

UNIVERSITY OF ZAGREB

FACULTY OF VETERINARY MEDICINE

Heinzelova 55

Tel. 01/2390373

Division:

Department / Clinic: Department of Microbiology and Infectious Diseases with Clinic

Email: nrudan@vef.hr

Register no.:

File no.:

Zagreb, 20th August 2018

COURSE SYLLABUS

Course name: Special Microbiology

Academic year 2018-19

Course leader: Prof Nevenka Rudan, DVM, PhD

Teachers: Prof Ljiljana Pinter, DVM, PhD; Prof Nevenka Rudan, DVM, PhD

Associate teachers: Luka Radmanić, DVM, assistant

First day of classes: 1/ 10/ 2018

Last day of classes: 22/ 11/ 2018

Timetable for LECTURES academic year 2017-2018

LECTURES				
Date	Methodological unit	Teacher	Location / time	Literature
1.10.2018.	The Main Themes of Microbiology; Spiral bacteria-part I.	Prof. dr. sc. Ljiljana Pinter	Lecture room-Department of Microbiology and Infectious Diseases with Clinic/ 10-12 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
3.10.2018.	Spiral Bacteria-part II.	Prof. dr. sc. Ljiljana Pinter	Lecture room-Department of Physiology and Radiobiology/ 10-12 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
10.10.2018.	<i>Bacillus spp.</i> ; <i>Clostridium spp.</i>	Prof. dr. sc. Ljiljana Pinter	Lecture room-Department of	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical

			Microbiology and Infectious Diseases with Clinic/ 11-13 hours	Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
15.10.2018.	<i>Streptococcus spp;</i> <i>Staphylococcus spp;</i> Mycoplasmas	Prof. dr. sc. Ljiljana Pinter	Lecture room-Department of Microbiology and Infectious Diseases with Clinic/ 16-18 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
18.10.2018.	<i>Klebsiella spp;</i> <i>Yersinia spp;</i> Others enterobacteria	Prof. dr. sc. Nevenka Rudan	Lecture room-Department of Microbiology and Infectious Diseases with Clinic/ 15-17 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell,

				Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
24.10.2018.	<i>Poxviridae;</i> <i>Parvoviridae</i>	Prof. dr. sc. Nevenka Rudan	Lecture room-Department of Microbiology and Infectious Diseases with Clinic/ 11-13 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
31.10.2018.	<i>Papillomaviridae;</i> <i>Circoviridae</i>	Prof. dr. sc. Nevenka Rudan	Lecture room-Department of Microbiology and Infectious Diseases with Clinic/ 12-14 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
14.11.2018.	<i>Orthomyxoviridae;</i> <i>Paramyxoviridae</i>	Prof. dr. sc. Nevenka Rudan	Lecture room-department of Physiology and Radiobiology/	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical

			9-10 hours	Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.

Timetable for SEMINARS academic year 2017-2018

SEMINARS					
Date	Methodological unit	Teacher	Group	Location / time	Literature
4.10.2018.	<i>Burkholderia pseudomallei</i> ; <i>Burkholderia mallei</i> ; <i>Francisella tularensis</i>	Prof. dr. sc. Ljiljana Pinter		Lecture room- Department of Microbiology and Infectious Diseases with Clinic/ 10-12 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley- Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
17.10.2018.	Chlamydia; Rickettsia; <i>Salmonella spp.</i> ; <i>Escherichia coli</i>	Prof. dr. sc. Ljiljana Pinter		Lecture room- Department of Microbiology and Infectious Diseases with Clinic/ 16-18 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley- Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA.
13.11.2018.	Yeasts and fungi	Prof. dr. sc. Ljiljana Pinter		Lecture room- Department of Microbiology and	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology.

				Infectious Diseases with Clinic/ 9-11 hours	M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
16.11.2 018.	<i>Herpesviridae;</i> <i>Picornaviridae</i>	Prof. dr. sc. Nevenka Rudan		Lecture room- Department of Pharmacology and Toxicology/ 8-10 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
19.11.2 018.	<i>Flaviviridae;</i> <i>Rhabdoviridae</i>	Prof. dr. sc. Nevenka Rudan		Lecture room- Department of Forensic and Judicial Veterinary Medicine/ 12-14 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc

					Graw Hill, USA
21.11.2 018.	<i>Reoviridae;</i> <i>Arteriviridae</i>	Prof. dr. sc. Nevenka Rudan		Lecture room- Department of Microbiology and Infectious Diseases with Clinic/ 10-12 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley- Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
22.11.2 018.	<i>Retroviridae;</i> <i>Coronaviridae;</i>	Prof. dr. sc. Nevenka Rudan		Lecture room- Department of Veterinary Pathology/ 9-11 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley- Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
23.11.2 018.	<i>Adenoviridae</i>	Prof. dr. sc. Nevenka Rudan		Lecture room- Department of Microbiology and Infectious Diseases with Clinic/ 10-11 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and

					Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA

Timetable for PRACTICALS academic year 2017-2018

PRACTICALS						
Date	Methodological unit	Teacher	Type of practical	Group	Location / time	Literature
2.10.2018.	Spirochaetes	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 8-10 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P.

						J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
9.10.20 18.	<i>Pseudomonas aeruginosa;</i> <i>E. coli;</i> <i>Klebsiella pneumoniae</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 8-10 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
11.10.2 018.	<i>Bacillus spp.;</i> <i>Clostridium spp.</i>	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 15-17 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011):

						Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
15.10.2 018.	<i>Pasteurella multocida;</i> <i>Mannheimia haemolytica;</i> <i>Haemophilus;</i> <i>Histophilus;</i> <i>Actinobacillus spp.</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 8-10 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
24.10.2 018.	<i>Mycoplasma bovis</i>	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 13-15 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology

						and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
25.10.2 018.	<i>Salmonella;</i> <i>Yersinia enterocolitica;</i> <i>Yersinia pseudotuberculosis</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 13-15 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
29.10.2 018.	<i>Staphylococcus spp.</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 11-13 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases.

						Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
30.10.2 018.	<i>Mycobacterium spp.</i> ; First preliminary exam	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 11-13 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
5.11.20 18.	<i>Listeria monocytogenes</i> ; <i>Erysipelothrix rhusiopathiae</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 12-14 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd

						Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
6.11.20 18.	<i>Corynebacterium</i> ; <i>Archanobacterium</i>	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 9-11 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
7.11.20 18.	<i>Streptococcus spp.</i>	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 11-13 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK.

						Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
12.11.2 018.	CPE of equine herpesvirus and equine arteritis virus	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 10-12 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
16.11.2 018.	Yeasts	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 14-16 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005):

						Microbiology, Basic Principles. Mc Graw Hill, USA
20.11.2 018.	Dermatophytes; Fungi	Prof. dr. sc. Ljiljana Pinter	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 13-15 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
21.11.2 018.	Virus titration; 2. Preliminary exam	Prof. dr. sc. Nevenka Rudan	Laboratory practical		Practical hall- Department of Microbiology and Infectious Diseases with Clinic/ 8-10 hours	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic

						Principles. Mc Graw Hill, USA

STUDENT OBLIGATIONS

Lecture attendance	Total of 15 lecture hours will hold out. Student must assemble at least 3 points (8 hours of lectures) and can gather at the most of 6 points (16 hours of lectures).
Seminars attendance	Total of 15 hours of seminars will hold out. Student must assemble at least 3 points (7 hours of seminars) and can gather at the most of 6 points (14 hours of seminars).
Practicals attendance	Total of 30 hours of laboratory practice will hold out. Student must assemble at least 8 points (20 hours of exercises) and can gather at the most of 12 points (30 hours of exercises).
Active participation in seminars and practicals	Student must assemble at least 5 points for active participation in exercises, which involve two correct answers on the verbal putting questions. The most of 10 points involve four correct answers on the verbal putting questions.
Final exam	For approaching to final exam, student must assemble at least 36 points from these

	segments of teaching: lecture attendance, practical attendance, active participation in practicals and continuous knowledge-checking. Final exam is in written form and consists of 40 questions. Student must assemble at least 24 points from final exam and at the most of 40 points.
Examination requirements	Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine. Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. Article 45: a student can justifiably be absent from up to 50 % of the lectures; 30% of the seminars and 30 % of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	1. Preliminary exam will be hold at 30.10.2018. 2. Preliminary exam will be hold at 21.11.2018.
Final exams (dates)	14/12/2018; 14/1/2019; 1/2/2019; 15/2/2019
Form of final exam	Written form

LITERATURE

Obligatory literature	Quinn, P. J., M. E. Carter, B. K. Markey, G. R. Carter (1994): Clinical Veterinary Microbiology. M. Wolfe, London. Quinn, P. J., B. K. Markey, F. C. Leonard, E. S. FitzPatrick, S. Fanning, P. J. Hartigan (2011): Veterinary Microbiology and Microbial Diseases. Wiley-Blackwell, Ltd Publication, UK. Park Talaro, K. ((2005): Microbiology, Basic Principles. Mc Graw Hill, USA
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Optional literature	Quinn, P. J., B. K. Markey, M. E. Carter, W. J. Donnelly, F. C. Leonard (2002): Veterinary Microbiology and Microbial Disease. Blackwell Science, UK.
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OBJECTIVES AND LEARNING OUTCOMES

Course objectives	<p>The Special Microbiology courses taught to third-year veterinary medical students via sixteen didactic lectures, fourteen hours of seminars and thirty hours of laboratory practicals. Students get familiar with basic characteristics of major microorganisms as causers of infectious diseases in domestic animals and man. Students will master with basic microbiological techniques for their isolation and identification, with methods of taking and sending materials for microbiological examinations, technics of preparing the microscopic slides (non-painted and painted). During this course, students become familiar with procedures of smearing materials on the media for cultivating microorganisms, with specific qualities of their identifications on the basis of morphological, growing, physiological and antigenic properties. Further, they will get to know the relations between various microorganisms and antimicrobial agents with immunoprophylactic possibilities.</p>
Learning outcomes	<p>At the end of course students of veterinary medicine get familiar with:</p> <ul style="list-style-type: none"> Using the basic microbiological techniques for isolating and identification of bacteria and fungi by procedures of preparing the microscopic slides. Differentiation of gram-negative, gram-positive and acidoresistent bacteria with analysing their morphologies for the identification purposes. Recognize the important genres and strains of microorganisms on the base of their tinctoriel, morphological, growing and antigenic properties.

GRADING SCHEME

<i>Points</i>	<i>Grade</i>
Up to 59	1 (F)
60-68	2 (E)
69-76	2 (D)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader:

Head of Department/Clinic:

Note: The course leader is required to submit a Course Syllabus to all teachers and associates pertaining to the Course.

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH LECTURES,
SEMINARS and PRACTICALS**

Type of activity	Minimum number of points	Maximum number of points
Lectures attendance	3	6
Seminar attendance	4	6
Practicals attendance	4	6
Active participation in seminars and practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
TOTAL	60	100

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH LECTURES and
SEMINARS**

Type of activity	Minimum number of points	Maximum number of points
Lecture attendance	3	6
Practicals attendance	8	12
Active participation in practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
TOTAL	60	100

**GRADING AND EVALUATION OF STUDENT WORK ON COURSES WITH SEMINARS and
EXERCISES**

Type of activity	Minimum number of points	Maximum number of points
Seminar / practicals attendance	11	18
Active participation in seminars and practicals	5	10
Continuous knowledge checking (mid-terms)	20	32
Final exam	24	40
TOTAL	60	100