Course Unit Descriptor

Study Programme: PHYTOMEDICINE

Course Unit Title: BIOINDICATIVE ZOOLOGY

Course Unit Code: 19.FT1014

Name of Lecturer(s): prof. Aleksandar Jurišić, PhD; prof. Aleksandra Petrović, PhD, doc. Ivana Ivanović, PhD

Type and Level of Studies: Undergraduate academic studies

Course Status (compulsory/elective): elective

Semester (winter/summer): summer

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 6

Prerequisites: none

Course Aims:
Introducing students to bioindicative zoology in agriculture and environmental protection. Student education for independent identification of animal species used as bioindicators and biomonitors. Introduction to the structure, functions and organization of animal organisms of importance for bioindicative zoology. Training to assess the status of ecosystems.

Learning Outcomes:

Theoretical and practical knowledge of bioindicative zoology. Independent assessment and use of animal species in ecosystem monitoring protocols and methods. Knowledge of biology and ecology of selected animal species.

Syllabus:

Theory
Introduction to bioindicative zoology. History and development of bioindicative zoology within the ecological sciences. Animal taxa used as bioindicators, biomarkers and biomonitors. Invertebrates: Nematode, Annelida, Mollusca, Arthropoda. Vertebrata: Pisces, Amphibia, Aves, Mammalia. Biology, ecology and physiology of these species. Definition of stress, plasticity and adaptation in the animal world.
Practice
Sampling, identification and utilization of zooplankton, macro-, microinvertebrates and vertebrates. Biology, ecology, physiology and behavior of these species. Calculation of ecological indices and biodiversity indices.

Required Reading:

Markert B.A., Breure A.M., Zechmeister H.G. (eds) (2003): Bioindicators and Biomonitors. Elsevier.
Jeffrey D.W., Madden B. (eds) (1991): Bioindicators and Environmental Management. Academic Press.
McKenzie D.H., Hyatt D.E., McDonald V.J. (eds) (1992): Ecological Indicators: Volume 1. Springer-Science + Business Media, B.V.
Hickman, Jr. C.P., Roberts, L.S., Keen, S.L., Larson, A., I'Anson, H., Eisenhour, D.J. (2008): Integrated Principles Of Zoology, 14th Ed. McGraw-Hill, New York, USA

Weekly Contact Hours:	**Lectures: 15**	**Practical work: 30**

Teaching Methods:

Lectures: presentations and consultations;
Practical classes: independent laboratory exercises with microscopic and macroscopic samples, calculations

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	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.