

Study program : DENTISTRY
Type and level of studies: Integrated academic studies, Level 1/2
Course unit: Human Genetics
Teacher in charge : Professor Olivera Milošević-Djordjević, DSc
Language of instruction : ENGLISH
ECTS: 6
Prerequisites: Completed course in human genetics
Semester: SUMMER SEMESTER
Course unit objective: Acquiring knowledge and skills in human genetics.
<p>Learning outcomes of Course unit:</p> <ul style="list-style-type: none"> • Knowledge of basic principles and problems in human genetics • Ability to solve genetic problems independently • Knowledge of basic methods in this field that will be able to apply in both experimental and diagnostic work.
<p>Course unit contents</p> <p><i>Theoretical classes</i> <i>Organization of human genome: Chromosomes of eukaryotes. Human karyotype. Nuclear and mitochondrial genome. Genetic recombination. Genetic engineering-recombinant DNA technology. Epigenetics. Stem cells and their applications. Numerical and structural chromosome aberrations. Clinical findings of chromosome aberrations. Gene mutations. Patterns of inheritance. Prenatal diagnostic of chromosomopathy and genopathy. Sex- determination and differentiation. The genetics of immunity. Oncogenetics. Genetics of aging. Population genetics.</i></p> <p><i>Practical classes</i> <i>Methods in human cytogenetics: direct and short-term cultivation methods; Peripheral blood lymphocyte culture; Methods of human chromosome staining: analysis of human chromosomes stained with ordinary dye and G technique; Gametogenesis: solving problems for gametogenesis; Mendel's inheritance - solving problems; Non-Mendelian inheritance-polygenic and multifactorial inheritance; Methods of prenatal diagnosis of chromosomopathy and genopathy; Preserve the role of gene mutations in the development of disease in humans; Recombinant DNA methods in medicine.</i></p>
<p>Literature</p> <p>Turnpenny P, Ellard S. Emery,s Elements of Medical Genetics, 15th edition, Elsevier Ltd., UK, 2017. Lewis R. Human genetics: concepts and applications, 9th edition, Mc Graw Hill, NY,USA, 2010.</p>

Number of active teaching hours				Other classes
Lectures: 30	Practice: 30	Other forms of classes:	Independent work:	
Teaching methods: Lectures, practice in a clinic, clinical problems solving				
Examination methods (maximum 100 points)				
Exam prerequisites	No. of points:	Final exam	No. of points:	
Student's activity during lectures	40	oral examination		
practical classes/tests		written examination	60	
Seminars/homework				
Project				
Other				

Grading system		
Grade	No. of points	Description
10	91-100	Excellent
9	81-94	Exceptionally good
8	71-84	Very good
7	61-74	Good
6	51-64	Passing
5	< 51	Failing

Course unit description