

2024-2025

SPECIAL MICROBIOLOGY

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, 10 September 2024

	
190911	REPUBLIKA HRVATSKA
Veterinarski fakultet u Zagrebu	
Primljeno:	11.09.2024
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Urudžbeni broj	Prilozi Vrijednost
251-61-08-24-73	0 -

COURSE SYLLABUS

Course name: Special Microbiology

Academic year 2024-25

Course leader: Nevenka Rudan, full professor

Teachers: Nevenka Rudan, full professor
Selma Pintarić, associate professor
assistant Marija Cvetnić, PhD, DMV
assistant Gorana Miletić, DMV
assistant Valentina Huzjak, DMV

First day of classes: 7/ 10/ 2024

Last day of classes: 13/ 12/ 2024

Activities - Special Microbiology (1/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
07/10/2024	12:00	13:30	p01 Enterobacteriaceae	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_patologija
09/10/2024	8:15	9:45	p02 Spiral bacteria, Mycoplasmas	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
10/10/2024	8:15	9:45	p03 Bacillus spp., Clostridium spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_patologija
10/10/2024	12:00	13:30	v01 E, coli, Klebsiella, Salmonella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/10/2024	13:45	15:15	v01 E, coli, Klebsiella, Salmonella	5E-3		1:30	Pintarić S.	V_mikrobiologija
11/10/2024	12:00	13:30	v02 Proteus, Yersinoia, Citrobacter	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
11/10/2024	13:45	15:15	v02 Proteus, Yersinoia, Citrobacter	5E-3		1:30	Cvetnić M.	V_mikrobiologija
14/10/2024	8:15	9:45	s01 Burkholderia spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
17/10/2024	11:00	12:30	v03 Pseudomonas spp.	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
18/10/2024	8:00	9:30	s02 Chlamydia; Riketsia; Haemophylus	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_patologija
18/10/2024	9:45	11:15	v03 Pseudomonas spp.	5E-3		1:30	Pintarić S.	V_mikrobiologija
21/10/2024	8:15	9:45	v04 Bacillus spp., Clostridium spp.	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
22/10/2024	8:15	9:45	s03 Mycobacteria, Brucella spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_kemija
24/10/2024	13:30	15:00	v04 Bacillus spp., Clostridium spp.	5E-3		1:30	Cvetnić M.	V_mikrobiologija

Activities - Special Microbiology (2/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
25/10/2024	8:15	9:45	v05 Pasteurella spp., Mannheimia	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
25/10/2024	10:00	11:30	v05 Pasteurella spp., Mannheimia	5E-3		1:30	Pintarić S.	V_mikrobiologija
28/10/2024	12:15	13:45	v06 Acinetobacter, Moraxella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
29/10/2024	11:45	13:15	v06 Acinetobacter, Moraxella	5E-3		1:30	Pintarić S.	V_mikrobiologija
29/10/2024	13:30	15:00	p04 Staphylococcus, Streptococcus	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
30/10/2024	11:45	12:30	s04 Yeasts, Fungi	5E-1, 5E-2, 5E-3		0:45	Cvetnić M.	P_patologija
05/11/2024	8:15	9:45	v07 Listeria, Erysipelothrix	5E-1, 5E-2		1:30	Rudan N.	V_mikrobiologija
05/11/2024	14:15	15:45	s05 Herpesviridae, Picornaviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_patologija
06/11/2024	10:00	11:30	v07 Listeria, Erysipelothrix	5E-3		1:30	Rudan N.	V_mikrobiologija
06/11/2024	13:30	15:00	s06 Flaviviridae, Rhabdoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_patologija
07/11/2024	10:00	11:30	v08 Campylobacter spp., Kolokvij 1	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
07/11/2024	14:00	15:30	v08 Campylobacter spp., Kolokvij 1	5E-3		1:30	Cvetnić M.	V_mikrobiologija
11/11/2024	7:30	9:45	p05 Orthomyxoviridae, Paramyxoviridae	5E-1, 5E-2, 5E-3		2:15	Rudan N.	P_fizika
12/11/2024	12:00	13:30	v09 Corynebacterium, Trueperella	5E-3		1:30	Pintarić S.	V_mikrobiologija
12/11/2024	13:45	15:15	v09 Corynebacterium, Trueperella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija

Activities - Special Microbiology (3/3)								
Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
19/11/2024	8:00	9:30	v10 Staphylococcus spp.	5E-1, 5E-2		1:30	Rudan N.	V_mikrobiologija
21/11/2024	8:00	9:30	v10 Staphylococcus spp.	5E-3		1:30	Rudan N.	V_mikrobiologija
22/11/2024	14:45	16:15	v11 Streptococcus spp.	5E-1, 5E-2		1:30	Rudan N.	V_mikrobiologija
25/11/2024	9:15	10:45	v11 Streptococcus spp.	5E-3		1:30	Rudan N.	V_mikrobiologija
26/11/2024	12:00	13:30	p06 Poxviridae, Parvoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_patologija
26/11/2024	15:30	17:00	v12 Yeasts	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
27/11/2024	7:30	9:00	v12 Yeasts	5E-3		1:30	Cvetnić M.	V_mikrobiologija
02/12/2024	8:15	9:45	v13 Fungi	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
03/12/2024	8:15	9:45	v13 Fungi	5E-3		1:30	Cvetnić M.	V_mikrobiologija
06/12/2024	12:30	14:00	v14 CPE of viruses	5E-3		1:30	Miletić G.	V_mikrobiologija
06/12/2024	14:15	15:45	v14 CPE of viruses	5E-1, 5E-2		1:30	Miletić G.	V_mikrobiologija
09/12/2024	8:15	9:45	p07 Papillomaviridae, Circoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_fizika
11/12/2024	8:15	9:45	s07 Reoviridae, Arteriviridae, Adenoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_kemija
12/12/2024	15:30	17:00	v15 Virus titration; Kolokvij 2.	5E-1, 5E-2		1:30	Miletić G.	V_mikrobiologija
13/12/2024	13:45	15:15	s08 Retroviridae, Coronaviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_kemija
13/12/2024	15:30	17:00	v15 Virus titration; Kolokvij 2.	5E-3		1:30	Miletić G.	V_mikrobiologija
			Special Microbiology		Ispit	1:00	Rudan N.	P_mikrobiologija
Total: 46						68:30		

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 (15 hours of lectures).
Seminars attendance	Total of 15 hours of seminars will hold out. Student must assemble at least 4 points (11 hours of seminars) and can gather at the most of 6 points (15 hours of seminars).
Practicals attendance	Total of 30 hours of laboratory practice will hold out. Student must assemble at least 8.5 points (21 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; 20 30% of the seminars and 30 20 % of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	1. Preliminary exam will be hold at 7/11/2024 2. Preliminary exam will be hold at 13/12/2024
Final exams (dates)	11/2/2025; 20/2/2025
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
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.

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	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.
Learning outcomes	1. Understanding the basic principles and techniques for isolation and identification of pathogenic microorganisms, and what diagnostic tests should be performed for their identification; 2. Interpreting the meaning of the results of microbiological examination in the process of etiological diagnosis of infectious diseases, information of classification the bacteria, viruses and fungi with genera and species important for veterinary medicine; 3. Knowledge about specifics of microorganism grows, pathogenic properties of microorganisms and diseases that causes; 4. Understanding what specimens should be collected for laboratory diagnostic procedures, and be acquainted with preventive and therapeutic strategies.

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:



Prof Nevenka Rudan, DVM, PhD

Head of Department/Clinic:



Prof Vilim Starešina, DVM, PhD

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