



COURSE DATASHEET

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| Semester: | 2015/16/1 |
| Course: | Design project II. |
| Code: | VEMKVMB2XXT |
| Responsible department: | Institute of Chemical and Process Engineering |
| Department code: | MKVV2 |
| Responsible instructor: | dr. Sándor Németh |

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 8th 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 10th 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.