

Study Programme: BSc in Biology				
Degree level: Bachelor degree,				
Course Title: PRACTICUM IN MICROBIOLOGY				
Professor: Milan Matavulj, Dragan Radnović,				
Required/Elective Course: Elective Course				
Number of ECTS: 5				
Prerequisites: General Microbiology or Fundamentals of Microbiology				
Course Objective: Aim of this course is to introduce students to the principles and procedures in the microbiological laboratory work				
Course Outcome: After successfully completed the pre-examination and examination commitments student should be able to: (a) understand and explain basic principles of work and conduct in the microbiological laboratory, (b) to consider microbiological and work independently in a microbiological laboratory				
Course Content: <i>Theoretical and practical part</i> Understanding the basic rules and behavior in the microbiological laboratory. Sterilization and types of sterilization. Creating native and stained preparations of isolated cultures of bacteria. Measuring the size of microorganisms. Understanding the principles of cultivation of microorganisms: types, purpose and method of preparation of nutrient medium. Preparation of nutrient media for growing bacteria and fungi. Sterilization of microbiological media. Understanding the rules of experimental work: the rules of sampling, sample handling, inoculation of natural samples on different culture media and principles of cultivation of microorganisms. Using cultivation methods for enumeration of microorganisms in food samples. Morphology of colony of bacterial isolates. Pure culture techniques. Growing microbial cultures and description of the characteristics of bacterial cultures growing on slant agar.. Culture transfer techniques and maintenance of pure cultures. Identification of unknown isolates using simple keys for determination. The effects of antibiotics on bacteria (Kirby-Bauer Method).				
Reading List: 1. Knežević-Vukčević, J., Simić D. (1997) Methods in microbiology. Faculty of biology. University of Belgrade. ISBN 86-7078-008-9 2. Škrinjar, M. (2001): Manual of food microbiology. Faculty of Technology. University of Novi Sad. Additional reading (in English): 1. Harley, J., Prescott, L. (2001): Laboratory Exercises In Microbiology. McGraw-Hill College. ISBN 10: 0072333456				
Total hours:				
Lectures: 0	Practicals: 4	Other: -	Student research work:	-
Methods of instruction: Short theoretical part is presented using of modern forms of presentation, discussion with students. Laboratory classes, independent work of students in the laboratory using a microscope and a central monitor for display of individual objects and create a series of microphotography.				
Assessment (maximum number of points 100)				
Requirements	points	Final exam	points	
Active participation in lectures	5	Practical exam	-	
Active participation in practicals	-	Oral exam	50	
Test(s) or	35			
Pre-exam testing	10			