

<b>Study Programme:</b> Veterinary Medicine
<b>Course Unit Title:</b> Biology
<b>Course Unit Code:</b> 3IBM1001
<b>Name of Lecturer(s):</b> Aleksandar Jurišić, PhD
<b>Type and Level of Studies:</b> Integrated academic studies
<b>Course Status (compulsory/elective):</b> Compulsory
<b>Semester (winter/summer):</b> Winter
<b>Language of instruction:</b> English
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to-face
<b>Number of ECTS Allocated:</b> 4
<b>Prerequisites:</b> None
<p><b>Course Aims:</b></p> <p>The aim of the course is well trained and educated students for the proper use of primary biological, ecological, genetic and evolutionary concepts. Training students for determination and identification of the biological characteristics of the given animal species.</p>
<p><b>Learning Outcomes:</b></p> <p>The student is qualified for further education through master's and PhD studies. After passing the exam, students are able to carry out practical recognition and identification of animal groups, as well as their importance in veterinary medicine.</p>
<p><b>Syllabus:</b></p> <p><i>Theory:</i> Biology and levels of biological organization. Molecular basis of the unity of life. Acellular forms, procaryotic and eucaryotic organisms. The cell organelles. The cell cycle, mitosis, meiosis and cell death, apoptosis. Preembryonic and embryonic period of development of vertebrates. Elements of cytogenetics. Reproduction and growth of animals. Types of regulatory and control systems and their interactions. Biological homeostasis. Factors and growth control. Genetics. The structure of chromosomes, homologous chromosomes and allelic genes, homozygots, heterozygots, dominant and recessive genes, mono and dihybrid crossing. Inheritance. Mechanisms of gene recombination techniques. Interaction of genes. Pleiotropy, polygenia, epistasis and lethal genes. Multiple alleles and balanced polymorphism. Population genetics. Mutations and induced mutations. Genetic defects and chromosomal defects. Biology, morphology, development and ecology of honeybees. Biology, structure, development and fish ecology.</p> <p><i>Practice:</i> The microscope and microscopic techniques. The shape and size of the cell. The cell cycle, mitosis, meiosis. Chromosomes. A tissue as higher structural level. Mendel's rules of inheritance (monohybrid and dihybrid inheritance). The observation of animal taxa important for Veterinary Medicine: Platyhelminthes, Nematoda, Annelida, Acarina, Mollusca Insecta, Pisces, Amphibia, Reptilia, Aves and Mammalia.</p>
<b>Required Reading:</b>

1. Đukić, N., Horvatić, A., Kataranovski, D., Maletin, S., Matavulj, M., Pujin, V., Sekulić, R., Jurišić, A. (2018): Poljoprivredna zoologija, Poljoprivredni fakultet, Univerzitet u Novom Sadu.
2. Anđelković, Z., Somer, Lj., Matavulj, M., Lačković, V., Lalošević, D., Nikolić, I., Milosavljević, Z., Danilović, V. (2002): Čelija i tkiva. Bonafides
3. Kraljević-Balalić, M., Petrović S., Vapa Lj. (1991): Genetika: teorijske osnove sa zadacima. Univerzitet u Novom Sadu, Poljoprivredni i Prirodno-matematički fakultet
4. Bowman D.D. (1999): Georgis Parasitology for Veterinarians 7th edition. W.B. Saunders Company
5. Hickman, Jr. C.P., Roberts, L.S., Keen, S.L., Larson, A., l'Anson, H., Eisenhour, D.J. (2008): Integrated Principles Of Zoology, 14th Ed. McGrawHill, New York, USA

**Weekly Contact Hours: 60**

**Lectures:30**

**Practical work:30**

**Teaching Methods:**

Lectures – oral, textual and illustrative / demonstrative methods.

Practical classes - management of students' individual work and demonstrative / illustrative methods

**Knowledge Assessment (maximum of 100 points):**

<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class participation	5	written exam	30
Practical work	5	oral exam	30
Preliminary exam(s)	30	.....	
Seminar(s)			

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.