



## COURSE DATASHEET

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| <b>Semester:</b>               | 2014/15/1                                      |
| <b>Course:</b>                 | Soil Science                                   |
| <b>Code:</b>                   | VEMKFTB212T                                    |
| <b>Responsible department:</b> | Department of Earth and Environmental Sciences |
| <b>Department code:</b>        | MKFT   |
| <b>Responsible instructor:</b> | Dr. Rita Szakácsné Földényi                    |

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### Course objectives:

Acquaint the students with the composition, the biological activity as well as the chemical and physical properties of the soils. Overview of the principles of the soil classification and the processes playing role in the formation of different main types of soils.

### Course content:

? Different definitions, layers and functions of the soil. ? Soil forming factors and processes. ? Mineral composition of the soil. ? Formation of organic components of the soil, non-humic substances and their characterization. ? Humic substances and their characterization. ? Particle size distribution of the soil, its investigation methods, determination of soil texture. ? Characterization of soil structure, water, air and heat management of the soil. ? Physical-chemical and chemical processes in the soil I-II. ? Biological processes taking place in soils. ? Principles of soil classification, soil types in Hungary I-II. ? Erosion and deflation and protection against these soil degradation processes. ? Chemical soil degradation and the methods of protection.

### Requirements, evaluation and grading:

Participation in the lectures, one written successful paper about the subject, oral examination at the end of the term. Grading is based on the oral exam.

### Required and recommended readings:

Stefanovits P.: Talajtan. Mezőgazda Kiadó, 1992. Stefanovits P., Filep Gy., Füleky Gy.: Talajtan. Mezőgazda Kiadó, 1999. Filep Gy.: Talajkémia. Akadémiai Kiadó, Budapest, 1988. McBride, M.B.: Environmental Chemistry of Soils, Oxford University Press, 1994. Bardgett, R.: The Biology of Soil. A community and ecosystem approach. Oxford University Press, 2005.