



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
<b>ACADEMIC YEAR</b>	2019/2020		
<b>MASTER'S DEGREE (MSC)</b>	BIODIVERSITY AND ENVIRONMENTAL BIOLOGY		
<b>SUBJECT</b>	VERTEBRATE ZOOLOGY		
<b>TYPE OF EDUCATIONAL ACTIVITY</b>	B		
<b>AMBIT</b>	50506-Discipline del settore biodiversità e ambiente		
<b>CODE</b>	14777		
<b>SCIENTIFIC SECTOR(S)</b>	BIO/05		
<b>HEAD PROFESSOR(S)</b>	ARCULEO MARCO	Professore Ordinario	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>			
<b>CREDITS</b>	6		
<b>INDIVIDUAL STUDY (Hrs)</b>	102		
<b>COURSE ACTIVITY (Hrs)</b>	48		
<b>PROPAEDEUTICAL SUBJECTS</b>			
<b>MUTUALIZATION</b>			
<b>YEAR</b>	2		
<b>TERM (SEMESTER)</b>	2° semester		
<b>ATTENDANCE</b>	Not mandatory		
<b>EVALUATION</b>	Out of 30		
<b>TEACHER OFFICE HOURS</b>	<b>ARCULEO MARCO</b> Monday 13:00 14:30 Stanza del docente, Dipartimento STEBICEF, Via Archirafi 18, I piano Wednesday 11:00 13:00 Stanza del docente, Dipartimento STEBICEF, Via Archirafi 18, I piano Thursday 13:00 14:30 Stanza del docente, Dipartimento STEBICEF, Via Archirafi 18, I piano		

DOCENTE: Prof. MARCO ARCULEO

<b>PREREQUISITES</b>	The student is expected to have basic knowledge of General Zoology
<b>LEARNING OUTCOMES</b>	<p>Knowledge and comprehension Acquisition of theoretical and experimental skills related to knowledge of vertebrates, their evolution, biology and systematics, the latter through the use of dichotomous keys for their identification. Acquisition of a specialized scientific language.</p> <p>Applying knowledge and comprehension. Acquisition of application skills to identify the species covered during the course and understand their reproductive cycle, distribution and growth. Autonomous thinking Acquisition of evaluation skills and competences for the identification of the species and their biological cycle. Communication ability Acquisition of adequate skills and tools for communication, with regard to the presentation of the results of zoological studies, communication and dissemination of information on issues concerning the topics of the lessons. Learning ability Acquisition of appropriate skills for the independent achievement of additional competences, with reference to: literature consultation, access to database and other information on the internet, basic cognitive tools for the continuous updating of knowledge.</p>
<b>ASSESSMENT METHODS</b>	<p>A short test is given to the students to assess their individual preparation at the beginning of the course. Then both the methodologies and the modalities of the ongoing evaluation are presented. The ongoing evaluation takes place in the middle of the course. The learning evaluation is completed by an oral exam at the end of the course. Excellent (30-30 cum laude). Excellent knowledge of the topics, excellent properties of language, good analytical ability. The student is also able to apply his/her knowledge to solve all proposed problems Very good (26-29). Good mastery of the topics, full property of language. The student is able to apply his/her knowledge to solve proposed problems. Good (24-25). The student reached a basic knowledge of the main topics, discrete properties of language, with limited ability to independently apply the his/her knowledge to the solution of the proposed problems. Satisfactory (21-23). The student does not have full mastery of the main topics of teaching, but it possesses the knowledge, satisfactory property language, poor ability to independently apply the acquired knowledge. Sufficient (18-20). The student has a minimum basic knowledge of the main topics and technical language issues, very little or no ability to independently apply the acquired knowledge. Insufficient - The student does not have an acceptable knowledge of the contents of the topics covered in the course.</p>
<b>EDUCATIONAL OBJECTIVES</b>	<p>The course provides an overview of the main groups vertebrates, their taxonomy, adaptations and biology. The course provides an overview of the major vertebrate groups, their taxonomy, adaptations of their biology. The student will acquire skills related to the key biological and ecological characteristics of vertebrates as well as the use of systematic keys useful for the identification of the main species of the Mediterranean fauna. It will also be able to critically evaluate the biological-adaptive aspects and changes of animal biodiversity in response to climatic change and of human impact.</p>
<b>TEACHING METHODS</b>	Lectures
<b>SUGGESTED BIBLIOGRAPHY</b>	<ul style="list-style-type: none"> <li>- Baccetti et al. - Trattato Italiano di Zoologia Vol II - Zanichelli</li> <li>- Pough et al. - Zoologia dei vertebrati . Editrice Ambrosiana</li> <li>- Vannini E - Zoologia dei Vertebrati - UTET</li> <li>- Articoli su riviste scientifiche internazionali.</li> <li>- Appunti a lezione</li> </ul>

## SYLLABUS

Hrs	Frontal teaching
8	Systematics and phylogeny of vertebrates: Origin and evolution; principles and methods of classification of vertebrates; Use and application of morphological and molecular data in phylogenetic reconstruction; Systematic principles of cladistics in the reconstruction of phylogenetic trees of vertebrates.
2	Classification of Vertebrates: Heterostraci, Cephalaspidae,
6	Classification of Vertebrates: Chondrichthyes, Holocephali, Osteichthyes,
4	Classification of Vertebrates: Amphibia (Anura, Urodela, Apoda),
4	Classification of Vertebrates: Reptilia (Chelonia, Crocodylia, Rhyncocephalia, Squamata),
4	Classification of Vertebrates: Aves
4	Classification of Vertebrates: Mammalia (Allotheria, Theria).
10	Use of systematic keys for classification of vertebrates covered during the course, and with particular reference to the Mediterranean fauna.
6	Conservation of Mediterranean biodiversity with special reference to vertebrates.