

MASTER'S DEGREE COURSE IN SCIENCE AND NANOTECHNOLOGY FOR SUSTAINABILITY STUDY PLAN A.A. 2026/27

Letter legend

Type of Educational Activity (TAF):

- B= Characterizing Activities
- C= Similar or complementary activities
- D= Activities chosen by the student
- E= Final exam and foreign language
- F= Additional educational activities

Teaching Activity Name (AT)	SSD	Teaching Unit (UD)	CFU	Hours	Type Activity	TAF	Disciplinary field	Mandatory / Optional	Check Mode	Delivery language
Anno I (2026/27)										
PHYSICS OF MATTER AND RENEWABLE ENERGIES	PHYS-04/A PHYS-02/A		6 (4+2)	56	Lessons + laboratory	B	Microphysics and the structure of matter. Theoretical and fundamentals of physics.	Mandatory	written + oral	ENGLISH
NUCLEAR AND SUBNUCLEAR PHYSICS	PHYS-01/A		6 (4+2)	56	Lessons + laboratory	B	Experimental applicative	Mandatory	oral	ENGLISH
ENGLISH	ANGL-01/C		6		Laboratory	E	further training activities	Mandatory	written	ENGLISH
MASTER LABORATORY	PHYS-01/A PHYS-03/A		9 (3+6)	96	Lessons + laboratory	B	Experimental applicative. Microphysics and the structure of matter	Mandatory	oral	ENGLISH
MATHEMATICAL METHODS AND ARTIFICIAL INTELLIGENCE FOR SUSTAINABLE DEVELOPMENT	PHYS-02/A PHYS-04/A		9 (6+3)	84	Lessons + exercises	B	Theoretical and fundamentals of physics. Microphysics and the structure of matter	Mandatory	oral	ENGLISH
ELECTRICAL SYSTEMS AND SUSTAINABLE ENERGY	IIND-08/B		6 (3+3)	60	Lessons + exercises	C	Similar or complementary training activities	Mandatory	oral	ENGLISH
GEOPHYSICS FOR SUSTAINABILITY	PHYS-05/B		6 (4+2)	56	Lessons + laboratory	B	Solid Earth Geophysics	Mandatory	oral	ENGLISH
SUSTAINABILITY AND AEROSPACE	PHYS-05/A		6	48	Lessons + laboratory	B	Astronomy and astrophysics	Mandatory	oral	ENGLISH
Anno II (2027/28)										
MOLECULAR QUANTUM MECHANICS, APPLICATIONS TO PHOTOCHEMISTRY	CHEM-02/A		6	48	Lessons + laboratory	C	Similar or complementary training activities	Mandatory	oral	ENGLISH
SUSTAINABLE PRODUCTION PROCESSES, ECONOMIC ASSESSMENT, LCA	ICHI-02/B		6 (2+4)	56	Lessons + exercises	C	Similar or complementary training activities	Mandatory	oral	ENGLISH
NANOTECHNOLOGIES FOR PHARMACEUTICALS AND BIOMEDICALS	CHEM-08/A		6	56	Lessons + laboratory	C	Similar or complementary training activities	Mandatory	oral	ENGLISH
ELECTIVE COURSES			12			D	Choice of the student			ENGLISH
TRAINING INTERNSHIPS	N/N		6	150	Stage	F	Training internship	Mandatory	oral + practical test	ENGLISH

Teaching Activity Name (AT)	SSD	Teaching Unit (UD)	CFU	Hours	Type Activity	TAF	Disciplinary field	Mandatory / Optional	Check Mode	Delivery language
FINAL TEST	PROFIN_S		30			E	For the final test	Mandatory	oral	ENGLISH

STUDENT FREE CHOICE ACTIVITIES

Teaching Activity Name (AT)	SSD	No. Teaching Unit (UD)	CFU	Hours	Type Activity (lecture, laboratory, etc.)	TAF	Disciplinary field	Mandatory / Optional	Check Mode	Delivery language
Anno II (2026/27)										
LABORATORY TEACHING FOR PHYSICS LEARNING	PHYS-06/B		6 (3+3)	60	Lessons + laboratory	D	Teaching and history of physics	autonomous choice	oral	ENGLISH
INSTRUCTIONAL METHODOLOGIES AND TECHNOLOGIES FOR TEACHING PHYSICS	PHYS-06/B		6	48	Lessons	D	Teaching and history of physics	autonomous choice	oral	ENGLISH
NANOPHYSICS	PHYS-01/A		6 (3+3)	60	Lessons + exercises	D	Experimental applicative	autonomous choice	oral	ENGLISH
THEORY OF FUNDAMENTAL INTERACTIONS	PHYS-02/A		6	48	Lessons	D	Theoretical and fundamentals of physics	autonomous choice	oral	ENGLISH
GENERAL RELATIVITY	PHYS-02/A		6	48	Lessons + laboratory	D	Theoretical and fundamentals of physics	autonomous choice	oral	ENGLISH
ASTROPHYSICS OF STARS AND PLANETS	PHYS-05/A		6 (3+3)	60	Lessons + laboratory	D	Astronomy and astrophysics	autonomous choice	oral	ENGLISH

PROPEDEUTICALITY

The course of study does not include any prerequisites for the courses.

SUMMARY	
	CFU
Mandatory courses (I and II year)	72
Elective courses	12
Training internships	6
Final test	30
CFU TOT	120