NAME OF THE COURSE	Developmental Biology					
Code	PMB022	Year of study	1.			
Course teacher	Prof. Ivana Bočina, PhD	Credits (ECTS)	2,5			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			30	15		
Status of the course	Mandatory	Percentage of application of e-learning	30%			

COURSE DESCRIPTION

Course objectives	Adoption and understanding of the basic events during embryonic development of animals and humans and their evolutionary relationship .
Course enrolment requirements and entry competences required for the course	Competences in General Zoology , Invertebrates , Vertebrates , Histology and Anatomy .
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Student will be able to: 1. Learn the terms important for the embryology of animals and humans 2. Understand the embryonic processes in different groups of animals within the invertebrates and vertebrates 3. Understand of the embryonic and human foetal development 4. Identify and understand the evolutionary link between man and animal groups on the basis of embryonic development 5. Perceive the similarities and differences between man and animal groups during development 6. Apply knowledge in order to recognize and avoid the harmful effects of the environment on embryonic development
Course content broken down in detail by weekly class schedule (syllabus)	Lectures: / Seminars: Week 1: Introduction to developmental biology and embryology. Week 2: Forms of eggs and their sheaths. Fertilization. Zygote. Week 3: The embryonic development. Cleavage and types of cleavage. Cleavage in sea urchin. Week 4: Cleavage in amphibians, birds and mammals. Week 5: Gastrulation. Creating germ layers and their derivatives. Forming of the primary and secondary coeloms and their importance. Week 6: The creation of the neural tube and the central nervous system. Week 7: Developmental processes in animals: cell interactions, and epithelial-mesenchymal inductive interactions. Week 8: Gametogenesis in humans. The development of male and female gametes. Fertilization. Week 9: The first and second week of development. Week 10: embryonic period: third to eighth week of development. Week 11: Foetal period. Week 12: Congenital malformations. Teratogenic factors. Week 13: The placenta. Twin pregnancy. Week 14: The development of the skeletal system. Week 15: The development of the nervous system.

Format of instruction	☒ lectures ☒ seminars and workshops ☐ exercises ☐ *on line* in entirety	☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor

	☐ partial e-learning ☐ field work		☐ (other)			
Student responsibilities	Attending courses and seminars and taking exam.					
Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1	Research		Practical training	
	Experimental work		Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam	1,5	Project		(Other)	
Grading and evaluating student work in class and at the final exam	Students will be evaluated through written exam. The grading system is based on percentage. The lowest passing grade is 60%.					

	Title	**Number of copies in the library**	**Availability via other media**
Required literature (available in the library and via other media)	Sadler, T.W. (1996) Langmanova medicinska embriologija. Školska knjiga, Zagreb	5	No

Optional literature (at the time of submission of study programme proposal)	1. Gilbert, S. F. (2003) Developmental biology. Sinauer Associates, Inc. Sunderland, Massachusetts 2. Saraga-Babić M., Sapunar, D. (1999) Atlas of human embryology. Chronolab AG, Switzerland
Quality assurance methods that ensure the acquisition of exit competences	Personal consultations, surveys, records of attendance at lectures, active participation in courses.
Other (as the proposer wishes to add)	