

General Information	
Academic subject	Marine Bionomy and Zoogeography
Degree course	Environmental Biology
Curriculum	LM/6
ECTS credits	6 (5 frontal lessonn and 1 practical exercises)
Compulsory attendance	Recommended
Language	Italian

Subject teacher	Name Surname	Mail address	SSD
	Francesco Mastrototaro	Francesco.mastrototaroniba.it	BIO/05

ECTS credits details			
Basic teaching activities	6 ECTS	5 (frontal lessons)	1 (practical)

Class schedule	
Period	Second half
Year	2019-2020
Type of class	Lecture- workshops Lectures

Time management	
Hours	150
In-class study hours	52
Out-of-class study hours	98

Academic calendar	
Class begins	04 March 2020
Class ends	07 June 2020

Syllabus	
Prerequisites/requirements	
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	<p><i>Knowledge and understanding</i> Acquire specific knowledge about the bionomy and zoogeography of the Mediterranean Sea, namely the composition and the distribution of the main benthic biocoenoses both shallow and deep. These studies will allow to increase the knowledge of Mediterranean biodiversity considering non only the species but also the habitats.</p> <p><i>Applying knowledge and understanding</i> Ability to identify the main Mediterranean benthic biocenoses and consider them in a biogeographic point of view. Sampling methodologies. Analysis of biological data</p> <p><i>Making informed judgements and choices</i> Autonomy in the recognition of Mediterranean habitats through the analysis of specific scientific papers.</p> <p><i>Communicating knowledge and understanding</i> Acquiring a specific terminology able to allow a personal studies. The students will be invited to express themselves the concepts and the items learned during the lessons.</p> <p><i>Capacities to continue learning</i></p>

	Acquiring a critical ability in understanding the evolution of the bionomy matter, through the consultation of scientific papers and /or specific texts
Contents	•
Course program	<p>Frontal lessons</p> <p>BIONOMY</p> <p>Dimensional classification of benthic organisms; Main meiobenthic taxa; Taxonomic characterization in macrobenthos Adaptations of benthic organisms Abiotic factors; Biotic factors Identification criteria for benthic biocenosis Sampling techniques and tools for marine Benthos Sorting The zonation of the Mediterranean benthos The supralittoral zone The mesolittoral zone The infralittoral zone The Fouling The circalittoral zone The Bathyal zone The abyssal zone The adal zone</p> <p>ZOOGEOGRAPHY</p> <p>History of Geogeography Brief history of the Mediterranean basin Zoogeography of benthic organisms in the Mediterranean Sea Concept of species in Biogeography Speciation and extinction Concept of areal (range of species distribution) Characterization of the Mediterranean fauna Endemic species in the Mediterranean Sea Non-indigenous species</p> <p>Practical exercise</p> <p>12 hours of practical exercises in an Apulian Marine Protected Area</p>
Bibliography	<p>Danovaro R.: <i>Biologia marina. Biodiversità e funzionamento degli ecosistemi marini</i>. Città Studi, 2013.</p> <p>Ghirardelli Elvezio: <i>La vita nelle acque</i>. Torino : UTET. Testo fuori produzione. Dispensa fornita dal docente</p>

	<p>Pérès J.M. & Picard J. 1964: Nouveau Manuel de Bionomie Benthique de la Mediterranee. Testo fuori produzione. Pdf fornito dal docente</p> <p>Zunino M. & Zullini A.: Biogeografia. La dimensione spaziale dell'evoluzione. Casa Editrice Abrosiana</p> <p>These texts can also be consulted at university libraries</p>
Notes	Pdf file of the lessons will be provided
Teaching methods	Frontal lessons with PowerPoint supports and zoological museum samples
Assessment methods (indicate at least the type written, oral, other)	Oral test
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	<p>Will be evaluated</p> <p>The acquisition of the concepts of bionomy in the Mediterranean Sea</p> <p>The knowledge of the various Mediterranean habitats</p> <p>The ability to link the notions learned at lessons with the environmental variables, as well as with the ecological and biological characteristics of the species indicating the Mediterranean habitats.</p> <p>The ability to insert bionomic studies in the biogeographic field with an evaluation ranging from 24 - 26/30, the ability to consider them also in a biogeographic sense from 27 to 30/30.</p> <p>The student will have to demonstrate that he is able to acquire further knowledges in region of his interdisciplinary preparation. This ability will be well consider to take the highest score</p>
Further information	