



**MASTER'S DEGREE IN  
ENVIRONMENTAL ENGINEERING FOR SUSTAINABLE DEVELOPMENT  
DEGREE PROGRAMME 2023/2024**

Course contents are available at this [link](#)






**1<sup>st</sup> year**

Sem	Teaching course	SSD*	TAF*	Credits	h
<b>Common courses</b>					
1	Numerical Computing: Methods, Models and Algorithm	MAT/08	C	6	60
1	Scientific Computing Workshop	MAT/08	F	3	30
1	Environmental Geoengineering	ING-IND/28	B	6	60
1	Environmental Hydraulics	ICAR/01	B	6	60
	Integrated Course: Remediation and Chemical-Physical Treatment of Soils				
1	- Module: Chemical-Physical Treatment of Soils	ING-IND/29	B	6	60
2	- Module: Contaminated Sites Remediation	ICAR/03	B	6	60
2	Applied Geophysics	GEO/11	B	6	60
2	Geodesign Lab	ICAR/20	F	3	50
2	Hydrogeology	GEO/05	B	6	60
2	Impact Assessment and Environmental Rehabilitation	ING-IND/28	B	6	60

**2<sup>nd</sup> year**

Sem	Teaching course	SSD*	TAF*	Credits	h
<b>Common courses</b>					
	<i>One course among:</i>				
1	Foundations and Earth Retaining Structures	ICAR/07	C	6	60
1	Remote Sensing for Environment Monitoring and Modelling	ICAR/06	C	6	60
1	Recovery of Secondary Raw Materials	ING-IND/29	C	6	60
1	Urban and Regional Sustainability: Smart Cities and Ecosystem Services in Planning	ICAR/20	C	6	60
2	Geochemical characterization	GEO/09	C	6	60
2	Green and Applied Chemistry	CHIM/03	C	6	60
2	Design of Environmental Remediation and Decontamination Systems	ICAR/03	C	6	60
2	Safety and Project Management at Construction Sites	ING-IND/28	C	6	60
2	Renewable Energy Technologies	ING-IND/09	C	6	60
	Integrated Course: Digital Platforms for Monitoring				
2	- Module: Hardware Platforms for IoT	ING-INF/01	C	3	30
2	- Module: Data Processing and Transmission	ING-INF/03	C	3	30



<b>Curriculum Environmental remediation technologies</b>					
1	Sustainable Solid Waste Management: materials and energy recovery 	ICAR/03	B	9	90
1	Wastewater Treatment Plants 	ICAR/03	B	9	90
2	Integrated Course: Treatment of Fluids and Waste Gases	ING-IND/29	B	6	60
2	- Module: Treatment of Fluids				
2	- Module: Control and treatment of atmospheric emissions 	ICAR/03	B	6	60
<b>Curriculum Geo-engineering and Land protection</b>					
1	Integrated Course: Hydrogeological Protection				
1	- Module: Watershed and Stream Restoration Engineering	ICAR/02	B	6	60
1	- Module: Slope Instability and Hydrogeological Risk	GEO/05	B	6	60
1	Integrated Course: Rock Engineering				
1	- Module: Rock Mechanics	ING-IND/28	B	6	60
2	- Module: Excavation Engineering and Underground Works	ING-IND/28	B	6	60
2	<i>Choose between:</i>				
2	Coastal Hydraulics	ICAR/01	B	6	60
2	Design and Management of Geoengineering Works for Environment Protection	ING-IND/28	B	6	60
<b>Curriculum Spatial and Environmental Planning</b>					
1	Integrated Course: Strategic Environmental Planning				
1	- Module: Environmental Planning 	ICAR/20	B	6	60
1	- Module: Strategic planning 	ICAR/20	B	6	60
1	Geodesign	ICAR/20	B	6	60
2	Integrated Course: Planning Energy System				
2	- Module: Sustainable Urban and Territorial Planning	ICAR/20	B	6	60
2	- Module: Territorial Energy Systems: Analysis and Design	ING-IND/11	C	6	60

**Additional credits to be acquired**

Sem	Activity	SSD*	TAF*	Credits	h
	Elective activities <sup>1</sup>		D	12	
	English Language Test <sup>2</sup>		F	3	
	Final Examination		E	15	

**TOTAL CREDITS 120**



- (1) The elective activities must be consistent with the personal educational plan and they need approval by the Degree Programme Board
  - (2) The credits of European language level can be acquired:
    - passing the English language test at B2 European level (CEFR) at Centro Linguistico d'Ateneo,
    - showing appropriate certification of B2 European level (CEFR) knowledge.
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The Study Programme includes also the following laboratories which can be chosen by students to satisfy part of the credits of own free choice:

Sem	Laboratory	SSD*	TAF*	Credits	h
2	Environmental Geophysics Lab	GEO/11		3	30
2	Laboratory of Safety and Project Management at Construction Sites	ING-IND/28		3	25
2	Sanitary and Environmental Engineering Laboratory	ICAR/03		2	25
2	Workshop of Regional Planning	ICAR/20		3	45

Other optional activities can be communicated on course web site.

**\*Abbreviations**

SSD	Scientific Disciplinary Sector
TAF	Type of Educational Activity