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| **Title and code** of the subject: **Natural sciences II: Nature conservation ecology, MTMKG7008A** | **ECTS Credit Points: 4** |
| **Type** of the subject: **compulsory** | |
| **Ratio of theory and practice:** (credit%) 50/50 | |
| **Type and number of classes per semester**: 28 hour(s) lecture and 28 hour(s) practice per **semester**  Number of teaching hours / week : 2+2 (lecture and practice) | |
| **Type of exam**: **practical course mark** | |
| **Subject in the curriculum:** semester 2 | |
| Preliminary requirements:- | |

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| **Summary of content - theory**: |
| In this subject, there is a special focus on the development of students' general awareness and correct ecological approach. The ecological concept of the biotic environment and the levels of ecological organization are also part of the curriculum. In addition to the above, they are familiarised with the national system of nature conservation and its most important values.  1 The system of biotic environmental factors. Population Ecology. The structure of populations, factors that regulate the population.  2. Regulatory mechanism of population numbers, r and K-type selection. Graduation.  3. Intra- and interspecific interactions.  4. Community Ecology. Structure and change of communities.  5. Food chains, food networks. Material and energy flow in biocenosis.  6. The habitat of living beings. Basics of biogeography. The Pannon biogeographical region.  7. Biodiversity. Types, measurement, protection of biodiversity. Concept of ecological footprint.  8. Concept, purpose, principles and system of symbols of nature protection. Green Days.  9. International regulation of nature conservation.  10. Nature conservation value groups. Geological, aquatic values ​​and protection  11. Protection of their wild plant and animal associations.  12. Area-protected natural values  13. International Conservation Conventions  14. Nature Conservation Regulation in the European Union |
| **Summary of content - practice**: |
| During the practice students will learn and will be able to apply in practice the specific system of ecological organizational levels and the ecological relationships of living communities. The introduction of anthropogenic impacts on living communities based on the principle of "think globally, act locally" is particularly important. In addition to ecological approach, they gain insight into certain elements of domestic and international nature conservation practices.   1. Evaluation of biotic factors- general field methods 2. Examples for actual projects of nature conservation management in Hungary 3. Migration types, the protection of migratory species 4. The elements and endangering factors of water circle 5. Impact studies about global warming and climate change 6. Taxonomy and protection of geological values 7. Taxonomy and protection of hydrological values 8. Taxonomy and protection of botanical values 9. Taxonomy and protection of zoological values 10. Area-protected natural values in Hungary 11. Area-protected natural values internationally 12. Endemic and relic species in the Pannon biogeographic region 13. Nature Conservation Regulation in the EU: the Natura 2000 system 14. Ex-situ Nature Conservation- a Field trip in the Zoo of Debrecen |
| **Literature, handbooks in English** |
| 1. Begon M. , Harper J.L., Townsend C.R. (1996): Ecology- Individuals, Populations and communities, Blackwell Science, ISBN: 0-632-03801-2 2. Otero C., Bailey C. (2003): Europe’s Natural and Cultural Heritage, Friends of the countryside, ISBN: 84-607-9790-2 3. Voloscuk I. (ed). (1999): The National Parks and Biosphere Reserves in Carpathians-The last nature paradise, ACANAP, Tatranská Lominca, Slovak Republic, ISBN: 80-88680-31-X |
| **Competencies gained** *(acc. to the Regulation on training and outcome requirements)* |
| **a) knowledge**  - Being familiar with the professional terms and vocabulary of the field  - Recognition of ecological phenomena and appreciate their significance in practice  - A specific knowledge that underpins the acquisition of subjects including ecological knowledge in training.  **b) ability**  - Ability to summarize, publish, and communicate the subject matter  - Based on the obtained knowledge, the ability to prepare and evaluate ecological case studies  - Ability to make proposals to lay down professional decisions  **c) attitude:**  - Having an environmentally conscious view, respect the living and inanimate environment  - Sensitivity to environmental change, economic, social evaluation  - Following the professional changes related to the subject matter and incorporating them into the future  **d) autonomy and responsibility:**  - Responsibility for applying the ecological approach, for transferring knowledge  - Capability of carrying out professional tasks  - Adhere to expected environmental standards, evaluating the concept of ecological footprint, in his/her home and workplace environment |

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| **Responsible lecturer: Lajos Juhász,habil. PhD.** |
| **Other lecturer(s): Lajos Kozák, PhD.** |

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| **Terms of course completion:** |
| 1. Completing assignments / exercises |
| **Form of examination:** |
| 1. Colloquium in the Examination Period: Anyone who has obtained the examination privilege may take an oral or written examination under the specified conditions during the examination period, the result of which is not influenced by the grade obtained in practice. A total of 3 examinations per semester, of which a possible third (“C”) exam will only be conducted orally before the Examination Board. |
| **Requirement(s) to get signature:** |
| - Regular visits to lectures  - Successful completion of the lectures, the practical examinations and the fulfilment of individual tasks. |

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| **Exam questions:** |
| 1. The system of biotic factors, ecological organization levels  2. The structure of populations, the ecological niche, metapopulations  3. Change in population numbers, r and K-type selection  4. Intra- and interspecific ecological relationships  5. The concept of community ecology  6. Material and energy flows in ecological systems  7. Basics of biogeography. The ‘Pannon’ biogeographical region  8. Ecological interpretation and measurement of biodiversity  9. Concept and measurement of ecological footprint  10. Environmental awareness, ecological approach - in practice  11. The concept of nature conservation  12. Symbolism of nature protection  13. The Green Days  14. The most important events in the international history of nature conservation  15. The history of nature conservation from the beginning to 1935  16. The history of nature conservation from 1935 to the present  17. The LIII / 96. Nature Conservation Act  18. Geological natural values  19. Natural values of water  20. Botanical Natural Values  21. Zoological Natural Values  22. Landscape Natural Values  23. Cultural Historical Values  24. Forms of territorial protection in Hungary  25. National Parks in Hungary  26. Landscape protection areas  27. Nature conservation areas, natural values  28. The Ramsar and Washington Conventions  29. Berne, Bonn, Biodiversity and the Cartagena Conventions  30. The Forest Reserve Program  31. Nature conservation regulation in the European Union |