Course Information Sheet

University: *University of Prešov in Prešov*	
Faculty: *Faculty of Humanities and Natural Sciences*	
Code: *2EKO/EKOMEX/22*	**Title of Course:** *Ecological methodology*
Form of Study: *lectures, laboratory classes/seminars* ***Number of contact hours:*** *per week: 1 lecture, 1 laboratory class* *per level/semester: 10 lectures, 10 laboratory classes/seminars, 20 team project, 40 home work, 40 self study* ***Method**: physical presence/traditional classrooms*	
Number of credits: *4*	
Semester: *2. semester/1. study year*	
Degree/Level: *bachelor*	
Prerequisities:	
Grading Policy (Assessment/Evaluation): *Attendance at seminars is mandatory. A student can have a maximum of 2 absences justified on the basis of a medical certificate. In the 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.* *The evaluation of the student's study results within the study subject will be performed as follows:* *a) continuous control of study results during the teaching part of the semester (, protocols, seminar work, 2 continuous written checks) with a minimum success rate of 50%.* *The success criteria (percentage expression of results in the evaluation of the exam from the subject) are for the classification levels as follows:* *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: *By completing the course, the student will demonstrate knowledge of ecological methodology with an overlap into applied ecological and environmental sciences and related natural sciences, which are relevant in relation to the study of living nature, ecology and nature conservation.* *The student demonstrates the ability to:* *- define and divide scientific disciplines and characterize the basic milestones of the history of science,* *- to describe the birth and formation of science, to describe the basic rules and principles of a correct scientific approach and the formulation of hypotheses,* *- describe the origin and dissemination of scientific methods, be familiar with the issues of methodology in ecology,* *- describe the specifics of ecological methods,* *- describe and practically use basic methods in ecology,* *- give examples of common serious errors in ecological methodology.*	

After completing the course, students have the ability to further self-education and are able to master and use new methods for solving environmental problems at the level of basic and applied research, as well as professional practice in the field of environmental studies and nature conservation.

Syllabus/Indicative Content:

1. What is science, division of sciences, basics of history of science, origin of modern science.
2. Scientific methods. Hypothesis. Science and Pseudoscience. Science as an institution.
3. Method selection criteria. Specificity of ecological methodology.
4. Ecological data. Sampling.
5. Randomness. Replication.
6. Sample size.
7. Determination of abundance. Determination of diversity.
8. Overlapping niche.
9. Experiments in ecology.
10. Experimental design.
11. Possibilities of ecological data analysis.
12. Interpretation of ecological data.
13. Methodological errors in ecology.

Suggested readings:

KREBS, C.J.: Ecological Methodology. HARPER a ROW PUBLISHERS, New York, 2002.
BROWER, J.E., ZAR, J.H.: Field and laboratory methods for general ecology. WM.C. BROWN COMPANY PUBLISHERS. Dubuque, Iowa,1998.
HAUER, F.R. - LAMBERTI G.A. (eds.): Methods in Stream Ecology (Second Edition). ELSEVIER, 2007
HENDERSON, P.A.: Practical Methods in Ecology.Wiley -Blackwell, 2003.
BERNAL, J. D. 1971. Science in History, Volume 1: The Emergence of Science, The MIT Press, ISBN-13: 978-0262520201. 398 p.
WILLIAMS, L. P. 2014. History of Science, Encyclopaedia Britannica. Cornell University, Ithaca, New York. 2014.

Language of Instruction: *slovak, english*

Other course information:

Grading history

12 students

A	B	C	D	E	FX
58%	8%	0%	8%	0%	25%

Lecturer/Instructor:

doc. Mgr. Peter Manko, PhD., lecturer, examining teacher, laboratory classes/seminars

Last update: 31/ March 2025

Approved by: