UNIVERSITY OF PANNONIA

SUBJECT DATASHEET

Semester:	2009/10/1
Subject:	Bioprocessing
Code:	VEMKBMB344B
Responsible department:	Research Institute on Bioengineering, Membrane Technology and Energetics
Responsible department code:	MKBM
Responsible lecturer:	dr. Katalin Bélafiné Bakó

Educational objectives:

To introduce basic knowledge on description and techniques of biocatalytic processes and on design, operation and realisation of bioengineering processes, tasks.

Detailed content of the subject:

1. The role of bioengineering and bioprocesses
2. Enzymes as biocatalysts, classification
3. Enzyme activity, enzyme kinetics
4. Inhibition kinetics
5. Microorganisms. Important strains in industry
6. Composition of microorganisms. Kinetics of growth
7. The effects of temperature, pH and other parameters on the growth
8. Steps of fermentation
9. Sterilisation
10. Monod chemostate and its application
11. Immobilised biocatalysts, methods for immobilisation
12-13. Case studies

Requirements:

Written and/or oral exam in the end of the course.

Required and suggested references:

Biokémia, Elődi P., (Akadémiai Kiadó, Budapest), 1989, (Hung).

Biochemical Engineering Fundamentals, Bailey, J. E., Ollis, D. F., (McGraw-Hill, New York), 1986.