UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2013/14/1
Course:	Modelling of Chemical Processes Laboratory
Code:	VEMKFOB132M
Responsible department:	Department of Process Engineering
Department code:	MKFO
Responsible instructor:	dr. Sándor Németh

Course objectives:

Introducing the modeling of chemical processes and units. Introducing and solving case studies and examples from the topic of the lecutre of Modelling of Chemical Processes.

Course content:

Introduction: Systems, models, classification of system models. The structure of technological systems, as the hierarchic system of the molecules in interaction. The usual levels of hierarchic technologies. General steps of methods of hierarchic modelling. Application of decomposition-coordination principle. The technological systems, as the network of the operation units. Concept of operation units, the set of variables. The processes in the operation units. Descriptions of the macroscopic flows, E, F, I functions. Descriptions of sources. The chemical reactions. Descriptions of component, heat transfer. Making balance for the elementary space and the all geometric (and phase) space of operation units. Balance equations for phase mass, component mass, enthalpy.

Requirements, evaluation and grading:

Grading is based on the results of 3 midterm exams. Repeated examinations cannot be taken in the examination period.

Required and recommended readings:

Benedek P., László A.: A vegyészmérnöki tudomány alapjai, Műszaki Könyvkiadó, Bp. 1964. Bequette, B. W.: Process Dynamics: Modeling, Analysis, and Simulation, Prentice Hall, London,1998.