COURSE OF STUDY *Maritime-port strategic sciences*
ACADEMIC YEAR *2025-2026*
ACADEMIC SUBJECT Environmental engineering for sustainable maritime and port activities

General information	
Year of the course	**II**
Academic calendar (starting and ending date)	**I semester**
Credits (CFU/ETCS):	**6**
SSD	**CEAR-02/A**
Language	**ITALIAN**
Mode of attendance	**Strongly suggested**

Professor/ Lecturer	
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Department and address	***Department of Bioscienze Biotecnologie e Ambiente***
Virtual room	
Office Hours	**by appointment upon confirmation email**

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
150	***48***		***102***
CFU/ETCS			
6			

Learning Objectives	***The learning objectives of the course can be summarized as follows:*** - Provide students with appropriate tools to interpret, assimilate and put into practice the knowledge acquired in the lessons in order to provide students with an integrated training framework with technical knowledge applicable to the protection and restoration of the environment**.**
Course prerequisites	

Teaching strategie	***Frontal Lessons***
Expected learning outcomes in terms of	
Knowledge and understanding on:	Knowledge and understanding of the methodological-operational aspects of the basic sciences applied to environmental engineering and of the most relevant applications which have a prevalent employment outlet in the territory and which characterize the activities of the bodies responsible for environmental protection and service companies of environmental design and consultancy, the realization of public and private interventions and works.

Applying knowledge and understanding on:	*Ability to apply their knowledge and understanding of scientific and technological aspects using the tools provided by engineering training, in the field of basic sciences and engineering also plant engineering, to* ○ *interpret the problems of environmental engineering*
Soft skills	• ***Making informed judgments and choices*** *The student acquires the knowledge listed above through the training activities of the courses with theoretical and methodological content provided for the academic subjects, in the comparison with teachers and trainers and in the personal study, carried out individually and with the support of tutors.* • ***Communicating knowledge and understanding*** *Ability to apply knowledge and understanding and ability, to the solution of problems of varying complexity in interdisciplinary contexts related to the study sector of environmental protection, specifically connected to environmental mitigation measures, techniques and technologies, the treatment of water and waste and for environmental clean-up. This skill will be such as to master the contents and skills acquired, demonstrating a professional approach and the skills will be adequate to devise and support broad-ranging arguments in the field of environmental engineering, concerning purification, purification, atmospheric pollution, treatment waste and remediation of contaminated sites.* • ***Capacities to continue learning*** ○ *Knowledge and understanding of the aspects of hydraulics, organic and inorganic chemistry aimed at understanding the activities relating to the purification, purification, management and treatment of waste and remediation of contaminated sites; knowledge and understanding of the regulatory and administrative, social and ethical contexts typical of environmental engineering.*
Syllabus	
Content knowledge	The course aims to provide students with the cognitive tools necessary for the definition and application of appropriate environmental protection techniques with particular reference to port areas. The basic legislation will be defined for the interpretation of the phenomena of pollution induced by anthropic activity, with regard to the matrices of water, air, soil and the techniques for cleaning up the territory and port areas. Specifically, the topics examined will concern: Pollution phenomenology. Self-purification of water bodies. Supply waters. Wastewater. Wastewater treatment. Solid waste. Risk analysis. Remediation techniques for contaminated sites. Dredging. Atmospheric emissions**.**
Texts and readings	***Masotti L.; La Depurazione delle Acque, Ed. Calderini*** ***Collivignarelli C. Ingegneria Sanitaria Ambientale. Ed Cittàstudi***
Notes, additional materials	
Repository	

Assessment	
Assessment methods	
Assessment criteria	• ***Knowledge and understanding*** Verification of the achievement of the learning results takes place mainly in the examination tests, oral with possible production of written work, to

	which an assessment is expressed, expressed by a mark, or the achievement of a suitability • ***Applying knowledge and understanding*** Students will be able to apply knowledge by transfer into practical experiences the content of the course • ***Autonomy of judgment*** Ability to respond appropriately to technical-application problems inherent to the aspects examined • ***Communicating knowledge and understanding*** Ability to express appropriate and inherent assessments • ***Communication skills*** Expression with appropriate verbal and figurative language properties • ***Capacities to continue learning*** Overall mastery of content and exposure, of all aspects examined in the course
Final exam and grading criteria	Learning is measured on the basis of the attribution of eligibility and a grade accrued on the basis of the content of the answers and the methods of exposure.
Further information	
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