



COURSE DATASHEET

Semester:	2014/15/2
Course:	Design project I.
Code:	VEMKVMB1XXT
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:

- Getting acquainted with the design problem
- Literature survey for finding alternative processes
- Further study of different processes (they are studied in detail by one student each)
- Choosing the most proper technology and giving reasons for that. The main viewpoint of a given choice may be as listed below
 - Determination of main streams
 - Selection of major plant items
 - Flow-sheets
 - Mass balances
 - Energy balances
 - Waste emissions
 - Energy management
 - Selection of possible construction, materials
 - Capacities of the units, and performances



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Course content:

- Collection (or calculation) of physical and chemical data and hazards for every component
- Finding the potentially hazardous materials, and operations
- Cost estimation for the concurrent technologies
- Amortisation time and rate of return
- Writing a report, and assessing

Requirements, evaluation and grading:

The report is to be submitted to the secretary of the Institute of Chemical Engineering the last Monday of the semester at 9 o'clock, and the oral examination will hold at the same week according to the timetable.

Required and recommended readings:

References can be found on the Moodle learning system.