



SUBJECT DATASHEET

Semester:	2009/10/2
Subject:	Membrane processes
Code:	VEMKMU5312M
Responsible department:	Research Institute on Bioengineering, Membrane Technology and Energetics
Responsible department code:	MKBM
Responsible lecturer:	dr. Katalin Bélafiné Bakó

Educational objectives:

Basic introduction to membrane separation processes.

Detailed content of the subject:

1. The principle of processes, introduction, classification
2. Pressure driven membrane processes
3. The hydrodynamics of ultrafiltration, filmpolarization, ultrafiltration models
4. Microfiltration nanofiltration reverse osmosis concentration polarization
5. Gas separation
6. Pervaporation
7. Dialysis (hemodialysis)
8. Electrodialysis
9. Liquid membrane
10. Integrated Systems, operating principles its benefits
11. Opportunities for the implementation of integrated systems, chemical processes and the limitations of bioconversion
12. Membrane integration of operations, difficulties, problems
13. Case studies

Requirements:

The lectures' materials.



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Requirements:

Required and suggested references:

Scott, K.: Handbook of Industrial Membranes, Elsevier, 1995.

Staudt, E.: Membranen und Membranprozesse, Grundlagen und Anwendungen, VCH Verlagsgesellschaft mbH, Weinheim, 1992.

Bélafiné Bakó Katalin: Membrános műveletek, Veszprémi Egyetemi Kiadó 2002.