

Course name: General ecology (USOS Code: B-BMED.2007Eng)

ECTS: 5

No. of hours: 60 (15 lectures + 45 classes)

Course coordinator: Dr hab. Piotr Sugier, prof. UMCS

Prerequisites: Basic knowledge in the field of botany and zoology

Course description: Basic concepts of ecology. Ecology and other sciences. Levels of organization in ecology. Ecological factors affecting the organism. Principle of ecological tolerance. Theory of ecological niche. Life forms of plants and animals. Life history traits and adaptation strategies of organisms. Population abundance and density. Spatial organization of populations. Types of population structures. Processes in population. Concept of the ecosystem. Food chains and food networks in different types of ecosystems. Primary and secondary productivity. Energy flow through the ecosystem. Nutrient cycling and biogeochemical cycles. Species interactions (neutral, negative, and positive). Role of biological and physical factors in a developing community structure. Ecological succession. Diversity and characteristics of biomes. Scientific methods including field and laboratory methods to understand ecological patterns and processes (observation, sampling, data recording, data analysis and reporting).

Recommended literature: Begon M., Townsend C.R., Harper J.L. 2006. Ecology. From individuals to ecosystems, 4th edition, Blackwell Publishing, Oxford; Krebs Ch.J. 2009. Ecology: the experimental analysis of distribution and abundance, 6th edition, University of British Columbia, Vancouver.