

Course: Special microbiology

UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE

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Division: Division for Public Health and Food Safety

Organizational unit: Microbiology and Infectious Diseases

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Register No of the organisational unit:

Zagreb, 14/8/2025

COURSE SYLLABUS

Course name: Special microbiology

Academic year 2025/2026

Course leader: Full Prof. Nevenka Rudan

Deputy course leader: (title, name and surname): Assoc. Prof. Selma Pintarić

Teachers: Full Prof. Nevenka Rudan
Assoc. Prof. Selma Pintarić
Postdoctoral assistant Marija Cvetnić
Teaching assistant Valentina Huzjak
Teaching assistant Gorana Miletić

First day of classes: 29.9.2025.

Last day of classes: 15.12.2025.

Activities - Special Microbiology (1/3)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
09/29/2025	12:00 PM	1:30 PM	p01 Enterobacteriaceae	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_patologija
09/30/2025	2:00 PM	3:30 PM	p02 Spiral bacteria, Mycoplasmas	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
10/01/2025	11:45	1:15 PM	p03 Bacillus spp., Clostridium spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_kemija
10/01/2025	1:30 PM	3:00 PM	v01 E, coli, Klebsiella, Enterobacter	5E-3		1:30	Cvetnić M.	V_mikrobiologija
10/02/2025	12:00 PM	1:30 PM	v01 E, coli, Klebsiella, Enterobacter	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
10/02/2025	1:45 PM	3:15 PM	p04 Staphylococcus, Streptococcus	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_patologija
10/06/2025	11:45	1:15 PM	v02 Proteus, Yersinia, Salmonella	5E-3		1:30	Pintarić S.	V_mikrobiologija
10/06/2025	1:30 PM	3:00 PM	v02 Proteus, Yersinia, Salmonella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/07/2025	8:15	9:45	s01 Burkholderia spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
10/08/2025	12:00 PM	1:30 PM	s02 Chlamydia; Riketsia; Haemophylus	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika
10/08/2025	1:45 PM	3:15 PM	v03 Pseudomonas spp.	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/09/2025	10:00	11:30	v03 Pseudomonas spp.	5E-3		1:30	Huzjak V.	V_mikrobiologija
10/10/2025	8:15	9:45	v04 Bacillus spp., Clostridium spp.	5E-3		1:30	Pintarić S.	V_mikrobiologija
10/10/2025	1:30 PM	3:00 PM	s03 Mycobacteria, Brucella spp.	5E-1, 5E-2, 5E-3		1:30	Pintarić S.	P_fizika

Activities - Special Microbiology (2/3)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
10/13/2025	1:15 PM	2:45 PM	v04 Bacillus spp., Clostridium spp.	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/15/2025	10:15	11:45	v05 Pasteurella spp., Mannheimia	5E-3		1:30	Cvetnić M.	V_mikrobiologija
10/15/2025	1:45 PM	3:15 PM	v05 Pasteurella spp., Mannheimia	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
10/16/2025	3:00 PM	3:45 PM	s04 Yeasts, Fungi	5E-1, 5E-2, 5E-3		0:45	Cvetnić M.	P_patologija
10/17/2025	10:00	11:30	v06 Acinetobacter, Moraxella	5E-3		1:30	Pintarić S.	V_mikrobiologija
10/20/2025	11:30	1:00 PM	v06 Acinetobacter, Moraxella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/21/2025	9:45	11:15	v07 Listeria, Erysipelothrix	5E-3		1:30	Pintarić S.	V_mikrobiologija
10/22/2025	12:00 PM	1:30 PM	v07 Listeria, Erysipelothrix	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
10/23/2025	11:30	1:00 PM	s05 Herpesviridae, Picornaviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_patologija
10/24/2025	10:00	11:30	s06 Flaviviridae, Rhabdoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_patologija
10/27/2025	11:30	1:00 PM	v08 Campylobacter spp., Kolokvij 1	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
10/27/2025	1:30 PM	3:00 PM	v08 Campylobacter spp., Kolokvij 1	5E-3		1:30	Cvetnić M.	V_mikrobiologija
10/31/2025	9:45	11:15	v09 Corynebacterium, Trueperella	5E-3		1:30	Pintarić S.	V_mikrobiologija
11/04/2025	9:30	11:00	v09 Corynebacterium, Trueperella	5E-1, 5E-2		1:30	Pintarić S.	V_mikrobiologija
11/05/2025	1:15 PM	2:45 PM	v10 Staphylococcus spp.	5E-1, 5E-3		1:30	Rudan N.	V_mikrobiologija

Activities - Special Microbiology (3/3)

Start Date	Start T	End Ti	Subject	Group	Note	Length	Instructor	Room
11/07/2025	8:15	9:45	v10 Staphylococcus spp.	5E-2		1:30	Rudan N.	V_mikrobiologija
11/11/2025	8:00	10:15	p05 Orthomyxoviridae, Paramyxoviridae	5E-1, 5E-2, 5E-3		2:15	Rudan N.	P_mikrobiologija
11/13/2025	10:00	11:30	p06 Poxviridae, Parvoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_mikrobiologija
11/24/2025	9:45	11:15	v11 Streptococcus spp.	5E-1, 5E-2		1:30	Miletić G.	V_mikrobiologija
11/24/2025	11:30	1:00 PM	v11 Streptococcus spp.	5E-3		1:30	Miletić G.	V_mikrobiologija
11/27/2025	11:30	1:00 PM	v12 Yeasts	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
12/01/2025	2:15 PM	3:45 PM	v12 Yeasts	5E-3		1:30	Cvetnić M.	V_mikrobiologija
12/02/2025	11:15	12:45 PM	v13 Fungi	5E-3		1:30	Cvetnić M.	V_mikrobiologija
12/02/2025	3:00 PM	4:30 PM	v13 Fungi	5E-1, 5E-2		1:30	Cvetnić M.	V_mikrobiologija
12/03/2025	4:00 PM	5:30 PM	v14 CPE of viruses	5E-1, 5E-2		1:30	Miletić G.	V_mikrobiologija
12/04/2025	8:15	9:45	v14 CPE of viruses	5E-3		1:30	Miletić G.	V_mikrobiologija
12/10/2025	9:00	10:30	p07 Papillomaviridae, Circoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_fizika
12/10/2025	2:15 PM	3:45 PM	s07 Reoviridae, Arteriviridae, Adenoviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_fizika
12/11/2025	11:30	1:00 PM	s08 Retroviridae, Coronaviridae	5E-1, 5E-2, 5E-3		1:30	Rudan N.	P_kemija
12/15/2025	8:15	9:45	v15 Virus titration; Kolokvij 2.	5E-1, 5E-2		1:30	Miletić G.	V_mikrobiologija
12/15/2025	2:00 PM	3:30 PM	v15 Virus titration; Kolokvij 2.	5E-3		1:30	Miletić G.	V_mikrobiologija
Total: 45						67:30		

Timetable for LECTURES academic year 2025/2026

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 practicals) and can gather at the most of 12 points (30 hours of practicals).
Active participation in seminars and practicals	Student must assemble at least 5 points for active participation in practicals, 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	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 (2024). Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. Regulations On Intergraduate And Graduate Studies, Article 41: 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)	Knowledge assessment and answer grading. If a student does not achieve the minimum required points as a prerequisite for taking the written exam, they are entitled to remedial tests.
Final exams (dates)	11.2.2025., 20.2.2025.
Form of final exam	Written.

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. FITZ PATRICK, 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

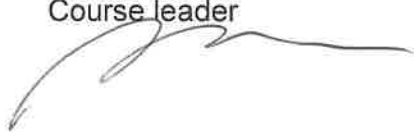
Course objectives	The Special Microbiology courses taught to third-year veterinary medical students via fifteen didactic lectures, fifteen hours of seminars and thirty hours of laboratory practicals. Students get familiar with basic characteristics of major microorganisms as causers of infectious diseases 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. Become familiar with major microorganisms causing infectious diseases in animals and humans 2. Master basic microbiological techniques for isolation and identification 3. Understand proper methods of collecting and sending materials for examination 4. Prepare stained and unstained microscopic slides 5. Smear materials on culture media and understand cultivation specifics 6. Identify microorganisms based on morphology, growth, physiology and antigenic traits 7. Understand microbial interaction with antimicrobial agents 8. Understand immunoprophylactic strategies

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GRADING SCHEME

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

Course leader



Head of organizational unit:

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