Faculty of Medicine / MEDICINE / BASICS OF CELL BIOLOGY

Course:	BASICS OF CELL BIOLOGY			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
7932	Mandatory	2	5	2+0+0
Programs	MEDICINE			
Prerequisites	Does not have			
Aims	Familiarity with modern concepts of cell structure and function. Understanding the principles of cell structure and their importance in the development of new therapeutic options. Getting to know the mutual influence of the cell on the environment and the environment on the cell. Understanding the process of apoptosis and malignant cell alteration. Gaining knowledge about cell receptors and immunity, and the therapeutic importance of developing targeted therapy and immunotherapy of malignant diseases.			
Learning outcomes	After listening to lectures and exercises, students will be able to understand the complex principles of cell structure, the mutual influence of the cell on the environment and the environment on the cell, understands the process of cell death and apoptosis, and their importance in the practical application of the development of various therapeutic modalities. They are able to apply the acquired knowledge from the process of malignant alteration of cells, cellular immunity and cellular receptors in the planning and execution of scientific research works and projects.			
Lecturer / Teaching assistant	Prof. dr Filip Vukmirović Prof. dr Vladimir Todorović			
Methodology	Lectures, exercises, seminars, consultations, seminar papers, presentation in front of the group.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Structure and function of cell organelles.			
I week exercises	Structure and function of cell organelles.			
II week lectures	Cell damage and adaptation.			
II week exercises	Cell damage and adaptation.			
III week lectures	Cell death.			
III week exercises	Cell death.			
IV week lectures	Types of necrosis. Apoptosis and its importance in clinical research.			
IV week exercises	Types of necrosis. Apoptosis and its importance in clinical research.			
V week lectures	Growth factors and their clinical significance.			
V week exercises	Growth factors and their clinical significance.			
VI week lectures	Cell receptors and their importance in disease therapy.			
VI week exercises	Cell receptors and their importance in disease therapy.			
VII week lectures	Extracellular matrix and its clinical significance in tumor growth and development.			
VII week exercises	Extracellular matrix and its clinical significance in tumor growth and development.			
VIII week lectures	Matrix metalloproteinase in clinical research.			
VIII week exercises	Matrix metalloproteinase in clinical research.			
IX week lectures	Angiogenesis. Contemporary concepts of antiangiogenic therapy.			
IX week exercises	Angiogenesis. Contemporary concepts of antiangiogenic therapy.			
X week lectures	Cell adhesion molecules and their importance in diagnostics and clinical research.			
X week exercises	Cell adhesion molecules and their importance in diagnostics and clinical research.			
XI week lectures	Immunohistochemical methods and analyzes used in diagnostics and clinical research.			
XI week exercises	Immunohistochemical methods and analyzes used in diagnostics and clinical research.			
XII week lectures	Principles of tumor biology.			
XII week exercises	Principles of tumor biology.			

XIII week lectures	Epidermal growth factor receptor inhibitors.
XIII week exercises	Epidermal growth factor receptor inhibitors.
XIV week lectures	Cancer stem cells.
XIV week exercises	Cancer stem cells.
XV week lectures	Mechanisms of resistance to anticancer drugs.
XV week exercises	Mechanisms of resistance to anticancer drugs.
Student workload	In the semester Teaching and final exam: (6.66 hours) x 16 = 106.56 hours Necessary preparations before the beginning of the semester (administration, enrollment, certification): (6.66 hours) x 2 = 13.32 hours Total workload for the course: 5 x 30 = 150 hours Load structure: 106.56 hours (teaching and final exam) + 13.32 hours (preparation) + 30 hours (additional work)

Per week	**Per semester**
5 credits x 40/30=6 hours and 40 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 0 excercises **4 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts** Total workload for the subject: **5 x 30=150 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **30 hour(s) i 0 minuts** Workload structure: **106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)**
Student obligations	
Consultations	
Literature	1. A. Johnson, J.Lewis, D. Morgan. Molecular Biology of the Cell. Garland Science. Sixth Edition. 2014.
Examination methods	Class attendance 20 points, seminar paper 20 points, colloquium 10 points; Final exam (written) up to 50 points. A passed exam means a cumulative score of 50 points or more.
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points