UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2014/15/2
Course:	Application of simulation and optimization methods at the business decisions in
Code:	VEMKOLT24XD
Responsible department:	Department of Hydrocarbon and Coal Processing
Department code:	MKOL
Responsible instructor:	István Rabi

Course objectives:

Presentation of the softwares those are applied for achieving the right business decision as well the optimal operation of hydrocarbon processing units.

Course content:

Application of simulation/optimization at the business decisions,
Hierarchy of the simulation systems
Area of the Excel based calculation
Simulation softwares: - Applied software, - Main application areas, - Case studies;
Blending calculations
Cost estimation methods
LP modelling: - Fundamentals, - Blocks of PIMS model, - Data requirement, - Application areas, evaluation of the results - Case study;

Requirements, evaluation and grading:

The whole content of lectures is included in the written examination.
Grading is based on the written final examination.
The final mark is determined according to the following table based on the examination:
points final mark
above 80 excellent (5)
70-79 good (4)
60-69 medium (3)
50-59 pass (2)
below 50 fail (1)

Required and recommended readings:

Robert J. Vanderbei: Linear Programming: Foundations and Extensions (International Series in Operations Research & Management Science), Hardcover: 464 pages, Publisher: Springer; 3rd edition (November 26,

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Required and recommended readings:

2007), Language: English, ISBN-10: 0387743871
PIMS users manual

Manual of PRO II v8.3 for steady state simulation, Invensys Process Systems, Plano, 2010.

Gerald L. Kaes: Refinery Process Modeling, Athens Printing, USA, 2008.

REFINERY DECISIONS, Proceedings Foundations of Computer-Aided Process Operations (FOCAPO2003)

H. C. M. Hartmann, Tune up your supply-chain models, Hydrocarbon Processing June 2007

M. Sneesby, Operator training simulator: myths and misgivings , Hydrocarbon Processing October 2008