



COURSE DATASHEET

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| Semester: | 2015/16/1 |
| Course: | Environmental Chemistry Laboratory Practices |
| Code: | VEMKKKB132K |
| Responsible department: | Department of General and Inorganic Chemistry |
| Department code: | MKAK |
| Responsible instructor: | dr. Zsolt Valicsek |

Course objectives:

Modelling the processes taking place in the nature; analytical determination of environmentally pollutant ions and compounds, removal or conversion of such materials by chemical procedures.

Course content:

1. Determination of lead and bismuth by complexometric titration 2. same 3. Determination of oil-content in soil sample by extraction 4. same 5. Acid rain: absorption and oxidation of SO₂ in peroxide solution, determination as BaSO₄ colloid by light scattering 6. same 7. Determination of critical micellar concentration (CMC) of cetyltrimethylammonium bromide by fluorescence measurements 8. Determination of anionic detergent (SDS) in wastewaters 9. Photochemical degradation of methylene blue (MB) on TiO₂ semiconductor 10. Photochemical degradation of methylene blue (MB) by photo-Fenton reaction 11. Gravimetric determination of sulfite ions gravimetriás 12. Sulfite-induced redox cycles of metal ions 13. Removal of zinc pollution by precipitation using NaOH solution 14. same 15. Writing final examination paper

Requirements, evaluation and grading:

Evaluation of the laboratory practice: The experiments are to be performed, the measurements and calculations have to be reported. The mark of the practice is based on the total points given for the measurements and the final examination paper (doubly weighted). The condition of the pass mark is a satisfactory level of the final examination paper.

Required and recommended readings:

Sajó István: Komplexometria, Műszaki Könyvkiadó, Bp., 1973. A Journal of Chemical Education különböző számai Országos Szabvány, MSZ 260/47-83 (Szennyvizek vizsgálata, anionaktív detergenssek meghatározása)