



## COURSE DATASHEET

<b>Semester:</b>	2012/13/1
<b>Course:</b>	Advanced Algorithms in Process Engineering
<b>Code:</b>	VEMKFOV132F
<b>Responsible department:</b>	Department of Process Engineering
<b>Department code:</b>	MKFO
<b>Responsible instructor:</b>	Tamás Varga

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### Course objectives:

To teach the students to the details of advanced process engineering algorithms and their application.

### Course content:

Typical problems in process engineering  
First-principle models in industry – Case studies  
Black-box models in process industry – case studies  
Hybrid models - case studies in process monitoring  
Optimization in the process industry – parametric optimization  
Optimization in the process industry – scheduling  
Practical issues in system identification  
Soft Sensors and state estimation  
Statistical process control  
Time-series analysis

### Requirements, evaluation and grading:

Grading is based on one written midterm examinations and one written final examination. The final mark is determined according to following table based on the weighed average of the points obtained for the midterm and the final written examination (midterm 30%, final 30% and for the assignment 40%): % final mark above 80 excellent (5) 70-79.99 good (4) 60-69.99 medium (3) 50-59.99 pass (2) below 50 fail (1)

### Required and recommended readings: