

1.	Subject	HISTOLOGY AND EMBRYOLOGY (1)			
2.	Code	OM 113			
3.	Study program	Undergraduate general medicine program			
4.	Institution (Unit, Institute, Chair, Department)	Institute of Medical Histology and Embryology UKIM – Faculty of medicine			
5.	Educational degree (first or second cycle)	Integrated cycle			
6.	Academic year / semester	First / first	7.	Број на ЕКТС кредити	5
8.	Professor-Lecturer in charge	Prof. Liljana Milenkova M.D. PhD			
9.	Preconditions:	/			
10.	Teaching goals and study program (competencies):				
	<ul style="list-style-type: none"> • To get acquainted with the concept of human prenatal development. • To be able to define and classify the tissues. • To be able to stress out the functional abilities of each component of the tissue. • To get skills to identify the tissues on microscopic slides, to elaborate their structural components and to compare their structure. 				
11.	Content of the study program				
	Theoretical and laboratory practice classes:				
	<ul style="list-style-type: none"> - The structure of male and female gamete; fertilization, implantation of the conceptus. - Preembryonic period, (embryogenesis), embryonic period (organogenesis), fetal period. - Structure and function of placenta and of embryonic sac. - Disturbances of the prenatal development and origin of the congenital anomalies. - Microscopic slides, microscope, tissues. - Structural characteristics and types of epithelial, connective, cartilaginous, bone, muscle and nerve tissues. - Histological characteristics of the: bones and junctions, heart, blood and lymphatic vessels, lympho-epithelial and lympho-reticular organs. - Embryonic development and origin of the congenital anomalies of cardiovascular and skeletal system. 				

12.	Learning methods			
	<ul style="list-style-type: none"> - Through visual presentation during accentuated concept lectures, studygoal oriented learning, and interactive teaching. - Through power point, video presentations and other aids during laboratory practice classes. - Through video-presentation and individual examination of microscopic slides. - Through student presentations and open discussions during seminars. - Through learning from recommended literature and selected files available on the web site of the Institute of histology and embryology. 			
13.	Total number of hours	150		
14.	Distribution of the available time			
15.	Forms of educational activities	15.1	Lectures - theoretical course	30
		15.2	Laboratory practice classes:	30
16.	Other forms	16.1	Projects assignments	
		16.2	Individual tasks	6
		16.3	Home learning	84
Assesment of knowlwdge points				
17.1	Continuous Assessment:	1. Written: Prenatal development, placenta, causes and consequences of the developmental disturbances 12-20 2. Written: Tissue structure 12-20 Laboratory practice: Microscopic slides from different tissues 9 -15		
	Final exam	On lymphoid organs, skeletal system and cardio-vascular system (histology and embryology) 1. Laboratory practice: Microscopic slides of lymphoid organs, bone, heart, blood vessels and lymphatic vessels. 7 - 12 2. Oral: Lymphoid organs, skeletal system and cardiovascular system (histology and embryology) 14 - 23		

	17.2	Seminars / projects (oral or written presentation)	min - max points	
	17.3	Active participation	points	
			Theoretical course	1-3
			Practical course	4-7
18.	Knowledge assessment criteria (points/grade)		Up to 59 points	5 (five) F
			from 60 to 68	6 (six) E
			from 69 to 76	7 (seven) D
			from 77 to 84	8 (eight) C
			from 85 to 92	9 (nine) B
			from 93 to 100	10 (ten) A
19.	Criteria for obtaining signature and taking the final exam		<p>Conditional criteria for signature:</p> <p>To take active participation in all the teaching activities including continuous assessments.</p> <p>Conditional criteria for assesment of knowledge: Students which have succesfully pass the continuous assesment, apply for final exam.</p> <p>In case the student has not achieved minimum points (60%) on each continual assesment, he/she applies to take the complete final exam.</p> <p>Complete final exam: The final exam is a combination of both written examinations (segments of the continuous assesments with less of 60%) and final examination.</p> <p>The grade for the entire exam is obtained according to the table of grades and based on the sum of the points gained in all the activities including the continual assesment.</p>	
20.	Language		Macedonian	
21.	Method for evaluation of the quality of education		Anonimous student's evaluation of the subject, teachers and collaborators involved in the educational activities	

22.	Mandatory literature				
22.1	Basic				
		Author	Title	Editor	Year
	1	The stuff of the Department of histology and embryology	Study guide for Histology & embryology (2)	On the web site of the Medical faculty of Skopje	2017
	2	Kostovska N, Milenkova L.	Histoloska gradba i embrionalen razvitok na organskite sistemi (Histology and embryonic development of organ systems)	Medicinski fakultet, Skopje	2013
3	The stuff of the Department of histology and embryology	Selected files (Power Point presentations) available on the web site of the Med. Fak.	Continuously revised		
22.2	Additional literature				
		Author	Title	Editor	Year
	1	Michael H. Ross, Wojciech Pawlina	Histology, A text and atlas: (original version and translation in macedonian)	original version 5th ed.	2010 translation in macedonian
2	J.K.Junqueira, H. Carneiro	Basic histology. Text and atlas;	original version 11th ed.	2009 translation in macedonian	

		3	Keith L. Moore, T.V.N. Persaud	The developing human. Clinically oriented embryology (original version and translation in macedonian)	original version 8th ed.	2010 translation in macedonian
		4		www.biolumida.com Medical education edition		