UNIVERSITY OF PANNONIA

SUBJECT DATASHEET

Semester:	2009/10/1
Subject:	Up-to-date bioseparation techniques
Code:	VEMKMUB312K
Responsible department:	Research Institute on Bioengineering, Membrane Technology and Energetics
Responsible department code:	MKBM
Responsible lecturer:	dr. László Hanák

Educational objectives:

Introduction to basic bioseparational techniques.

Detailed content of the subject:

1. Media of fermentation.
2. Physical, chemical, biological cell opening methods.
3. Filtration, centrifugation.
4. Ultrafiltration.
5. Flocculation.
6. Adsorption in fluid layers.
7. Fluid-fluid solid extraction.
8. Evaporation.
9. Crystallization.
10. Cromatographycal methods, elution, frontal chromatography.
11. Simulated moving layer chromatography.
12. Ion-exchange chromatography.
13. Electrophoresis, dialisys, electrodialisys.
14. Chiral separation methods.
15. Applications.

Requirements:

The lectures' materials

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Requirements:

Required and suggested references:

Marton Gyula, Szánya Tibor, Hanák László: Biotechnológia termékek elválasztási műveletei. Szakmérnöki jegyzet: VE-VMT, Veszprém 2002 január Belter P.A, Cussler E.L, W.S. Hu: Bioseparations, downstream processing for biotechnology, John Wiley and Sons, New York.