
Course title: IMMUNOLOGY

ECTS credit allocation (and other scores): 4

Semester: spring

Level of study: ISCED-7 - second-cycle programmes (EQF-7)

Branch of science: Medical and health sciences

Language: English

Number of hours per semester: 60

Course coordinator/ Department and e-mail: Tomasz Antonowski, tomasz.antonowski@uwm.edu.pl

Type of classes: classes and lectures

Substantive content

CLASSES: Significance of immunity system and basic definition. Antigen - antibody reaction, agglutination and precipitation. Formation of antibodies, monoclonal antibodies and their application. Immunoassay methods - procedure, type of test, application. Flow cytometry. DOTBLOT methods - procedure, application. Western-Blot - procedure, application. Primary and secondary immunodeficiencies. Detection of $\Delta 32$ bp deletion determined resistance to HIV virus. Resistance to HIV virus - genetics predisposition. Lymphocytes B and immunoglobulins: structure and functions. Monoclonal antibodies.

LECTURES: Introduction to the immune system. Cells and tissues of the immune system. Adaptive immunity. Presentation of antigens to lymphocytes. Antigens recognition. Maturation of lymphocytes, rearrangements genes. Activation of lymphocytes T. Activation of lymphocytes B. Innate and adaptive immune response. Humoral immunity. Tolerance. Hypersensitivity. Immunology of infections. Tumor immunology.

Learning purpose: The goal of the immunology teaching is to provide the students with the role and mechanisms of immune system.

On completion of the study programme the graduate will gain:

Knowledge: Student knows basic development mechanisms of immune system.

Skills: Student uses antibody - antigen reaction in actual modifications and techniques for infectious diseases.

Social Competencies: Student understands the need of systematic studying the knowledge progress and scientific findings in immunology.

Basic literature: Abbas A. K. et al., Cellular and molecular immunology, wyd. Elsevier, 2018

Supplementary literature: Abbas A. K. et al., Basic immunology: functions and disorders of the immune system, wyd. Elsevier Saunders, 2014

The allocated number of ECTS points consists of:

Contact hours with an academic teacher: 65

Student's independent work: 60