



General information	
Academic subject	<b><i>Sedimentology of the Coastal Systems</i></b> - 063707/1
Degree course	<i>Nature and Environment Sciences</i>
Academic Year	<i>II</i>
European Credit Transfer and Accumulation System (ECTS)	4
Language	<i>Italian</i>
Academic calendar (starting and ending date)	<i>March-April 2022</i>
Attendance	<i>No mandatory</i>

Professor/ Lecturer	
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Department and address	<i>Dipartimento di Scienze della Terra e Geoambientali</i>
Virtual headquarters	<i>Teams</i>
Tutoring (time and day)	Tuesday 9:30 – 11:00; Friday 16:00 – 18:00 ( <i>in presence or Teams – contact by e-mail</i> )

Syllabus	
<b>Learning Objectives</b>	Most important aim of this course is to provide the basic knowledge of the physics processes that regulate the spatial and temporal evolution of sedimentary environments. The course topics are the classic ones of Sedimentology and Marine Geology for the degree in Geology, but these are transferred with particular reference to the recent-present-day evolution of transitional and marine sedimentary environments. The general objective of the teaching therefore also involves understanding the continuous interaction between physical and chemical-biological processes in an interdisciplinary context typical of the class of Natural and Environmental Sciences.
<b>Course prerequisites</b>	The achievement of the educational objectives requires the knowledge acquired in the courses of the previous three years and generic skills in scientific subjects. Working and non-attending students possess these prerequisites in a very similar way to attending students.
<b>Contents</b>	<i>Introduction.</i> Human activities in coastal floodplains, transitional environments and shallow marine environments. The role of sedimentology in analysis, monitoring, mitigation and planning. <i>The coastal plains.</i> <i>Delta systems.</i> <i>Beach Systems.</i> <i>Offshore and Platform.</i> <i>Sequential Stratigraphy in coastal areas.</i> <i>Direct and indirect methods for the study of coastal plains and shallow marine environments.</i> Study examples. Interdisciplinary approaches to the study of coastal erosion. Relict sands and nourishment procedures. Bioconstructions and reefs. The impacts along the TAP track. The Mar Piccolo: incised valley, underwater springs and anthropogenic impacts. <i>Laboratory activities</i>



	well cores description procedures in the laboratory. Opening, cutting, photos, color description, lithology, sedimentary structures and remains of organisms. Magnetic susceptibility profiles. Chemical / mineralogical analyzes. Sampling and laboratory analysis for the sedimentological characterization of sediments. Dating and general information on stratigraphic correlations.
<b>Books and bibliography</b>	Germani et al., 2002. Guida Italiana alla Classificazione ed alla Terminologia Stratigrafica. Quaderni APAT, serie III, 9. Reading, H.G., 1996. Sedimentary Environments and Stratigraphy. Blackwell, Ed. III, 688 pp. Ricci Lucchi, F., 1989. Sedimentologia, III volume, Clueb, 548 pp. Ricci Lucchi, F., 1992. I ritmi del Mare. NIS Carocci, 256 pp.
<b>Additional materials</b>	Slides of Lessons Sepm strata Lecture of Sequence Stratigraphy. <a href="https://www.youtube.com/watch?v=TTxqCONVEuE&amp;list=PLn9iJ983gm1uFTqBeew0tUkAucJKQ27Du">https://www.youtube.com/watch?v=TTxqCONVEuE&amp;list=PLn9iJ983gm1uFTqBeew0tUkAucJKQ27Du</a>

<b>Work schedule</b>			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
45	30	15	122
<b>ECTS</b>			
4	3	1	
<b>Teaching strategy</b>			
<b>Expected learning outcomes</b>			
<b>Knowledge and understanding on:</b>	The expected results essentially concern the knowledge of the processes connected to the dynamics of sedimentary successions in coastal, transitional and proximal marine alluvial plain environments. The tools of the scientific method applied to the understanding of sedimentary processes are provided. The course is divided into theoretical lessons, laboratory exercises in order to increase the student's ability to learn the scale and magnitude of the physical processes that regulate the sedimentary dynamics.		
<b>Applying knowledge and understanding on:</b>	Acquisition of skills related to the application of theoretical concepts to the actual temporal and spatial evolution of geological processes. This expected capacity must be the result of practical experiences and exercises in the laboratory, in which the student is asked to prepare reports, descriptive and interpretative schemes.		
<b>Soft skills</b>	<p><i>Making informed judgments and choices</i> Acquisition of the ability to identify the methodologically adequate paths to describe, interpret and discuss the complex interactions between geological processes. The student's autonomy should be improved by learning the right way to find web resources from International Scientific data base.</p> <p><i>Communicating knowledge and understanding</i> Group corrections of the reports are aimed at improving the student's ability to communicate their results using a scientific language.</p> <p><i>Capacities to continue learning</i> The acquisition of the methodologies for both the critical review of the specific literature should be main learning outcome for future studies.</p>		

<b>Assessment and feedback</b>	
Methods of assessment	The student's assessment includes an oral test which generally consists of two questions on different topics of the course.



Evaluation criteria	<p>The score of the exam is attributed by means of a mark expressed out of thirty. It generally also takes into account i) the student's participation in the exercises ii) the preparation of the related papers. An excellent grade is the result of meeting most of the following evaluation criteria</p> <p>Knowledge and understanding. The student must demonstrate to master the concepts related to the dynamics of sedimentation in coastal environments. Sedimentary processes must be described with particular reference to the I.s. consider.</p> <p>Ability to apply knowledge and understanding The student is asked to apply the essentially theoretical aspects acquired in the course to natural evolutionary processes and / or related to anthropic action.</p> <p>Autonomy of judgment. The student is able to independently identify a logical path between causes and effects in depositional processes. The student demonstrates that he is able to choose methodological approaches suitable for describing / solving geological processes / problems.</p> <p>Communication skills. The student must have acquired the ability to fully communicate the concepts learned and to use correct scientific language.</p> <p>Learning skills. The student must demonstrate that he has acquired the tools to enrich his knowledge also through the individual and group in-depth courses proposed during the course.</p>
Criteria for assessment and attribution of the final mark	A good evaluation of the exam requires the correct answer to at least one of the exam questions. The highest grade requires the ability to connect acquired concepts
<b>Additional information</b>	