



## SUBJECT DATASHEET

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| <b>Semester:</b>                    | 2009/10/2                               |
| <b>Subject:</b>                     | Environmental Monitoring I.             |
| <b>Code:</b>                        | VEMKKVB222K                             |
| <b>Responsible department:</b>      | Department of Environmental Engineering |
| <b>Responsible department code:</b> | MKKV                                    |
| <b>Responsible lecturer:</b>        | dr. József Kovács                       |

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### Educational objectives:

Practical applying the chemical, biological and environmental analytics subjects and complement with the informatics knowledge in order to the students deep their studies on the field of complex effects and coefficients of the environmental elements on the basis of measured parameters.

### Detailed content of the subject:

1. Definition and instrumental system of environmental monitoring. Development trends 2. Basic requirements of environmental monitoring system: measure, data acquisition and handling 3. Role of the international monitoring system (GEMS, EMEP). Three level monitoring. 4. Satellite monitoring, Atmospheric monitoring. 5. Settled and mobile monitoring systems. Object of the environmental monitoring: monitoring of the physical and chemical properties of the ambient air. 6. Continuous air monitoring systems. 7. Periodically work air monitoring systems (RIV). Reliability of the air-sampling methods. 8. Air monitoring on the work-places. 9. Continuous emission monitoring. Monitoring of the gas, vapour, particles and aerosol components. 10. Monitoring systems for water monitoring. Water quality design based on the data base of water monitor systems. 11. In-line, on-line and off-line water monitoring systems. 12. Soil monitoring: Collecting of the reliability chemical composition data from soils. 13. Control of the composition of soils and ground waters. Control of landfills. 14. Environmental noise monitoring systems. Noise monitoring points. Complex monitoring systems. 15. Consultation. Written examination

### Requirements:

to make a successful (>2,5 point in 0 - 5 scale) written examination from the subject.

### Required and suggested references:

EPA Handbook; Continuous Air Pollution Source Monitoring Systems EPA/625/6-79/005. David M. Nielsen: Practical Handbook of Groundwater Monitoring ISBN 0-87371-124-6 James A. Jahnke: Continuous Emission Monitoring, 2nd Edition, 2000. ISBN: 0-471-29227-3