

Higher education institution: <i>Slovak Medical University in Bratislava</i>	
Faculty: <i>Faculty of Medicine</i>	
Course code: <i>GM 061</i>	Course title: <i>Embryology</i>
Type, extent and method of educational activity: <i>Number of hours per semester:</i> <i>Lectures: 14/1 hours per week</i> <i>Practices: 14/1 hours per week</i>	
Number of credits: <i>3 credits</i>	
Recommended semester/trimester study: <i>4th</i>	
Level of higher education study: <i>1. + 2. level</i>	
Prerequisite courses:	
Requirements for completion of the course: <i>Method of assessment and completion of the course: active attending of lectures and practical exercises.</i> <i>Credit (written test, oral exam) Final test: minimum threshold of success: 60%. Evaluation: A:95% -100%, B: 88% -94% C: 77% -87%, D: 66% -76%, E:60% -65%. Exam A, B, C, D, E, Fx</i> <i>Student workload is 47 hours</i>	
Learning outcomes: <i>Human embryology is the branch of medicine that studies the development of gametes (sex cells), fertilization, and development of embryos and fetuses. Additionally, embryology is the study of congenital disorders that occur before birth. The study of embryology allows medical students to acquire knowledge about the development of tissues and organs, and also provides information about birth defects, assisted reproduction techniques and clinical embryology.</i>	
Brief content of the course (syllabus): <i>Introduction to Embryology. Spermiogenesis and oogenesis. Ultrastructure of spermatozoa and oocyte during ovulation. Fertilization. Cleavage of the zygote and development of the blastocyst. Implantation of the blastocyst into endometrium. Decidual reaction. Clinical embryology and an assisted reproduction. Bilaminar and trilaminar germ disc. Amniotic cavity, yolk sac and chorionic cavity. Formation of the twins and their fetal membranes. Somites. Development of notochord and neural tube (neurulation). Neural crest and its derivatives. Development of functional morphology of placenta. Placental barrier. Blood vessels and heart formation. Development of the cardiovascular system. Development of large arteries and abnormalities of the cardiovascular system. Circulatory changes at birth. Development of vertebrae and spinal cord. Development of limbs. Development of gastrointestinal system and its abnormalities. Development of respiratory system and its abnormalities. Development of urinary system and its abnormalities. Development of genital system and abnormalities. Pharyngeal arches and the development of face and neck. Development of ear. Development of eye. Development of skin and its derivatives. Development of central nervous system and autonomous nervous system. Neural tube defects.</i>	
Recommended literature: <i>Schoenwolf GC, Bleyl SB, Brauer PR, Francis-West PH. Larsen's Human Embryology. Fifth Edition. Philadelphia: Elsevier Churchill Livingstone. 2015. 554 pp.</i> <i>Moore KL, Persaud TVN, Torchia MG. The Developing Human. Clinically Oriented Embryology. 10th Edition. Philadelphia: Elsevier 2016, 524 pp.</i> <i>Carlson B. Human Embryology and Developmental Biology. Fifth Edition. Philadelphia: Elsevier Saunders 2014, 506 pp.</i> <i>Sadler TW. Langman's Medical Embryology. Twelfth Edition. Philadelphia: Wolters Kluwer Lippincott Williams & Wilkins 2012, 384 pp.</i>	
Language requirements:-	
Notes: <i>The course runs in Slovak and English language.</i>	
Course assessment <i>Assessed students in total: 0</i>	

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%
Lecturers: <i>doc. RNDr. Ivan Varga, PhD., PhD., mim. prof.</i> <i>MUDr. Mgr. Michal Miko, PhD.</i> <i>MUDr. Renáta Mikušová, PhD.</i>					
Date of last modification: 01.09.2014					
Supervised by: <i>prof. MUDr. Peter Šimko, CSc.</i>					