

Study Programme: Veterinary Medicine		
Course Unit Title: Methods of Microbiological Diagnostic of Bacteria, Rickettsias and Chlamydias		
Course Unit Code: 3DVM3I40		
Name of Lecturer(s): Aleksandar S. Potkonjak		
Type and Level of Studies: Doctoral academic studies		
Course Status (compulsory/elective): elective		
Semester (winter/summer): summer		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 8		
Prerequisites: Immunity and infection, Principles of Epidemiology		
Course Aims: Students learn to perform and interpret classical and molecular diagnostic techniques and diagnostic algorithms for the microbiological diagnosis of bacteria, rickettsia and chlamydia.		
Learning Outcomes: Students will be able to independently isolate and/or identify basic families, genera and species of bacteria, rickettsia and chlamydia that are important in veterinary medicine. By applying of learned methods and procedures, students will be able to independently set the etiologic diagnosis of selected infectious animal diseases and zoonoses.		
Syllabus: <i>Biological hazards and biosecurity/biosecurity in laboratory, Cultural, tinctoral and biochemical identification of bacteria. Diagnostic algorithms for gram-positive cocci (G. Staphylococcus, G. Streptococcus), gram positive sporulating rods (G. Bacillus, G. Clostridium), gram negative facultative anaerobic rods (F. Enterobacteriaceae), aerobic gram negative rods (G. Pseudomonas/G. Burkholderia), gram negative cocci and small rods (G. Moraxella, G. Brucella, G. Actinobacillus G. Haemophilus, G. Pasteurella/G. Mannheimia, G. Francisella, G. Bordetella), gram positive unsporulating rods (G. Corynebacterium, Rhodococcus equi, G. Arcanobacterium, G. Listeria, Erysipelothrix rhusiopathiae), acidoalcoholrestistant rods (G. Mycobacterium) and spiral bacteria (G. Campylobacter, G. Leptospira, G. Brachyspira, G. Borellia). Isolation of rickettsia in chicken embryo (G. Rickettsia), tissue culture (G. Ehrlichia) and in artificial media (G. Bartonella). Identification of rickettsia by immunofluorescent techniques. Isolation of chlamydia in cell and tissue culture and diagnosis of psittacosis / ornithosis. Molecular methods for the diagnostics of infection caused by bacteria, rickettsia and chlamydia. Serological diagnostics of diseases caused by the same agents.</i>		
Required Reading: Leboffe M.J. et al. A Photographic Atlas for the Microbiology Laboratory. Fourth edition, Morton Publishing Company, 2011. Bergey's manual of Systematic Bacteriology, Volume Two, Second Edition, Springer, 2005. Bergey's Manual of Determinative Bacteriology, Ninth edition, Lippincott Williams & Wilkins, 1994. Quinn P.J. Clinical Veterinary Microbiology, First edition, Mosby, 1993. Carter G.R., Wise D.J. Essentials of Veterinary Bacteriology and Mycology. Wiley-Blackwell; Sixth edition, 2003. Quinn P.J. et al. Veterinary Microbiology and Microbial Disease. Wiley-Blackwell; Second edition, 2011. Hirsh D.C., Zee Y.C. Veterinary Microbiology. Second edition, Blackwell, 1999. Suvajdžić Lj. Priručnik iz mikrobiologije sa vežbama za studente farmacije. Ortomedics, Novi Sad. 2004.		
Weekly Contact Hours:	Lectures: 4	Practical work: 4
Teaching Methods: Theoretical teaching (lectures, discussions), practical teaching (problem solving), experimental		

learning (experiments performing, focused images), Mentorship learning (explanation, demonstration)

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation	0	written exam	50
Practical work	0	oral exam	0
Preliminary exam(s)	0	Project presentation	50
Seminar(s)	0		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.