



## COURSE DATASHEET

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| <b>Semester:</b>               | 2015/16/1                               |
| <b>Course:</b>                 | Risk Management                         |
| <b>Code:</b>                   | VEMKME2312K                             |
| <b>Responsible department:</b> | Department of Environmental Engineering |
| <b>Department code:</b>        | MKKV                                    |
| <b>Responsible instructor:</b> | Viola Somogyi                           |

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### Course objectives:

Risk management is a fundamental task of the enterprise management. The course gives an introduction to the gist, scope and techniques of risk assessment and management. The notions of safety and reliability. Risk assessment of safe production, consumption and waste management. Examination of risks of organised work and environmental risks. Risk assessment as a tool for establishing safety regulations, judging hazardousness of materials and mitigation of hazards in cases of establishing and operation.

### Course content:

1. The notions and development of risk assessment. The principles of risk analysis, assessment and control (management). 2. The concept of hazard, risk as the chance of realization. 3. Quantifying risk, methods of assessment and utilizing risk assessment. 4. The relationships of the different levels of the system (individual, organizational and nationwide). The human factor contributing to risks. Risks of new materials and testing methods. 5. Assessment and control: modelling risks, feasibility and reliability data. Acceptable risk, assessment methods. Safety factor. 6. The reliability of extrapolation, models. Safety problems and their possible solutions (source models and transport models). 7. Safety problems and their possible solutions. 8. Methods of risk assessment, sources and causes of mistakes. 9. Assisting decision making with accident analysis, statistics and cost-benefit analysis. 10. Fault-tree, event tree, HAZOP, quantitative risk analysis. 11. Sensibility and accuracy concerning risk evaluation. Risk assessment auditing and control in practice. 12. The necessity of communication and its solutions. Preparing reports, supervising. 13. Reliability and safety and their connections. 14. Computational risk analysis (HAZOP, MIXTOX, SIX, I-Risk and Q-Risk etc.) 15. Usage of Internet database e.g. in case of disaster recovery with the help case studies.

### Requirements, evaluation and grading:

According to the requirements of fulfillment.

### Required and recommended readings:

1. Himmelblau, O. M.: Hibafelismerés vegyi üzemekben. Műszaki, Budapest, 1984 2. Védekezés ipari katasztrófák ellen. Gyakorlati kézikönyv. OMIKK, Budapest, 1990 3. Kósa Cs.: Munkavédelem, egészségvédelem. Kézirat, BKE, Budapest, 1995 4. Haubert G.: A munkahelyi kockázatértékelés és kezelés gyakorlati kézikönyve. MKK, Budapest, 2002 5. Kletz, T.: HAZOP and HAZAN: Notes on the Identification and Assessment of Hazards. IChemE, Rugby, 1986 Kuhlmann, A.: Einführung in die Sicherheitswissenschaft. Verlag TÜV Rheinland GmbH., Köln, 1995