UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester: 2016/17/1

Course: Foundamental and water microbiology

Code: NKMKLIT112M

Responsible department:

Department code: MKNK

Responsible instructor: Eszter Horváth

Course objectives:

The students learn the importance and the biological characteristics of the microorganisms, and get basic informations about the microbial wastewater management, and water qualification.

Course content:

1. The subject and research areas of microbiology, the general characterisation of microorganisms. Microorganisms in the nature (occurrence, role and importance). 2. The physiology and taxonomy of bacteria. 3. Ecology of microorganisms (abiotic and biotic factors). 4. Mycrobiology of biological nutrient removal, and microbial biodegradation of pollutants. 4. The microbiology of water, microbial water qualification. 5. Steril sampling, sterilization and disinfection, microbial membrane fouling of filters. 6. Microbial water treatment, protozoons in drinking water, pathogen control.

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:

Pesti M. (szerk.): Általános mikrobiológia. Dialóg Campus Kiadó, 2001.
Szabó I. M.: A bioszféra mikrobiológiája I – IV. Akadémiai Kiadó, 1997-2005.
Mark W. LeChevallier and Kwok-Keung Au: Water Treatment and Pathogen Control. IWA Publishing, Alliance House, UK, 2004.
George Tchobanoglous, Franklin L. Burton, H. David Stensel: Wastewater Engineering: Treatment and Reuse. Metcalf & Eddy Inc., 2003.