Course Unit Descriptor

Study Programme: BSc in Biology

Course Unit Title: Biology of Macrofungi (Mushrooms)

Course Unit Code: OB065

Name of Lecturer(s): Associate Professor Maja Karaman

Type and Level of 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:

Course Aims:

The course represents an upgrade to the basic courses in microbiology and biology of algae and fungi, and aims to introduce students to the specific characteristics of the macrofungi, the members of the subdivision Ascomycota and Basidiomycota, their morphology and taxonomy, physiology, genetics, interactions with other organisms, in nature and their significance for humans.

Learning Outcomes:

After completing the course, the student is expected to: explain the specificity of the material and characteristics of the growth of the macrofungi, their physiology and genetics; to know how to describe the role of a macrofungi in the ecosystem and to explain the specific relationships that they establish with other organisms; to explain the significance of the macrofungi to humans.

Syllabus:

Theory. General features of morphology of macrofungi (micro and macro-character). Taxonomy and systematics of macrofungi. Differentiation and development of macrofungi. Nutrition of macrofungi. Basics of metabolism, secondary metabolism and the influence of environmental factors on the growth of the macrofungi. Specificities of reproduction, genetics and variability of macrofungi. Significance of macrofungi in nature. Distribution and ecophysiology of macrofungi. Significance of the macrofungi for humans: edible, poisonous, medicinal, delicate. Basics of mushroom cultivation. Mushrooms in biotechnology. The vulnerability and protection of diversity is fragile.

Practice. The basics of field research are fragile; Collecting a macrofungi from nature; Getting acquainted with the basic micro- and macro-morphological characteristics of the macrofungi; Basic determinations; Isolation, cultivation and storage of macrofungal mycelia in laboratory conditions.

Required Reading:

1. Webster J., Weber R.W.S. (2007) Introduction to Fungi. Cambridge University Press, Cambridge, UK.
2. Varma A., Kharkwal A.C., eds. (2009) Symbiotic Fungi – Principles and practices. Springer Verlag, Berlin Heidelberg.
3. Carlile, M., Watkinson, S.C., Gooday, G.W. (2006) The Fungi. Elsevier Ltd, UK.
4. Peterson, R.L., Hugues M.B., Melville L.H. (2004) Mycorrhizas: Anatomy and cell biology. National Research Council of Canada, Ontario, CA.
5. Радновић Д., Матавуљ М., Караман М. (2007) Микологија. Скрипта за студенте биологије. Издавач: ПМФ Нови Сад, Универзитет у Новом Саду. WUS Austria ISBN 9787-86-7031-118-3.
6. Дураковић С., Дураковић Л. (2003) Микологија у биотехнологији. Свеучилиште у Загребу.
7. Flegg P.B., Spencer D.M., Wood D.A.: The biology and technology of the cultivated mushroom. John Willey & Sons, Chichester ..., 1985.

Weekly Contact Hours:	**Lectures:** 2	**Practical work:** 2

Teaching Methods:

Lectures, laboratory exercises, seminar work and consultations.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation		written exam	
Practical work		oral exam	70

Preliminary exam(s)	30	…….	
Seminar(s)			