Course description

Vysoká škola: *University of Prešov*

Fakulta: *Faculty of humanities and natural sciences*

Code: 2EKO/MONZP/15
Course title: Environmental monitoring

Field of study:

Guarantor: *doc. Mgr. Peter Manko, PhD.*
Lectured by: *doc. Mgr. Peter Manko, PhD, Ing. Lenka Bobuľská, PhD.***,** *RNDr. Lenka Demková, PhD*.

Semester: ST **Contatct lessons:** *Lecture, Practical seminar* **Number of ECTC credits**:*3*
Recommended course load (in lessons):
Weekly: *1/1* **Per course:** *13,13*

Prerequisite(s):

Course assessment and completition:
Learning outcomes:
By completing the course, the student will demonstrate knowledge in the field of environmental monitoring (EM). He knows the terminology and content of the Ministry of the Environment, he can give examples of EM projects. He can independently describe the basic biocenoses of water. It can independently characterize the components of the environment and assign to them the methods and parameters that are monitored in them. It controls the basic legislative framework of the Ministry of the Environment in the Slovak Republic.

By completing the course, the student will demonstrate the ability to:
- be familiar with the issues of monitoring and biomonitoring,
- describe the methods of monitoring selected indicators of individual components of the environment,
- describe and practically use methods of bioindication, biodiagnostics and biomonitoring,
- explain the importance and use of monitoring and biomonitoring,
- give examples of specialized software usable in biomonitoring and bioindication,
- be able to use selected software usable in biomonitoring and bioindication,
- give examples of monitoring and biomonitoring programs and their objectives,
- characterize the basic legislative framework of monitoring in the Slovak Republic,
- define environmental monitoring in the Slovak Republic, its objectives, levels, CMS and outputs.

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 the Ministry of the Environment. Based on them, they are able to obtain data by measuring and analyzing samples in solving ecological and environmental problems. They can correctly interpret the results and use them in decision-making. The conclusions obtained by an independent study of the issues of the Ministry of the Environment can communicate clearly and comprehensibly to the layman and the professional public.

Continous assessment:

Attendance at seminars (seminars) is mandatory. A student can have a maximum of 1 absence justified on the basis of a medical certificate. In the absence of the student will receive

substitute tasks, respectively. undergoes consultations. In case of unjustified non-participation or a large number of absences, the student will not be granted credits.
The evaluation of the student's study results within the study subject will take place:
a) continuous control of study results during the teaching part of the semester with a minimum success rate of 50%, b) written examination in the examination period.
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

Course content:

1. Introduction to environmental monitoring. Terms: monitoring, environmental monitoring (environmental monitoring), ecological monitoring, biomonitoring, bioindication). Importance of monitoring and biomonitoring.
2. Subject of environmental monitoring. Levels and scales of environmental monitoring.
3. Methods of biodiagnostics, bioindication and biomonitoring - data collection.
4. Principles and methods of biodiagnostics, bioindication and biomonitoring - methods of laboratory processing of samples.
5. Methods of biodiagnostics, bioindication and biomonitoring - methods of processing, evaluation and interpretation of results.
6. Use of specialized software in biodiagnostics, bioindication and biomonitoring.
7. Global monitoring programs and projects.
8. Environmental monitoring in the Slovak Republic. Legislative definition of environmental monitoring in the Slovak Republic.
9. Levels of environmental monitoring in the Slovak Republic. Partial monitoring systems in the Slovak Republic.
10. Principles and methods of monitoring within selected partial monitoring systems.
11. Results and outputs of environmental monitoring in the Slovak Republic. Enviroportal. Reports on the state of the Slovak environment.
12. Monitoring the quality and health of the soil ecosystem - microbial and biochemical bioindicators
13. Selected biomonitoring methods focused on air quality assessment

Textures and literature:

Guarantor's signature and the date of course description's last modification: 17.01.2022