ANNO ACCADEMICO 2023/2024

General information	
Academic subject	**PHYSICS AND APPLIED HYDRAULICS** (integrated exam of MATHEMATICS AND PHYSICS)
Degree course	Sciences of Marine Productions and Resources (S.P.Ri.Mar.) L-38
Academic Year	I
European Credit Transfer and Accumulation System (ECTS):	6
SSD	FIS/06
Language	ITALIAN
Academic calendar (starting and ending date)	I semester
Attendance	Mandatory

Professor/Lecturer	
Name and surname	Alessandro Cipriani
e-mail	ciprianialessandro662@gmail.com
Telephone	3476694131
Tutoring	In the afternoons the professor receives in person by prior arrangement or by e-mail

Syllabus	
Learning Objectives	The course aims to prepare the student with preparatory knowledge of modern physics by providing general preparatory concepts with emphasis on fluid dynamics and hydraulics applied to sea resources.
Course prerequisites	Measurement systems, elementary computer science
Contents	Introduction to mechanics and verification preparatory notions. Physical properties of fluids. Equilibrium of fluids at rest. Statics of fluids.Kinematics of fluids. Dynamics of fluids. Irrotational motions. Turbulence. Fluid currents. Free surface currents.
Books and bibliography	Sette Alippi Bettucci LAZIONI DI FISICA 1 Zanichelli: Mossa Petrillo IDRAULICA Zanichelli; notes taken during lectures
Additional materials	The student is urged to consult the lecturer.

Work schedule			
Hours			
Total	Lectures	Hands on (laboratory, field trips and others)	Self-study hours
150	***48***		***102***
ETCS			
6	***6***		

Teaching strategy	The theoretical lectures will be held in the classroom, using personal computers connected to a projector, so as to show, at the same time as the explanation, power point slides and explanatory videos.

U.O. Didattica e servizi agli studenti
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Expected learning outcomes	Acquired skills will be assessed continuously throughout the course through course-related questions and case studies. The outcomes of learning pervised are represented by:
Knowledge and understanding on	Knowledge and understanding of physical phenomena that take place in a fluid at rest or in motion
Applying knowledge and understanding on	Knowledge about the usefulness of Physics for understanding events related to fluid physics with special reference to sea resources
Soft skills	Ability to apply the concepts learned with critical thinking and independent expansion of knowledge by the student.

Assessment	
Methods of assessment	Acquired skills will be assessed during toward the end of the course, through questions and practical exercises on topics related to the course. Upon completion of the course, the student should be able to:
Evaluation criteria	- Knowledge and understanding skills: o Know the scientific-experimental method o Know the main application formulas for measuring natural events o Know the strategies for solving hydraulic problems - Applied knowledge and understanding skills: o Know how to extract and use data in livestock and veterinary field. o Know how to decide on the appropriate measuring instrument to interpret the phenomenon. - Autonomy of judgment: o Be able to express his or her opinion independently - Communication skills: o Good expository skills of proposed topics - Learning skills: Correct answers to proposed question(s)/topic(s)
Criteria for assessment and attribution of the final mark	Verification of the learning achieved is through an oral test with the objective of ascertaining the degree of knowledge of the proposed topics. The grade is expressed in thirtieths. The minimum grade for passing the exam is 18. The highest marks are awarded to students who are able to use the correct scientific terminology and with good expository skills.
Additional information	
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