

<b>Study program:</b> Integrated Academic Studies in Medicine		
<b>Course title:</b> Immunohaematological Testing		
<b>Teacher:</b> Svetlana I. Vojvodić, Zorana P. Budakov Obradović, Jasmina N. Grujić		
<b>Course status:</b> elective		
<b>ECTS Credits:</b> 3		
<b>Condition:</b> -		
<b>Course aim</b> Introduce the students to methods of immunohaematological testing in modern transfusion medicine. Methods and their use in the detection of pathophysiological conditions and disease as a result of alloimmunization to the blood group antigens on red blood cells, white blood cells, platelets and prenatal care. Methods for testing of blood products and preparation of safe blood and pretransfusion testing.		
<b>Expected outcome of the course:</b> Acquiring knowledge of the methods of immunohaematological tests: determination of the blood group antigens on the erythrocytes, platelets, leukocytes, the detection of irregular antibodies generated after immunization events (transfusion, pregnancy, transplantation), testing of blood groups secretor status (ABO system) and their significance in transfusion and forensic medicine, immunohaematological testing during antenatal and prenatal period (prenatal care), assays for posttransfusion reactions. Training students to: - the determination of red blood cell-blood groups, direct and the indirect Coombs test, identification of antibodies, immunohaematological methods for selecting compatible blood components, monitoring of usage of the hyperimmune gamma globulin an anti-D.		
<b>Course description</b> <i>Theoretical education</i> <ul style="list-style-type: none"> <li>– determination of antigens on erythrocytes, predicting the incompatibility of ABO and Rh of the mother and the child;</li> <li>– determination of antibodies ABO and differentiation of immune antibodies from naturally occurring;</li> <li>– determination of Rh antibodies as well as their titre;</li> <li>– Rh phenotyping of mother and the child;</li> <li>– Direct Antiglobulin Test (Coombs Tets) of the child;</li> <li>– Typing of erythrocyte antigens of the husband/partner and wife to determine homo or heterozygosity;</li> <li>– determination of change in antibody titers in pregnant women during pregnancy;</li> <li>– determination of change in antibody titers after delivery and decrease of antibody titer;</li> <li>– determining the risk of the occurrence of the HBN and necessary preparations for delivery as well as the occupation of a certain attitude of gynaecologists for currency and treatment in the prenatal period (intrauterine transfusions, plasmapheresis), and the outcome of the delivery;</li> <li>– agglutination test in physiological saline;</li> <li>– agglutination test with enzyme-treated erythrocytes; IAT (Indirect Antiglobulin Test);</li> <li>– absorption of antibodies;</li> <li>– elution of antibodies; determination of antibody specificity and identification of antibodies; hemolysins determination; bioassay for the presence of irregular antibodies to leukocyte and platelet antigens – leuco/ and thromboagglutination, leuco/ and thromboagglutinins detection by bead array method (Luminex).</li> </ul> <i>Practical education</i> Students are expected to be trained to: <ol style="list-style-type: none"> <li>1. determination of red cell blood groups, and the indirect Coombs test.</li> <li>2. immunohaematological tests during antenatal care</li> <li>3. immunohaematological testing of blood donors</li> <li>4. immunohaematological testing in selection of blood and blood products</li> <li>5. immunohaematological testing in posttransfusion reactions</li> </ol>		
<b>Literature</b> <ol style="list-style-type: none"> <li>1. Klein HG, Anstee DJ, Mollison's Blood Transfusion in Clinical Medicine, 12th Edition, Wiley-Blackwell, 2014.</li> <li>2. Material from the lectures</li> </ol>		
<b>Number of active classes</b>	<b>Theoretical classes:</b> 15	<b>Practical classes:</b> 30

<b>Teaching methods:</b> lectures and practical work			
<b>Student activity assessment</b> (maximally 100 points)			
<b>Pre-exam activities</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	25	Written	50
Practices	25	Oral	
Colloquium		.....	
Essay			