

Course name: General microbiology (USOS Code: B-BMED.2002Eng)

ECTS: 5

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

Course coordinator: Dr hab. Iwona Komaniecka, prof. UMCS

Prerequisites: Basic knowledge of biochemistry and organic chemistry

Course description: Introduction into the microbiology. History of microbiology. Evolution of life on the Earth. Prokaryotic and eukaryotic microorganisms. Taxonomy of microorganisms. Structure and functions of procaryotic cell: bacterial cell wall components, motility structures, endospores, spare materials and genome. Growth and development of microorganisms. Effect of physical and chemical factors on microbial growth. Antibiotics. Introduction into medical microbiology. Microorganisms nutrition: source of carbon, nitrogen, hydrogen, oxygen, phosphate and sulphur. Microbial metabolism: oxygenic and anoxygenic respiration, fermentation, photosynthesis, chemosynthesis. Interactions between microorganisms and other organisms in the environment. Characteristics of bacteriophages: their structure and reproduction.

Recommended literature: Willey Joanne M., Sherwood Linda M., Woolverton Christopher J. (Eds) - Prescott, Harley, and Klein's Microbiology, 7th ed., 2008; Black Jacquelyn G. - Microbiology. Principles and Explorations, 8th ed., 2012; Madigan Michael T., Martinko John M., Bender Kelly S., Buckley Daniel H., Stahl. David A. (Eds) - Brock Biology of Microorganisms, 14th ed., 2015.