Environment Biology and Nature Protection

Code: MK5KBTVK04KX17-EN

ECTS Credit Points: 4

Evaluation: exam

Year, Semester: 1st year/1st semester

Number of teaching hours/week (lecture + practice): 2+2

Topics:

The aim of the environmental biology curriculum we are discussing about the parts of biosphere where the living organisms play an important role. "Soil, water, air as well as environment" - a way of life. We present biomass and ecosystems as well as abiotic and biotic components of ecosystems.

Soil habitats play an important role in the formation of soil (the first step in biological melting), soil organic matter transformation (humus formation) and degradation processes (mineralization), circulation of elements and ecosystem energy flow. The impact of human activity on the soil. We present the processes in river and standing waters. Water quality. The impact of human activity on living waters. Protecting the biosphere. Our goal is to enable students to integrate new knowledge about soil, water and air. As we pass on knowledge, we strive to emphasize the harmony of sustainable, environmentally friendly farming, environmental and nature conservation.

Within the nature conservation part of the curriculum we are discussing the main nature conservation directives, the development of nature protection regulation and administration and the international status of nature conservation.

Students will get acquainted with the central and regional organizations of the Nature Conservation Administration, nature conservation groups, their status and the possibilities of their protection.

Students acquire the basics of conservation biology and the essential elements of biodiversity protection.

Students acquire knowledge of the most important practices of nature conservation, the operation of national parks, and the importance of nature conservation in practice, international nature conservation conventions and the European Union's nature conservation regulations.

Literature:

Required:

- Bardgett, R.: (2005) The Biology of Soil. A Community and Ecosystem Approach. Oxford University Press
- The material of the lectures is available in the form of ppt.

Recommended:

- Paul, E. A. (ed) 2007. Soil Microbiology, Ecology and Biochemistry Academic Press is an imprint of Elsevier.
- Wall, D. H. et al. (eds.) (2012) Soil Ecology and Ecosystem Services, Oxford University Press

- R. B. Primack (2014): Essentials of Conservation Biology. Sinauer Associates, Inc. ISBN: 978-1-0535-293-3

Schedule

1st week Registration week	
2nd week: **Lecture:** The significance, tasks and basic concepts of environmental biology. **Practice:** The significance, tasks and basic concepts of nature conservation.	**3rd week:** **Lecture:** Ecosystems. **Practice:** The significance, tasks and basic concepts of nature conservation.
4th week: **Lecture:** Abiotic and biotic components of ecosystems. **Practice:** Essential elements of biodiversity protection.	**5th week:** **Lecture:** Characterization of soils. **Practice:** Nature conservation directives.
6th week: **Lecture:** Soil organic matter transformation (humus formation) and degradation processes (mineralization). **Practice:** Nature conservation directives.	**7th week:** **Lecture:** Circulation of elements and ecosystem energy flow. **Practice:** Development of nature protection regulation and administration.
8th week: 1st drawing week	
9th week: **Lecture:** The impact of human activity on the soil. **Practice:** The international status of nature conservation.	**10th week:** **Lecture:** The structure, composition and properties of the hydrosphere. **Practice:** Central and regional organizations of the Nature Conservation Administration.
11th week: **Lecture:** The impact of human activity on hydrosphere. **Practice:** Nature conservation groups.	**12th week:** **Lecture:** The impact of human activity on living waters. **Practice** Basics of conservation biology and the essential elements of biodiversity protection.
13th week: **Lecture:** The impact of human activity on biosphere. **Practice:** Basics of conservation biology and the essential elements of biodiversity protection.	**14th week:** **Lecture:** Protecting the biosphere. **Practice:** European Union's nature conservation regulations.
15th week: 2nd drawing week	

Requirements

A, for a signature:

Attending practices is compulsory. Students have to attend lectures or practice classes and may not miss more than three lectures or practices during the semester. In case a student misses more than three, the subject will not be signed and the student must repeat the course. The attendance of lectures and practices is recorded by the practice leader. Being late counts as an absence. In case of further absences, a medical certificate needs to be presented. Students are required to bring the printed materials of the lectures with them to each lecture and practice class. Active participation is evaluated by the teacher in every class. Active participation is evaluated by the teacher in every class. If a student's behaviour or conduct does not meet the requirements of active participation, the teacher may evaluate his/her participation as an absence due to the lack of active participation in class.

B, for an exam grade:

The minimum requirement of the written exam test is 60% separately. The grade for each test is given according to the following (score/grade): 0-59 = fail (1); 60-69 = pass (2); 70-79 = satisfactory (3); 80-89 = good (4); 90-100 = excellent (5).

If the score of any test is below 60%, the student once can take a retake test of the whole semester material.