

General Information			
Academic subject	Comparative Anatomy and Embryology		
Degree course	Biological Sciences I Level		
Curriculum	L-13		
ECTS credits	6		
Compulsory attendance	Yes		
Language	Italian		
Subject teacher	Name Surname	Mail address	
	Giovanni SCILLITANI	giovanni.scillitani@uniba.it	
ECTS credits details	Area	SSD	CFU/ETCS
	05	BIO/06	6
Class schedule			
Period	II semester		
Year	II		
Type of class	Lectures		
Time management			
Hours	150		
In-class study hours	50		
Out-of-class study hours	100		
Academic calendar			
Class begins	01/03/2021		
Class ends	11/06/2021		
Syllabus			
Prerequisites/requirements	Attendance/exam passing of Cytology and Histology and Zoology courses is strongly suggested		
Expected learning outcomes	<ul style="list-style-type: none"> • <i>Knowledge and understanding on:</i> <ul style="list-style-type: none"> ○ Acquisition of theoretical and operational skills with reference to basic Comparative Anatomy and Embryology, in order to learn the morpho-functional, reproductive and developmental mechanisms of Vertebrates in a comparative and evolutionary context. These skills will be acquired thanks to the attendance of theoretical lessons, individual study and laboratory sessions • <i>Applying knowledge and understanding on:</i> <ul style="list-style-type: none"> ○ Acquisition of operational skills useful for data collecting and analyses in the field of comparative anatomy and embryology, such as some evaluations in reproductive biology and identification of anatomical mounts. • <i>Making informed judgments and choices:</i> <ul style="list-style-type: none"> ○ Acquisition of autonomy in areas related to the evaluation and interpretation of experimental data for the study of comparative anatomy and embryology, ability in comparing biological structures and explaining variation in the light of interacting evolutionary, developmental and adaptive processes. • <i>Communicating knowledge and understanding:</i> <ul style="list-style-type: none"> ○ Acquisition of the appropriate vocabulary and terminology related to comparative anatomy and embryology to be able to understand any further information through a specific bibliography and prepare a relation or speech in a developmental, morpho-functional and/or evolutionary context • <i>Capacities to continue learning:</i> <ul style="list-style-type: none"> ○ Acquisition of the ability to investigate and read further information about the 		

	disciplines with a critical spirit, through the consultation of texts and databases
Contents	<p>Comparative anatomy: basic concepts, relations among shape, function and evolution. The comparative method. Homology and analogy. Evolution and phylogeny of major vertebrate taxa. Relationships between phylogeny and ontogeny. Structures, functions and evolution of the integument, skeleton, musculature, nervous system, sense organs, digestive system, respiratory system, circulatory system, uro-genital system and endocrine glands.</p> <p>Embryology: Gametogenesis. Fertilization. Ontogenic processes. Developmental stages of amphioxus, amphibians, fish, birds and mammals. Embryonic adnexa: yolk sac, amnion, chorion, allantois, placenta. Outline of organogenesis.</p>
Course program	
Bibliography	<p>Stingo V. Anatomia comparata. Edi-Ermes</p> <p>Giavini E. e Menegola E. Manuale di Anatomia comparata. EdiSES</p> <p>Menegola E. et al. Manuale di Biologia dello Sviluppo Animale. EdiSES.</p>
Notes	
Teaching methods	Lectures with the use of PowerPoint; laboratory exercises with microscope slides, anatomical specimens and models.
Assessment methods	Oral exam
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding:</i> <ul style="list-style-type: none"> ○ Students should demonstrate good knowledge about each topic and the ability of interrelating them. Memorizing without understanding is meaningless. • <i>Applying knowledge and understanding:</i> <ul style="list-style-type: none"> ○ Appropriate descriptions apart, students should focus about morpho-functional, evolutionary, and developmental aspects organs, systems and processes described. They should demonstrate understanding about possible evolutionary pathways leading to the present features. • <i>Autonomy of judgment:</i> <ul style="list-style-type: none"> ○ In presenting a given topic, students should be able to illustrate and combine concepts from various parts of the program to underline how different systems are integrated in a given function e.g., in discussing flight the contribution of the integument, skeleton, muscles, nervous system, sense organs, and respiratory system should be evidenced. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Students should use correct technical terms in describing structures and processes and explain them when required. Simple drawings made during the examination to better explain the topics are appreciated. • <i>Capacities to continue learning:</i> <ul style="list-style-type: none"> ○ Although the suggested textbooks cover the topics as much as possible, research is always in progress so some updates will be given during the lessons. The ability of students to integrate these contents with those from the textbooks will be evaluated.
Further information	