

UNIVERSITY OF ZAGREB  
FACULTY OF VETERINARY MEDICINE  
Heinzelova 55  
Tel. 01/2390 401  
Division: Clinical Division  
Organizational unit: Radiology, Ultrasound Diagnostics and Physical Therapy  
E-mail of the course leader: zoran.vrbnac@vef.unizg.hr  
Register No of the organisational unit: 61-15-43/23  
Zagreb, 8/2/2023



160906	REPUBLIKA HRVATSKA		
Veterinarski fakultet u Zagrebu			
Primljeno:	01.03.2023		
Klasifikacijska oznaka	Org. jed.		
605-03/22-04/35	251-61-32;		
Uruđbeni broj	Prilozi	Vrijednost	
251-61-015/419-23-91	0	-	

## COURSE SYLLABUS

Course name: METHODS OF PHYSICAL THERAPY AND DIAGNOSTICS

Academic year 2022/2023

Course leader: Assoc. Prof. Zoran Vrbnac, DVM, PhD, DACVSMR, DECVSMR

Deputy course leader: Assoc. Prof. Hrvoje Capak, PhD

Teachers: Assoc. Prof. Zoran Vrbnac, DVM, PhD, DACVSMR, DECVSMR  
Assoc. Prof. Hrvoje Capak, PhD  
Ana Javor, DVM, Assistant  
Iva Bacan, DVM, Assistant

First day of classes: 28/2/2023

Last day of classes: 5/4/2023

**Timetable for LECTURES academic year 2022/2023**

<b>LECTURES</b>				
<b>Date</b>	<b>Methodological unit</b>	<b>Teacher</b>	<b>Location / Time</b>	<b>Literature</b>
28/2/2023 1st lecture	Introduction and overview of physical therapy	Assoc. Prof. Zoran Vrbanc, PhD, DACVSMR, DECVSMR	Practical hall Parasitology 10am-12pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
01/3/2023 2nd lecture	Physiological effect of warmth and cold application	Assoc. Prof. Hrvoje Capak, PhD	Practical hall Parasitology 12pm-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
02/3/2023 3rd lecture	Electrical stimulation  Electrotherapy – low and high frequency currents	Assoc. Prof. Zoran Vrbanc, PhD, DACVSMR, DECVSMR	Practical hall Parasitology 12pm-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
03/3/2023 4th lecture	Hydrotherapy	Assoc. Prof. Zoran Vrbanc, PhD, DACVSMR, DECVSMR	Practical hall Parasitology 10am-12pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
06/3/2023 5th lecture	Therapeutic ultrasound Laser therapy	Assoc. Prof. Zoran Vrbanc, PhD, DACVSMR, DECVSMR	Practical hall Parasitology 12pm-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
17/3/2023 6th lecture	Diagnostic ultrasound	Assoc. Prof. Hrvoje Capak, PhD	Practical hall Parasitology 12pm-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
22/3/2023 7th lecture	Phototherapy – heliotherapy	Assoc. Prof. Hrvoje Capak, PhD	Lecture Room Physics 2pm-3pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
23/3/2023 8th lecture	Therapeutic exercises and manual therapy	Assoc. Prof. Zoran Vrbanc, PhD, DACVSMR, DECVSMR	Practical hall Parasitology 2pm-4pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014

Timetable for SEMINARS academic year 2022/2023

SEMINARS					
Date	Methodological unit	Teacher	Group	Location / time	Literature



**Timetable for PRACTICALS academic year 2022/2023**

<b>PRACTICALS</b>						
<b>Date</b>	<b>Methodological unit</b>	<b>Teacher</b>	<b>Type of practical (Article 31. of Regulation)</b>	<b>Group</b>	<b>Location / time</b>	<b>Literature</b>
08/03/2023 1 <sup>st</sup> practical	Introduction Thermotherapy Manual therapy, clinical cases, practical	Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR Assoc. Prof. Hrvoje Capak, PhD Ana Javor, DVM, Assistant Iva Bacan, DVM, Assistant	Special Clinical	1,2	Radiology, Ultrasound Diagnostic and Physical Therapy Unit 11am-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
15/03/2023 2 <sup>nd</sup> practical	Electrotherapy – low and high frequency currents, clinical cases, practical	Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR Assoc. Prof. Hrvoje Capak, PhD Ana Javor, DVM, Assistant Iva Bacan, DVM, Assistant	Special Clinical	1,2	Radiology, Ultrasound Diagnostic and Physical Therapy Unit 11am-2pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
20/03/2023 3 <sup>rd</sup> practical	Therapeutic ultrasound, Laser, Clinical cases , practical	Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR Assoc. Prof. Hrvoje Capak, PhD Ana Javor, DVM, Assistant Iva Bacan, DVM, Assistant	Special Clinical	1,2	Radiology, Ultrasound Diagnostic and Physical Therapy Unit 1pm-4pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014
28/3/2023 4 <sup>th</sup> practical	Hydrotherapy, Therapeutic exercises, clinical cases, practical	Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR Assoc. Prof. Hrvoje	Special Clinical	1,2	Radiology, Ultrasound Diagnostic and Physical Therapy Unit 1pm-4pm	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia,

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		Capak, PhD Ana Javor, DVM, Assistant Iva Bacan, DVM, Assistant				2014
5/3/2023 5 <sup>th</sup> practical	Diagnostic Ultrasound, clinical cases, 1. + 2. Preliminary exam	Assoc. Prof. Zoran Vrbnac, DVM, PhD, DACVSMR, DECVSMR Assoc. Prof. Hrvoje Capak, PhD Ana Javor, DVM, Assistant Iva Bacan, DVM, Assistant	Special Clinical	1,2	Radiology, Ultrasound Diagnostic and Physical Therapy Unit <b>12pm-2.30pm</b>	Millis, D.L., D. Levine, R.A. Taylor: Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia, 2014

### STUDENT OBLIGATIONS

Lecture attendance	Attending lectures 3-6 points (15 lecture hours, 1 lecture hour is worth 0.4 point). A student must attend minimal 8 lecture hours
Seminars attendance	-
Practicals attendance	Attending exercises 8-12 points (8 programmes, 1 programme (double period) is worth 1.6 points). A student must attend minimal 5 programmes.
Active participation in seminars and practicals	Participation at exercises 5-10 points – participation at exercise will be evaluated with short oral tests with 5 points at least two times.
Final exam	ORAL EXAM: 24-40 points (5 questions : 1 question is worth 8 points) To take the final exam a student must gain minimal 16 points from attending lectures and exercises and participation at exercises and minimal 20 points from continuous knowledge checking.
Examination requirements	Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine (2022). Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. <b>Article 41:</b> a student can justifiably be absent from up to 50 % of the lectures; 20% of the seminars and 20 % of the exercises.

### GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	Continuous knowledge checking 20-32 points 1 <sup>st</sup> preliminary exam (10 questions) 10 points min. – 16 points max. (1 question is worth 1.6 points) 2 <sup>nd</sup> preliminary exam (10 questions) 10 points min. – 16 points max. (1 question is worth 1.6 points) Online test
Final exams (dates)	27/3/2023; 3/5/2023; 15/6/2023; 10/7/2023; 13/9/2023; 22/9/2023
Form of final exam	Oral exam

### LITERATURE

Obligatory literature	Millis, D.L., D. Levine, R.A. Taylor (2014): Canine Rehabilitation and Physical Therapy. Second edition. Elsevier, Philadelphia.
Optional literature	Bockstahler, B., David Levine, J. Maierl, D. Millis, K. Wittek (2019): Essential Facts of Physical Medicine, Rehabilitation and Sports Medicine in Companion Animals. First edition. VBS VetVerlag, Buchhandel und Seminar GmbH.



**OBJECTIVES AND LEARNING OUTCOMES**

Course objectives	The course objective is to explain the different forms of artificial and natural energy and its use in treatment and prophylaxis. Student will get acquainted with most frequently used physical therapy modalities as well as ultrasound diagnostic. The 4 <sup>th</sup> year student will gain the insight in methods and modalities of physical therapy and diagnostic used in rehabilitation protocols.
Learning outcomes	1- to understand different methods of physical therapy and their effect on body systems 2- to apply and to determine the duration of the methods depending on clinical condition 3- to evaluate the outcome of physical therapy treatment 4- to interpret ultrasound image of different body system

**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

Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR



Head of organizational unit:

Assoc. Prof. Zoran Vrbanac, DVM, PhD, DACVSMR, DECVSMR



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