

**Course name: Human immunology** (USOS Code: B-BMED.2010Eng)

**ECTS: 5**

**No. of hours: 60** (30 lectures + 30 classes)

**Course coordinator:** Dr Magdalena Mizerska-Kowalska

**Prerequisites:** General knowledge of medical microbiology and cell biology

**Course description:** The role and basic features of the immune system. Organs and cells of the immune system. Structure and role of MALT and SALT. Mechanisms of communication between cells of the immune system (cytokines, adhesion molecules). Structure and biological characteristics of antigens and antibodies. Lymphocyte differentiation. Humoral and cellular immune response. Passive and active mechanisms of innate immunity (phagocytosis, complement system, non-specific bactericidal substances, interferon). Recognition of microorganisms by non-specific mechanisms of immunity. Anti-infective immunity against various groups of microorganisms (bacteria, viruses, fungi) and parasites. Immune tolerance - mechanisms that provide self-tolerance, factors leading to the abolition of self-tolerance, some autoimmune diseases. Types of hypersensitivity, mechanisms of hypersensitivity, examples of hypersensitivity related diseases, basic diagnostic tests. General characteristics of viruses - structure, properties, classification, replication, theories of origin of viruses, variability of viruses.

**Recommended literature:** Delves P.J., Martin S.J., Burton D.R. Roitt's Essential Immunology. Blackwell Publishing Ltd. 2011; Male D., Brostoff J., Roth D., Roitt I. (eds) Immunology 8th edition, Imprint: Saunders, Published Date: 17th September 2012; Janeway C.A., Travers P. Immunobiology, Garland Publishing Inc. 1994; Harper D.V. Viruses Biology Applications Control, Garland Science 2012; Mahy B.W.J. (ed.) Human and Medical Virology, 2010.