

2021-2022

PATHOPHYSIOLOGY I

UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE
Heinzlova 55
Tel. 01/2390180
Division for basic and preclinical sciences
Department of Pathophysiology
Email: mrobic@vef.hr
Register no.:
File no.:
Zagreb, 07.09.2021.

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129630	REPUBLIKA HRVATSKA	
Veterinarski fakultet u Zagrebu		
Primljeno:	06.09.2021	
Klasifikacijska oznaka	Org. jed.	
605-03/21-04/31	251-61-32;	
Uredžbeni broj	Prilozi	Vrijednost
251-61-13-21-18	0	-

COURSE SYLLABUS

Course name: Pathophysiology I

Academic year 2021-22

Course leader: Associate Professor Maja Belić, PhD

Vice course leader: Full Professor Romana Turk, PhD

Teachers: Full Professor Romana Turk, PhD
Full Professor Mirna Robić, PhD

Associate assistant: Sandra Kunštek, mag. ing. biotechn.

First day of classes: December 13, 2021.

Last day of classes: December 21, 2021.

Timetable for LECTURES academic year 2021-2022

LECTURES				
Date	Methodological unit	Teacher	Location / time	Literature
13.12.2021.	Pathophysiology of inflammation and repair	Prof. Romana Turk	10-12h Lecture room Department of Physiology and Radiobiology	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb
14.12.2021.	Disturbances in acid-base balance	Prof. Romana Turk	10-12h Lecture room Department of Physiology and Radiobiology	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb
15.12.2021.	Pathophysiology of Endocrinopathies	Prof. Mirna Robić	10-12h Lecture room Department of Physiology and Radiobiology	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb David O. Slauson, Barry J. Cooper (1982., 1999.): Mechanisms of Disease. Mosby.
16.12.2021.	Pathophysiology of Endocrinopathies	Prof. Mirna Robić	08-10h Lecture room Department of Physiology and Radiobiology	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb
20.12.2021.	Disorders of cell growth and pathophysiology of neoplasms	Prof. Maja Belić	08-10h Lecture Room, Department of Physiology and Radiobiology	David O. Slauson, Barry J. Cooper (1982., 1999.): Mechanisms of Disease. Mosby.
21.12.2021.	Pathophysiology of CNS diseases	Prof. Maja Belić	7.30-09h Practical hall Department of pathophysiology	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb

Timetable for SEMINARS academic year 2021-2022

SEMINARS					
Date	Methodological unit	Teacher	Group	Location / time	Literature
17.12.2021.	Pathophysiology of vitamins and minerals deficiency and sufficiency	Prof. Maja Belić	1,2,3	14-16h Lecture Room Department of Physiology and Radiobiology	Steven L. Stockham and Michael A. Scott (2008.): Fundamentals of Veterinary Clinical Pathology. Blackwell Publishing. Mary Anna Thrall (2004.): Veterinary Hematology and Clinical Chemistry. Lippincott Williams & Wilkins.
21.12.2021.	Oxidative stress and antioxidative protection	Prof. Romana Turk	1,2,3	09-11h Practical Hall Department of Pathophysiology	Steven L. Stockham and Michael A. Scott (2008.): Fundamentals of Veterinary Clinical Pathology. Blackwell Publishing. Mary Anna Thrall (2004.): Veterinary Hematology and Clinical Chemistry. Lippincott Williams & Wilkins.

Timetable for PRACTICALS academic year 2021-2022

PRACTICALS						
Date	Methodological unit	Teacher	Type of practical	Group	Location / time	Literature
14.12.2021.	Application of methods of spectrophotometry in veterinary laboratory diagnostics	Prof. Maja Belić	Clinical	1,2,3	08-10h Practical Hall Department of Pathophysiology	Printed materials and power point presentations
15.12.2021.	Total protein levels in blood	Prof. Mirna Robić	Clinical	1,2,3	08-10h Practical Hall Department of Pathophysiology	Printed materials and power point presentations
16.12.2021.	Acute phase proteins	Prof. Maja Belić	Clinical	1,2,3	10-12h Practical Hall Department of Pathophysiology	Printed materials and power point presentations
20.12.2021.	Determination of blood glucose	Prof. Romana Turk	Clinical	1,2,3	12-14h Practical Hall Department of Pathophysiology	Printed materials and power point presentations
21.12.2021.	Short exam	Prof. Mirna Robić	Clinical	1,2,3	13-14h Practical Hall Department of Pathophysiology	Printed materials and power point presentations

STUDENT OBLIGATIONS

Lecture attendance	<p>Maximal number of points – 6 Minimal number of points– 3 (one hour of lectures is 0.545 points) During the course of Pathophysiology I, student must attend minimum of six hours of lectures to achieve minimal 3 points. Maximal number of points is achieved if student attends all of 11 hours of lectures. For each excused absence student gains back 0,545 points per hour of lecture</p>
Seminars attendance	<p>Maximal number of points - 6 Minimal numbers of points -4 (each seminar hour is 1.5 points) Student must attend minimum two hours of seminars. Each excused absence in approved limits (two hours) students can make up in agreement with seminar leader in written form and the points for attendance will be given back.</p>
Practicals attendance	<p>Maximal number of points -6 Minimal numbers of points -4 (each hour of practice is 0.6 points) Student must be present at minimum of seven hours of practicals to achieve minimal 4 points. Each excused absence within approved limits (three hours) students can make up in agreement with practical's leader. After successful made up student achieves 0.6 points for hour</p>
Active participation in seminars and practicals	<p>Maximal number of points -10 Minimal number of points – 5 Each attended, written and signed practical results in 1 point, therefore maximum of 5 points (5 programs x 1 = 5) can be achieved. During the practicals short knowledge checkings will be performed and that way students can gain maximum of 2 points. During the seminars students elaborate given themes in smaller groups, and that way they can earn maximal 3 points</p>
Final exam	<p>For final exam attendance student must gain minimal 16 points from attendance and active participation on lectures and practicals and minimum of 20 points from continuous knowledge checking. Exam will be in written form</p>
Examination requirements	<p>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.</p>

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	22.12.2020. Maximal number of points – 32 Minimal number of points – 20 Written knowledge checking will be held after termination of practicals. Students have to answer 16 questions, each correctly answered question will be evaluated with 2 points. For students who do not earn the minimum number of points, three more terms of colloquium will be organized in the current academic year. If a student does not pass the colloquium in the current academic year, he/she loses the right to access the colloquium and must re-enroll the course in order to master the practicals and regain the right to take the colloquium in the next academic year.
Final exams (dates)	12.11.2021.; 24.01.2022.; 08.02.2022.
Form of final exam	written

LITERATURE

Obligatory literature	Gamulin, S., M. Marušić, Z. Kovač et al. (2013): Pathophysiology. Basic mechanisms of disease, Medicinska naklada, Zagreb David O. Slauson, Barry J. Cooper (1982., 1999.): Mechanisms of Disease. Mosby. Steven L. Stockham and Michael A. Scott (2008.): Fundamentals of Veterinary Clinical Pathology. Blackwell Publishing. Mary Anna Thrall (2004.): Veterinary Hematology and Clinical Chemistry. Lippincott Williams & Wilkins. J. Kaneko (1980., 2008.): Clinical Biochemistry of Domestic Animals
Optional literature	Stjepan Gamulin Matko Marušić, Zdenko Kovač i sur. (1988., 2002., 2011.): Patofiziologija. Medicinska naklada, Zagreb. Tatjana Božić (2007., 2012.): Patološka fiziologija domaćih životinja. Naučna KMD, Beograd. Romana Turk (2005.): Vježbe iz patofiziologije - biokemijski dio (interna skripta). Nina Poljičak Milas: Patofiziologija poremećaja žlijezdi s unutaršnjim lučenjem, web predavanje Mirna Robić (2016): Patofiziologija upale, bolesti deficit i suficita vitamin, web pr

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	During the course of Pathophysiology I students achieve knowledge on basic pathophysiological processes on cellular and tissue level during homeostatic disturbances in organism. Therefore, the basis for better understanding disturbances in particular organs and organic system is achieved for understanding the course of Pathophysiology II. During practical part of the course students gain skills in performing basic biochemical laboratory analyses, choosing the correct method and proper interpretation of achieved results
Learning outcomes	After successful Pathophysiology I mastering, student will be able to <ul style="list-style-type: none">- define the terms health and disease,- describe endocrinopathies,- describe bioactive substances and their role in pathophysiology,- describe disturbances in neural system function,- master biological samples handling,- determine serum protein, glucose and lipid concentrations and interpret the results

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:



Associate Professor Maja Belić, PhD

Head of Department/Clinic:



Associate Professor Maja Belić, PhD

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