Title of the course: **Environmental elements protection III. - Soil protection**	*NEPTUN-code:* RKXKE3ABNE	*Weekly teaching hours: l+cw+lb* 2+0+2	***Credit*:** 4 ***Exam type**:* tm
Course leader: Bodáné Rita Kendrovics Dr	***Position:*** associate professor	***Required preliminary knowledge:*** RKXFT1ABNE	

Curriculum

The aims of this course to present the basic knowledge of the soil - soil concept, features, soil forming materials, physical properties of soil, soil nutrient supply, soil classification. It summarizes the analysis of soil degradation processes and the impacts of human activities on soil quality within the soil conservation process. It provides comprehensive knowledge about soil organic and inorganic pollutants, their effects and the factors determining the spread of contamination. It presents the various remediation technologies and opportunities for remediation of contaminated sites and international experience. A particular lecture is devoted to on-site (in-situ, ex-situ) and off-site procedures. Furthermore, a special lecture deals with the various polluting substances and their detection and termination.

Professional competencies:

Knowledge of general and specific mathematical, natural and social scientific principles, rules, relations, and procedures as required to pursue activities in the special field of environment protection.
Comprehensive knowledge of the basic features and interrelations of environmental elements and systems, as well as of the environmentally harmful substances affecting them.
Knowledge of the main methods to examine the quantity and quality features of environmental elements and systems, their typical measuring instruments and limitations thereof, as well as methods for the evaluation of data measured.
Knowledge of the methodology and legal regulations for performing environmental impact assessments and for compiling impact studies.
Able to solve tasks of water, soil, air, radiation, and noise protection, as well as of waste treatment and processing at proposal level; to participate in preparing decisions; to perform authority audits; and to take part in the operation of these technologies.
Able to apply environmental remediation methods, to prepare for and participate in remediation.
Able to carry out assignments as environmental officer.
Able to take part in environment expertise, advisory, and decision preparation work.
Constantly upgrading their knowledge of environment protection by attending organized professional development training courses.

Literature

1. RPC Morgan: Soil Erosion and Conservation, National Soil Resources Institute, Cranfield University, Blackwell Publishing, 2005,

2. Humberto Blanco, Rattan Lal: Principles of Soil Conservation and Management, Springer Verlag, 2008

Comment: