



## COURSE DATASHEET

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| <b>Semester:</b>               | 2012/13/1  |
| <b>Course:</b>                 | Bioprocessing  |
| <b>Code:</b>                   | VEMKBMB344B  |
| <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 basic knowledge on description and techniques of biocatalytic processes and on design, operation and realisation of bioengineering processes, tasks.

### Course content:

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, evaluation and grading:

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

### Required and recommended readings:

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

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