



COURSE DATASHEET

Semester:	2012/13/1
Course:	Environmental Monitoring II.
Code:	VEMKKVA163M
Responsible department:	Department of Environmental Engineering
Department code:	MKKV
Responsible instructor:	dr. József Kovács

Course objectives:

Students get knowledge from methods dealing with the environmental monitoring and get the ability for design and organise monitoring systems developed for control the different environmental parameters

Course content:

1. Relation system of the environmental monitoring, modelling and impact assesment 2. Objective measuring data, data handling, ~ storage. Data aquisition: Determination of trend in environmental quality 3. Design steps of ambient air monitoring system (estimation of pollutant concentration leveli n the case of point, line and surface emmission type). Role of the parameters effect the air condition. 4. Accuracy of the ambient air monitor data base and use for controlling of the transmission models. 5. Design steps of the surface and ground water monitoring system. On-line water monitoring systems. 6. Design aspects for monitoring of landfills. Monitoring systems according to ISO 9001 controls 7. Environmental Monitoring systems used for control the industrial production 8. Case studies for applied environmental monitoring systems. GIS system for data handlings. 9. Introduction of the individual exercises, discussion. 10. Laboratory practice: Biomonitoring 11. Laboratory practice: Determination of sampling port by GPS 12. Laboratory practice: Monitoring of the Lake Balaton income water ports 13. Laboratory practice: Manual monitoring of NO₂ and SO₂ in ambient air 14. Laboratory practice: Apply FTIR system in environmental monitoring 15. Excess laboratory practice and written examination

Requirements, evaluation and grading:

Active practical works on seminars, individual case study and introduction.

Required and recommended readings:

W. G. Bruce: Environmental monitoring, 2004, ISBN: 1-566-70641-6 Air Monitoring and Detection of Chemical and Biological Agents Edition: Society of Photo-Optical Instrumentation Engineers (SPIE) / NA, 1999, ISBN: 0-819-42994-5 Tuan Vo-Dinh; Spellicy, Robert L.: Environmental Monitoring and Remediation Technologies II. Edition: Society of Photo-Optical Instrumentation Engineers (SPIE) / NA, 1999, ISBN:0-819-43446-9 F. Burden, A. Guenther, U. Forstner, and I. McKelvie : Environmental Monitoring Handbook,



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McGraw Hill, 2002. ISBN: 0-07-135176-0 J. A. Jahnke: Continuous Emission Monitoring, Van Nostrand Reinhold, New York, 1993, ISBN: 0-442-00724-8 R.C.Ward, J.C.Loftis, G.B.McBride: Design of water quality monitoring systems, Van Nostrand Reinhold, New York, 1990, ISBN: 0-442-00156-8 M. Bagchi: Design of Landfills and Integrated Solid Waste Management, 3rd Edition, 2004 ISBN: 0-471-25499-1