



## COURSE DATASHEET

<b>Semester:</b>	2013/14/1
<b>Course:</b>	Down-stream processing lab training
<b>Code:</b>	VEMKBMB332F
<b>Responsible department:</b>	Research Institute on Bioengineering, Membrane Technology and Energetics
<b>Department code:</b>	MKBME
<b>Responsible instructor:</b>	dr. Béla Nándor Nemestóthy

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### Course objectives:

Study downstream processes like centrifugation, membrane separation. Students are work individually or groups of 3-4.

### Course content:

1. To carry out a whole fermentation process (steps, sampling, decontamination)
2. Centrifugation, liofilization Ultrafiltration (3DTA)
3. Adsorptive product recovery
4. Extractive Product recovery

### Requirements, evaluation and grading:

Terms of signature:  
Accomplishment of the allocated measurements.  
One substitution is allowed.  
Average of the final test and the lab tests.  
It's can be improved on time.

### Required and recommended readings:

Ladisch, Michael R Bioseparations Engineering: Principles, Practice, and Economics. Wiley. 2001

Pécs Miklós: A biológiai iparok elválasztási műveletei BME 2010