



SUBJECT DATASHEET

Semester:	2011/12/1
Subject:	Fundamental microbiology – laboratory practice
Code:	VEMKLIB232M
Responsible department:	Department of Limnology
Responsible department code:	MKLI
Responsible lecturer:	dr. Szabolcs Nagy

Educational objectives:

Students will learn the importance of the microorganisms in the environment, the basics of their biology, moreover, the possibilities of their applications in the field of applied microbial biotechnology.

Detailed content of the subject:

1 Working in the microbiology lab, typical equipments, tools. Lab safety 2 Microbiological sampling - soil 3 Microbiological sampling - water 4 Microbiological sampling - plants (roots, tubers, leaves, etc) 5 Microscopy, investigation of native specimens 6 Microscopic cell counting 7 Investigation of stained specimens - yogurt culture 8 Investigation of stained specimens - milk, total cell count 9 Rhizobium strains 10 Vital staining techniques 11 Gram staining 12 Fluorescent detecting techniques 13 Flow cytometry, PCR 14 The basics of culturing techniques 15 Inoculation, clean cultures, dilution gradients, agar plate preparation

Requirements:

Presentation of lab notes + the result of 2 written examinations (

Required and suggested references:

Helmeczi B.: Mezőgazdasági mikrobiológia. Mezőgazda Kiadó, 1994. Pesti M. (szerk.): Általános mikrobiológia. Dialóg Campus Kiadó, 2001. Szabó I. M.: A bioszféra mikrobiológiája I - IV. Akadémiai Kiadó, 1997-2005.