Course Unit Descriptor

Study Programme: BSc in Ecology
Course Unit Title: SYSTEMATICS OF ALGAE AND FUNGI
Course Unit Code: OE001
Name of Lecturer(s): Associate Professor Maja Karaman
Type and Level of Studies: Bachelor degree
Course Status (compulsory/elective): required
Semester (winter/summer): winter
Language of instruction: English
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 7
Prerequisites: A course in Cell Biology
Course Aims: A course designed to acquaint students with the position of algae and fungi in the system of biota, with phylogenetic relationships in the frame of lower taxonomic categories. The focus will be on the biology of these organisms, specifically on understanding their elementary functional structure and organization, their basic matabolism, with the aim to understand their role and importance in the nature and significance for human species, and enabling students for determination to higher taxonomic categories.
Learning Outcomes: This program provides students with the necessary basic knowledge on morpho-anatomic characteristics of algae, fungi and lichens, as the basis for understanding classification system, as well as skills to make preparations, to recognize features important for identification and determination of species to the higher taxonomic categories, as well as to understand their significance for humans and their important role in the mater cycle in the nature.
Syllabus: *Theory.* Through the lectures in this course students get acquainted with the contemporary concept of the position of algae and fungi in the system of living beings, with their morphology, cytology and functional composition, biochemistry and physiology, development and evolution, as the basis for taxonomic classification of these organisms, and with their role in the nature and significance for human beings, all organized in educational topics: Short history and interrelationship between systematic and other scientific disciplines; Comparative review of morphology, functional structure, and reproduction of algae, fungi, fungi-like organisms, and lichens; Metabolic characteristics, biochemistry and bioenergetics, and specificities of algal and fungal genetics; ecology and systematic; Importance and role of algae and fungi in the nature: pathogenic properties, eukaryotic microorganisms in medicine, veterinary medicine, pharmacy, plant protection, biodegradations; Biotechnological application of algae and fungi: food production, biotransformation, fermentative industry, bioactive metabolites, and algae and fungi in the environmental protection. *Practice*. Students with the preparations of objects for light microscopy. Also get acquainted with the growth of algae, fungi, and fungi-like organsims in laboratory, in different media. Microscopy enable students to learn characteristics of morphology and functional organization of algae, fungi, and lichens, as the basis for students laboratory experimental work, as well as the basis for understanding and distinguishing characteristics of algae and fungi, necessary for procedure of identification and determination of studied organisms.
Required Reading: 1. Blaženčić J. (2007): Systematics of algae. NNK International. Belgrade ISBN 9788683635672. (In Serbian)

2. Gajin S., Matavulj M., Gantar M. (1987): Fundamentals in Microbiology, algae and fungi, Manual. University of Novi Sad, Faculty of Sciences, Novi Sad, (In Serbian)

3. Ranković B. (2003): Systematics of Fungi. Faculty of Sciences. Kragujevac. ISBN 8681829505. (In Serbian)

4. Lecture outlines and Power-point presentations (In Serbian and in English).

Weekly Contact Hours:	**Lectures:** 3	**Practical work:** 3

Teaching Methods: lectures, practicals, consultations, seminars, colloquia

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	2	written exam	10
Practical work	30	oral exam	10
Preliminary exam(s)	48	…….	
Seminar(s)	-		

Students will develop a deeper understanding of one area of fungal biology through independent study. Part of the learning material will be available on the internet.

students with disabilities would be consult about their possibilities in a manner of taking exams (theoretical and practical) thus the exams will be adjusted to them