

**Course name: Applied biology in medicine** (USOS Code: B-BM.073Eng)

**ECTS: 3**

**No. of hours:** 40 (0 lectures + 40 classes)

**Course coordinator:** Dr hab. Rafat Gosik, prof. UMCS, Dr Anna Rysiak

**Prerequisites:** General knowledge of botany and zoology

**Course description:** The importance and use of plants, algae, lichen and fungi in human life and medicine. Selected plant-building elements useful from a medical point of view: cell – main primary (spare substances) and secondary metabolites; secretory tissues - structure, occurrence and functions; pollen, seeds and fruits - identification, ways of spreading, pollen analysis of honey, soil seed bank. Lower plants, lichens, and fungi – as a source of secondary metabolites, ways spreading and use in medicine. Vascular plants and their role in medicine: poisonous, medicinal (herbal), useful and invasive plants. Animals (Invertebrates and Vertebrates) as reservoirs and vectors of diseases and pathogens. Annoying and dangerous species - recognition, pathogen transmission, importance, harmfulness. Allergy to selected animals. Common, synanthropic species and their interaction with human. Animals as a source of drugs and medicinal product. Animals in humane therapy. Animals in EBM medicine, alternative and folk medicine.

**Recommended literature:** Handbook of Poisonous and Injurious Plants. L. S. Nelson, R. D. Shih, M. J. Balick. The New York Botanical Garden, Springer, 2007; Bryophyte Ecology. Vol. 5. Uses: Household and personal uses. Medicine and antibiotics. Technological and commercial use. Glime J.M. eBook sponsored by Michigan Technological University and The Int. Ass. of Bryologists, 2008-2015. <http://www.bryoecol.mtu.edu/>; Parasitology, An Integrated Approach. Ian Gunn, Sarah Jane Pitt, Willey &Blackwell. 2012; Handbook of Clinical Toxicology of Animal Venoms and Poisons Julian White, Jürg Meier. 1995; Medical Entomology for Students. M. Service, Cambridge University Press; 2012.