

Study Program: Biology			
Type and level of studies: Bachelor studies			
Course name: Haematology			
Lecturer: Milošević M. Slaviša			
Status: Elective			
ECTS: 6			
Attendance Prerequisites:			
Course aims Acquiring basic knowledge in the field of haematology - origin (haematopoiesis), morphological appearance and physiological functions of blood cells (erythrocytes, leukocytes and platelets).			
Course outcome Mastering and understanding the necessary theoretical knowledge about the morphology and function of blood cells, as well as the possibility of applying the acquired knowledge in practice, through laboratory analyses.			
Course content <i>Theoretical part:</i> The origin of blood cells. Blood cell lineage. Pluripotent stem cells. Hematopoiesis – from embryo to adults and the elderly. Hematopoietic organs (bone marrow, thymus, lymph nodes, spleen). Red blood cell lineage. Erythropoiesis. Erythropoietin. Essential factors in normal erythropoiesis. Mature red blood cell. Size, shape and form. Metabolism – Role. Erythrocyte decomposition. Anemia. White blood cell lineage. Leukocyte lineage. Megakaryocyte lineage. Lymphoid lineage. Coagulation factors. Leukocytes. Granulocytes. Monocytes. Lymphocytes – role. Thrombocytes/platelets. Hemostasis. White blood cell disorders. Blood groups. Red blood cell alloantigens. Antibodies. Antigen-antibody reaction. Blood group ABO system. Blood groups with alloantibodies resulting from an immune response. Rh system. Leukocyte and platelet antigens. HLA system. B-lymphocyte-specific antigens. Blood transfusion. <i>Practical part:</i> Hematological parameters. Making and staining blood smears. Red blood cell count. Hematocrit determination. Determining hemoglobin concentration. Determination of reticulocyte count. Measuring the erythrocyte sedimentation rate. Examining the osmolarity of erythrocytes. Determining the osmotic resistance of erythrocytes. Determining the concentration of Heinz bodies. Determining the methemoglobin levels. Examination of white blood cells. Leukocytic formula. Platelet testing. Hemostasis. Bleeding time test. Blood clotting time determination. The ABO blood group system.			
Literature 1. Стефановић С. Хематологија. Медицинска књига. Београд, Загреб. 1981. 2. Guyton AC. Медицинска физиологија. Савремена администрација, Медицинска књига. Београд. 1996. 3. Русов Ч. Основи хематологије животиња. Научна књига. Београд. 1984. Aproprate contemporary literature within the field of haematology.			
Number of active classes			Other classes:
Lectures: 2	Practical classes: 1	Other forms of teaching: 0	
Teaching methods Theoretical interactive classes, practical classes (laboratory exercises), term papers through which the students would tackle and present the latest findings within the field of haematology.			
Assessment (maximum 100 points)			
Course assignments	points	Final exam	points
activity during lectures	5	written exam	10
seminars	5	oral exam	60
Term test/s	20		
Total	30		70