nucleare	IIND-06/B 4 CFU IIND-06/A 5 CFU	O	A	9
ENERGY SYSTEMS	B	Energetica e nucleare	IIND-06/B	O	A	9
MEASUREMENTS AND INSTRUMENTATION	C	Affine	IMIS-01/A 6 CFU IMIS-01/B 3 CFU	O	B	9
SUSTAINABLE CHEMICAL ENERGY CONVERSION	C	Affine	ICHI-01/A	O	A	6
HEATH TRANSFER AND THERMOFLUID DYNAMICS	C	Affine	IIND-07/A	O	A	9
ELECTRIC POWER SYSTEMS	B	Energetica e nucleare	IIND-08/B	O	B	9

Compulsory course units – Year 2						
RENEWABLE ENERGY TECHNOLOGIES	B	Energetica e nucleare	IIND-07/A	O	B	9
ENERGY ECONOMICS	C	Affine	ECON-04/A	O	A	9
Optional course units "Attività caratterizzanti": 15 ECTS credits to be selected from:						
PROFILE: Sustainable power generation						
Year 1						
PROCESS TECHNOLOGIES FOR CARBON-NEUTRAL FUELS	B	Energetica e nucleare	ICHI-02/A	Z	A	6
COGENERATION AND COMBINED PLANTS	B	Energetica e nucleare	IIND-06/B	Z	A	6
NUCLEAR FISSION AND FUSION PLANTS	B	Energetica e nucleare	IIND-07/D	Z	A	9
GREEN POWER CONVERSION AND UTILIZATION	B	Energetica e nucleare	IIND-08/A	Z	A	6
Year 2						
WIND AND HYDRAULIC TURBINES	B	Energetica e nucleare	IIND-06/A	Z	A	9
PROFILE: Sustainable energy utilization						
Year 1						
GREEN POWER CONVERSION AND UTILIZATION	B	Energetica e nucleare	IIND-08/A	Z	A	6

Year 2						
HVAC – HEATING VENTILATION AIR CONDITIONING SYSTEMS	B	Energetica e nucleare	IIND-07/A	Z	A	9
ENERGY AND BUILDINGS	B	Energetica e nucleare	IIND-07/A	Z	A	6
REFRIGERATION AND HEAT PUMP TECHNOLOGIES	B	Energetica e nucleare	IIND-07/A	Z	A	9
FREE CHOICE course units (including optional course units reported above and not already selected; including maximum 6 ECTS of Laboratory Activities):	**D**			**O**		**15**
PROFILE: Sustainable power generation						
Year 1						
ADVANCED CONTROL SYSTEMS	C	Affine	IINF-04/A		A	6
Year 2						
PHOTOVOLTAIC SCIENCE AND TECHNOLOGY	C	Affine	IIET-01/A		A	6
DESIGN AND OPTIMIZATION OF SUSTAINABLE ENERGY SYSTEMS	C	Affine	IIND-06/B		A	6
MANUFACTURING TECHNOLOGY	C	Affine	IIND-04/A		A	6
SUSTAINABLE TECHNOLOGIES FOR HYDROGEN	C; B	2 CFU Affine, 4 CFU Energetica e nucleare	2 CFU ICHI-01/A 2 CFU IIND-07/A 2 CFU IIND-06/A		A	6

ENERGY STORAGE TECHNOLOGIES FOR SUSTAINABLE ENERGY SYSTEMS	C	Energetica e nucleare	2 CFU IIND-06/A 4 CFU IIND-06/B		A	6
PROFILE: Sustainable energy utilization						
Year 1						
ADVANCED CONTROL SYSTEMS	C	Affine	IINF-04/A		A	6
Year 2						
MANUFACTURING TECHNOLOGY	C	Affine	IIND-04/A		A	6
SUSTAINABLE TECHNOLOGIES FOR HYDROGEN	C; B	2 CFU Affine, 4 CFU Energetica e nucleare	2 CFU ICHI-01/A 2 CFU IIND-07/A 2 CFU IIND-06/A		A	6
ENERGY STORAGE TECHNOLOGIES FOR SUSTAINABLE ENERGY SYSTEMS	C	Energetica e nucleare	2 CFU IIND-06/A 4 CFU IIND-06/B		A	6
Without any profile						
Year 2						
APPLIED ACOUSTICS	B	Energetica e nucleare	IIND-07/B		A	6

Laboratory Activities	D			Z		6
PROFILE: Sustainable power generation						
Year 1						
LABORATORY OF APPLIED THERMODYNAMICS	B	Caratterizzante	IIND-07/A	Z	A	3
URBAN ENERGY PLANNING	B	Caratterizzante	IIND-07/B	Z	A	3
Year 2						
LABORATORY OF COMPUTATIONAL THERMO-FLUID DYNAMICS	B	Caratterizzante	IIND-07/A	Z	A	3
PROFILE: Sustainable energy utilization						
Year 1						
URBAN ENERGY PLANNING	B	Caratterizzante	IIND-07/B	Z	A	3
Year 2						
LABORATORY OF COMPUTATIONAL THERMO-FLUID DYNAMICS	B	Caratterizzante	IIND-07/A	Z	A	3
LABORATORY OF ENERGY AUDIT	B	Caratterizzante	IIND-07/A	Z	A	3
ENGLISH LANGUAGE B2 (PRODUCTIVE SKILLS)	F	Ulteriori competenze linguistiche		O		3
FINAL EXAMINATION	E	Per la prova finale		O		18

ADDITIONAL INFORMATION

Attendance requirement: Although attendance is not mandatory, some activities in the course units (example: laboratories) might be compulsory; for further details please refer to the Syllabus of each course units published in the Course Catalogue. There are no propaedeutic course units to attend the

second-year activities.
Starting from the 2026 cohort, the course units of all the Master's Degrees will be associated with the new Scientific Disciplinary Sectors (SSD) according to the Ministerial Decree No. 639/2024.
In the a.y. 2026/2027, only first-year activities will be offered to the 2026 cohort. Early access to second-year activities may be allowed only in exceptional circumstances.

The Master's degree course proposes two profiles:
• Sustainable power generation G
• Sustainable energy utilization U
However, profiles represent only a guideline and it is not mandatory to follow any profile when submitting the study plan.

If the additional free-choice activities are chosen from those offered by the degree course, the study plan will be automatically approved.

Students are required to submit their study plan through the UNIWEB platform as early as the first enrolment year.
This document was prepared in Spring 2026. Therefore, it is strongly recommended to check, at the beginning of each academic year, the correct placement of the course units in the semesters and the activation of the free-choice activities

STUDY PLANS SUBJECT TO AUTOMATIC APPROVAL

The study plan schemes subject to automatic approval are set out in Annex 3 to the Degree Programme Teaching Regulations and are available, for each enrolment cohort, on the Degree Programme page of the Course Catalogue.