

Module name	<b>Applied biology in medicine</b>
Module code	B-BM.073Eng
ISCED code	0511: Biology
Study cycle	I <sup>o</sup>
Semester	winter
Responsible for this module	Imię i Nazwisko Anna Rysiak*, Rafał Gosik Department of Botany, Mycology and Ecology*  email*: anrysiak@poczta.umcs.lublin.pl emali: r.gosik@poczta.umcs.lublin.pl
Language of instruction	English
Website	
Prerequisites	No
ECTS	3
ECTS points hour equivalents	Contact hours (work with an academic teacher) – 40  - labs: 40 Non-contact hours (students' own work) – 40 - preparation for labs: 10 - laboratory tests – student's own work 20 - literature study: 10  <b>Total number of ECTS points for the module - 3</b>
Learning outcomes verification methods	.....
Course full description	Selected elements of plant structure important from the medical point of view: cell - the most important metabolic products and spare substances; secretory tissue - formations and products of secretion; pollen, seeds, fruit - identification, methods of spreading, pollen analysis of honey. Algae, bryophytes, fungi, and lichens - methods of spreading, biologically active compounds. The importance of plants, algae, lichens and fungi in human life and their use in medicine.  The lecture provides students with: Animals as a reservoir of diseases and pathogens. Animals that are burdensome and dangerous to humans - recognition, pathogen transmission routes, importance, harmfulness. Common synanthropic animals. Biologically active compounds produced by animals. Animals in conventional medicine and in folk medicine.

	<p>Animals in homeopathy.</p> <p>Laboratory classes are focused on practical recognition of medically important animals (Acari and Insecta, selected Vertebrates) and knowledge of their morphology, biology, systematics, and medical and sanitary importance.</p>
<p>Bibliography</p>	<p>Shipunov A. Introduction to Botany. Minot State University, 2020.</p> <p>Lori M. Carris, Christopher R. Little and Carol M. Stiles. Introduction to Fungi. Washington State University, Kansas State University, and Georgia Military College, 2012.</p> <p>Jure Pohleven, Tamara Korošec, Andrej Gregori. Medicinal Mushrooms. Published by MycoMedica, 2016.</p> <p>Ian R. Hall, Steven L. Stephenson, Peter K. Buchanan, Wang Yun, Anthony L. J. Cole. Edible and poisonous mushrooms of the world. Timber Press, 2003.</p> <p>Lonc E., Złotorzycka J. 2000. Principles of modern Protozoological Parasitology, Wydawnictwo Uniwersytetu Wrocławskiego 88pp</p> <p>Sougata Ghosh 2017. Paniker'S Textbook of Medical Parasitology, Jaypee Brothers Medical Publishers, 276 pp</p> <p>Kasprzak W., Majewska A. C. 1998. Study guide to accompany practical medical parasitology and to inquire into biology of human parasites, Karol Marcinkowski University of Medical Sciences in Poznań. Department of Biology and Medical Parasitology. 137 pp</p> <p>Loker E.S., Hofkin B.V. 2015. Parasitology, A conceptual approach. Garland Science, 560 pp.</p>
<p>Learning outcomes</p>	<p><b>KNOWLEDGE the graduate knows and understands</b></p> <p>Knows the basic features of the structure of fungi, plants, and animals. Recognizes the structure and significance of the morphological structures they produce and the links between the above-mentioned organisms and their environment. Can recognize the most important groups (species) of animals which have a decisive influence on the</p>

spread of diseases among humans and plants and fungi of medical significance. Has knowledge about the influence of discussed elements of natural environment on human health condition.

**W2.** He knows the principles of classification of fungi, plants and animals in relation to their medical importance, basic terms in medicine and parasitology (.).

**W3.** Knows and understands the role and importance of fungi, plants, and animals in the environment.

**W4.** Understands the mutual relations between humans and other living organisms.

**W5.** Knows and understands the possibilities of practical use of knowledge about fungi, plants and selected animal species in everyday life and human economy.

**SKILLS the graduate is able to:**

**U1.** Student can prepare different types of microscope preparations, distinguish elements of fungi structure from tissues of host organisms, isolate particular parts of plants, dissect arthropods, prepare selected morphological elements for preparations.

**U2.** Proficiently uses microscope equipment.

**U3.** Is able to map the observed features in the preparation of iconographic documentation.

**U4.** Uses specialist literature, recognizes the most important representatives of domestic fauna, flora and fungi biota. Can prepare short speeches and presentations using specialist scientific texts and applying proper terminology.

**U5.** Recognizes basic edible and poisonous mushroom species, plants of medical importance and animals that can have the greatest impact on human health.

**SOCIAL COMPETENCES:**

**K1.** Actively participates in classes, skillfully works in a group determining the order of activities and agreeing on principles of operation, carefully and correctly performs the entrusted tasks.

**K2.** Proceeds according to rules of hygiene and

	<p>safety, takes care of workstation, used apparatus and materials.</p> <p><b>K3.</b> Shows pro ecological attitude and acts in accordance with the rules of scientific ethics - is aware of the protection of biodiversity as a main component of biosphere.</p>
Practice	
Teaching methods	Laboratory practice, observation, presentation, description, scientific discussion