



## COURSE DATASHEET

<b>Semester:</b>	2016/17/1
<b>Course:</b>	Design project II.
<b>Code:</b>	VEMKVMB2XXT
<b>Responsible department:</b>	Institute of Chemical and Process Engineering
<b>Department code:</b>	MKVV2
<b>Responsible instructor:</b>	dr. Sándor Németh

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### Course objectives:

The Design Project has an important role in the chemical engineering program. The objectives of this form of instruction are that the students:

- get experience in the process of chemical engineering design ranging from the concepts to the elaboration of the detailed design,
- practise the application of chemical engineering knowledge learnt in different subjects at a level close to industrial practice as much as possible,
- approach the design problem in a straight forward and creative way,
- get experience working in a team of colleagues with different qualifications,
- be able to write comprehensive, detailed technical reports,
- meet the accreditation requirements of IChemE.

### Course content:

- Detailed chemical engineering design (at least one unit per each student)
- Mass and energy balances
- Modelling of unit operations
- Process optimisation
- Plant layout
- Control system design
- Hazardous materials, safety measures
- Requirements for environmental protection (waste management, emissions)
- Conceptual guide of instructions for the operation, start-up and shut-down of the process
- Detailed cost analysis: capital, operating, commissioning, etc.
- HAZOP study
- Labour force requirements
- Quality management, analytics
- Final report and defence of the design project



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### Requirements, evaluation and grading:

The interim report is to be submitted to the secretary of the Institute of Chemical and Process Engineering on Monday of the 8<sup>th</sup> week of the semester, and the oral examination will start at the same week usually on Wednesday at 9 o' clock. The final report is to be submitted to the secretary of the Institute of Chemical and Process Engineering at the 10<sup>th</sup> week of the semester. The oral examination will start at later time determined by the staff. The examination panel is asked by the head of the Chemical Engineering program.

### Required and recommended readings:

References can be found on the Moodle learning system.