

Course Information Sheet

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| University: <i>University of Prešov in Prešov</i> | |
| Faculty: <i>Faculty of Humanities and Natural Sciences</i> | |
| Code: <i>2EKO/LIMNO/22</i> | Title of Course: <i>Limnoecology</i> |
| Form of Study: <i>lectures, laboratory classes</i> | |
| Number of contact hours: <i>per week: 2 lectures, 1 laboratory classes</i> <i>per level/semester: 20 lectures, 10 laboratory classes, 40 home work, 40 self study, 40 individual field work</i> | |
| Method: <i>physical presence/traditional classrooms</i> | |
| Number of credits: <i>5</i> | |
| Semester: <i>4. semester/2. study year</i> | |
| Degree/Level: <i>bachelor</i> | |
| Prerequisites: | |
| Grading Policy (Assessment/Evaluation): <i>Attendance at seminars is mandatory. A student can have a maximum of 2 absences justified on the basis of a medical certificate. In case of justified absence, the student will receive substitute assignments or attend consultations. In case of unjustified absences or a larger number of absences, the student will not be granted credits.</i> <i>The evaluation of the student's study results within the study subject will be performed as follows:</i> <i>continuous control of study results during the semester (field and laboratory protocols, seminar work, 2 continuous written checks) with a minimum success rate of 50%.</i> <i>The success criteria (percentage expression of results) are for the classification levels as follows:</i> a) A - 100.00 - 90.00% b) B - 89.99 - 80.00% c) C - 79.99 - 70.00% d) D - 69.99 - 60.00% e) E - 59.99 - 50.00% f) FX - 49.99 and less% | |
| Aims and Objectives: <i>In three field exercises, the student completes the collection, processing and analysis of biotic and abiotic samples from stagnant and flowing waters (field, laboratory). As part of an independent field exercise, he completes an excursion to a wastewater treatment plant with an expert explanation.</i> <i>By completing the course, the student will demonstrate knowledge in the field of aquatic ecosystems. He knows common organisms living in water and their adaptation to the aquatic environment, he can give examples of specific representatives of aquatic organisms. Can define terms: food chains, understand interactions, nutrient circulation and energy flow in aquatic ecosystems, can distinguish productivity and production. He can independently describe the basic biocenoses of water. Can independently name and describe aquatic ecosystems and their organisms.</i> <i>The student demonstrates the ability to:</i> - <i>biotic and abiotic sampling of the aquatic environment,</i> - <i>distinguish ecological groups of animals from Lotic and Lenitic habitats,</i> - <i>knows the process of transport, wastewater treatment and their impact on aquatic habitats,</i> - <i>use the aquatic organism as a bioindicator of the quality of the aquatic environment.</i> | |

After completing the course, students have the ability to further their education and are able to obtain and interpret new information in the field of ecology of freshwater ecosystems. Based on them, they are able to make correct, creative and original decisions in solving ecological and environmental problems related to freshwater ecosystems, even with incomplete or limited information. The conclusions obtained by a separate study of continental waters can communicate and justify non-experts and the professional public clearly and intelligibly.

Syllabus/Indicative Content:

1. Limnoecology - definition, structure, classification in the system of sciences. Water as an environment - structure and basic physical and chemical properties of water.
2. Aquatic organisms, adaptation to the aquatic environment - viruses, bacteria, single-celled eukaryotes, fungi, algae and higher plants.
3. Organisms living in water, adaptation to the aquatic environment - Metazoa.
4. Interactions, food chains, nutrient circulation and energy flow in aquatic ecosystems. Productivity and production in aquatic ecosystems.
5. Basic biocenoses - plankton, phytobenthos.
6. Basic biocenoses of water - benthos, fish. Characteristics, communities, interactions and processes in aquatic ecosystems, their threat and protection:
7. Aquatic ecosystems - types and types of waters, groundwater and springs.
8. Aquatic ecosystems - running waters.
9. Aquatic ecosystems - stagnant waters, special types of stagnant waters.
10. Research methods of freshwater ecosystems.
11. Ecosystem services of freshwater ecosystems.
12. Wastewater. Eutrophication. Saprobity. Assessment of surface water purity, sampling, processing and analysing.
13. Legislative protection and use of Slovak waters.

Suggested readings:

- LAMPERT, W., SOMMER, U.: Limnoecology: The Ecology of Lakes and Streams. Oxford, 2007.
 ALLAN, J.D., CASTILLO, M.M.: Stream Ecology: Structure and Function of Running Waters. Academic Press, 2017.
 HAUER, F.R., LAMBERTI, G.A.: Methods in Stream Ecology. Academic Press, 2017.
 LELLÁK, J., KUBÍČEK, F.: Hydrobiologie. UK Praha, 1991.
 HUDEC, I.: Hydrobiológia. Príroda, Bratislava, 1996.
 MANKO, P. Ekológia vodného hmyzu, Prešov, 2015.
 RÚFUSOVÁ A. A KOL. (eds.) BENTICKÉ BEZSTAVOVCE A ICH BIOTOPY. Bratislava, 2017.
 BERACKO A KOL. Sladkovodné ekosystémy. Bratislava. 2014.

Language of Instruction: *slovak, english*

Other course information:

Grading history

33 students

| A | B | C | D | E | FX |
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| 61% | 18% | 15% | 3% | 0% | 3% |

Lecturer/Instructor:

doc. Mgr. Peter Manko, PhD., lecturer, examining teacher, laboratory classes
PaedDr. Jakub Fedorčák, PhD., lecturer, examining teacher, laboratory classes
RNDr. Michal Rendoš, PhD., lecturer (selected lectures), examining teacher, laboratory classes
RNDr. Radoslav Smolák, PhD., lecturer (selected lectures)

Last update: 9. mája 2022

Approved by: