



## COURSE DATASHEET

<b>Semester:</b>	2012/13/2
<b>Course:</b>	Safety Technique, Occupational Safety and Risk Assessment
<b>Code:</b>	VEMKKVB222B
<b>Responsible department:</b>	Department of Environmental Engineering
<b>Department code:</b>	MKKV
<b>Responsible instructor:</b>	Róbert Kurdi

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### Course objectives:

Information for the students about the basic legal, technical and economic principles of the occupational safety, safety technique and their organisation. Fundamentals of accident prevention, overview of hazardous substances, wastes and technologies. Basic knowledge of the accidents, disaster prevention, toxicology, industrial hygiene. Importance and planning of the prevention against different impacts with emphasis on the organised work, on the surrounding and on the environment.

### Course content:

1. The notions and development of risk assessment. The principles of risk assessment and control, their relationship with safe working conditions free from health risks and to the environment. 2. Notion and types of hazard, feasibility of realization. 3. Safety technology, manners of faults and their consequences. 4. Quantifying risk, utilizing risk assessment. The relationships of the different levels of the system (individual, organizational and nationwide). The human factor contributing to risks. 5. Risks of new materials and testing methods. Assessment and control: modelling risks, feasibility and reliability data. 6. Acceptable risk, assessment methods. Safety factor. 7. The reliability of extrapolation, models. Safety problems and their possible solutions. 8. Utilizing risk assessment in solving environmental problems. 9. Methods of industrial risk assessment, sources and causes of mistakes. Assisting decision making in the industry with accident analysis, statistics and cost-benefit analysis. 10. Fault-tree, event tree, computational tools. 11. Quantitative risk evaluation. Sensibility and accuracy concerning risk evaluation. 12. Risk assessment auditing, regulation and control in practice. 13. Influencing decision making, communication and preparing reports, supervising, future developments. 14. Computational risk analysis (HAZOP, TECJET, MIXTOX, CHEMS-PLUS, SIX, VESVE etc.) usage of databases. 15. Evaluation of case studies of industrial disasters with the methods of risk management.

### Requirements, evaluation and grading:

Attending the courses is not compulsory. The mid-term work is assessed according to the essay handed in and the written examination.

### Required and recommended readings:

Kun-Szabó T.: Munkavédelem. 2. javított kiadás. Veszprémi Egyetem. Veszprém, 2004 Haubert G.: A munkahelyi kockázatértékelés és –kezelés gyakorlati kézikönyve. MKK. Budapest, 2003 Varga Z.: Biztonságtechnika. Veszprémi Egyetem. Veszprém, 1995 Kompolthy-Szalay: Tűz- és robbanásvédelem.



# UNIVERSITY OF PANNONIA

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### Required and recommended readings:

Műszaki, Budapest, 1990 Himmelblau, O. M.: Hibafelismerés vegyi üzemekben. Műszaki, Budapest, 1984  
Védekezés ipari katasztrófák ellen. Gyakorlati kézikönyv. OMIKK, Budapest, 1990 Hommel, G.: Veszélyes  
anyagok. Műszaki Könyvkiadó, Budapest, 1977 Crowl - Louvar: Chemical Process Safety: Fundamentals with  
Application. Prentice-Hall Inc., Englewood Cliffs, N.J., 1990