



## COURSE DATASHEET

<b>Semester:</b>	2012/13/2
<b>Course:</b>	Membrane processes
<b>Code:</b>	VEMKBMB412M
<b>Responsible department:</b>	Research Institute on Bioengineering, Membrane Technology and Energetics
<b>Department code:</b>	MKBME
<b>Responsible instructor:</b>	dr. Katalin Bélafiné Bakó

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### Course objectives:

To introduce the students into the fundamentals of membrane separation, the operation of various membrane separation techniques and their applications.

### Course content:

1. Introduction, classification, driving forces
2. Pressure driven membrane processes
3. Ultrafiltration
4. Microfiltration, nanofiltration, reversed osmosis
5. gas separation
6. Pervaporation
7. Dialysis, haemodialysis
8. Electrodialysis
9. Liquid membranes
10. Integrated systems
11. integration in chemical processes
12. Integration in bioconversions
13. Case studies

### Requirements, evaluation and grading:

Terms of signature:

Participation on the lectures.

### Required and recommended readings:

Scott, K.: Handbook of Industrial Membranes, Elsevier, 1995. Staude, E.: Membranen und Membranprozesse, Grundlagen und Anwendungen, VCH Verlagsgesellschaft mbH, Weinheim, 1992. Bélafiné Bakó Katalin: Membrános műveletek, Veszprémi Egyetemi Kiadó 2002.