UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2012/13/2
Course:	Immobilized biocatalysts, bioreactors
Code:	VEMKBMB112R
Responsible department:	Research Institute on Bioengineering, Membrane Technology and Energetics
Department code:	MKBME
Responsible instructor:	dr. Katalin Bélafiné Bakó

Course objectives:

To present the manufacture, features of the immobilized biocatalysts to students, moreover to describe the reactors working with them.

Course content:

Introduction – the fundamentals of biotechnology and bioengineering, enzymes and microbes
Immobilization techniques
Characterization of immobilized biocatalysts
Application possibilities
Bioreactors with immbolized biocatalysts
Sterile and non-sterile operations
The role of air (oxygen)
Controlling techniques
Consultation, exam

Requirements, evaluation and grading:

After a half an hour's preparation the examinee gives an oral presentation on the topic for about 20-25 minutes.
Fail (1) when the examinee is unable to prove either the definition of the basic notions or the short scheme of things connected with the topic.
Pass (2) when the examinee is able to interpret the basic notions of the topic.
Satisfactory (3) when the examinee is well - versed in the basic notions of the topic and is able to present their logic connections - with the help of the examiner.
Good (4) when the examinee provides a logic, well - structured presentation with all the important facts and connections but he does not know or partly knows the required reading material connected with the topic.
Very good (5) when the examinee gives a logic, excellent, well-structured, perfect in details oral presentation that completely reveals the connection of the concepts within the topic.

Required and recommended readings:

Boross, sisak, Szajáni: Szilárd fázisú biokatalizátárok, Akadémiai Kiadó, Budapest, 2008, Buchholz, K.,

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Required and recommended readings:

Kasche, V., Bornscheuer, U.T.: Biocatalysts and enzyme technology, Wiley, Wienheim, 2005
Industrial enzymology, Ed. by Godfrey. T., West, T., MacMillan Press, London, 1996