



DISCIPLINE FILE PATHOPHYSIOLOGY

1. Data about the program

1.1	“CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST
1.2	FACULTY OF MEDICINE / DEPT. 1 FUNCTIONAL SCIENCES
1.3	PATHOPHYSIOLOGY
1.4	STUDY FIELD HEALTH
1.5	STUDY LEVEL - MD
1.6	PROGRAMME - MEDICINE

2. Data about the discipline

2.1	DISCIPLINE NAME PATHOPHYSIOLOGY						
2.2	COURSE HOLDER..						
2.3	ASSISTANT PROFESSOR M.D.PhD						
2.5 Year of stud	III	2.6 Semester	V and VI	2.7 Evaluation type	Practical examination oral and final examination written	2.8 Type of discipline	Fundamental discipline

3. Estimated total time (hours/semester didactic activity)

Hours / week	4	Course .	2	Seminary / laboratory	2
Total hours of learning schedule	112	Course	56	Seminary / laboratory	56
Distribution of time	28 weeks				
Textbook study, lecture support, bibliography and notes					
Supplementary documentation (in the library, online field)					
Preparing for seminary/lab, homework					
Tutoring					
Examination					
Other activities					
Total hrs. individual study					
Total hrs.per semester					
Credits					8

4. Preconditions (where needed)

4.1. curriculum	Basic knowledge of general Physiology
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5. Conditions (where needed) not required

6. Specific accumulated competences

Professional skills (as knowledge and abilities)	The content of the discipline and the working methods with the students ensure the development of the knowledge, understanding and use of diagnostic methods, explanation and interpretation of the results and their integration into clinical practice through specific applications. This gives you an important professional skills: Establishing a diagnosis based on investigations, on stages, and finally on reflection on possible differential diagnosis.
Transversal competences (role, professional and personal development)	Development of preclinical medical thinking and autonomy in how to assess a patient's medical problem, moral and social education for the medical field, personal and professional development. Teamwork abilities, flexibility, adaptability in different circumstances.

7. Discipline objectives (from the specific competences grid)

7.1 General objective	Course and practical laboratory of Pathophysiology in Romanian and English are teach during two semesters. This scientific discipline objectives are: the detailed knowledge of the main mechanisms involved in the body's defense reactions (inflammatory reaction, haemostasis - as post-aggressive local reactions and post-aggressive systemic reaction) and their pathologies; detailed knowledge of the specific pathological mechanisms for each human body apparatus (heart, lung, kidney, liver, pancreas etc.) and of the para-clinical investigation methodology in order to establish positive and differential functional diagnosis, of the evolutionary stage (where applicable).
7.2 Specific objectives	We aim to provide students knowledge of the para-clinical investigation methodology in order to establish the functional diagnosis in pathology and to follow the evolutionary diseases.

8. Content

8.1. Cours	Teaching method	Observations
1.Introduction. Concept of adaptation, defense and disease	Oral presentation in the lecture hall supported by numerous schemes; interactive contact	2 h
2-3. Mechanisms of defense. Acute Inflammation. Pathology of inflammation		4 h
4-5 Hemostasis - physiology and pathology of vessel wall (endothelium), platelets, clotting factors, and regulatory mechanisms. Hypo- and hyper coagulability syndroms.		4 h
6-7 Shock status - post-aggression phases, compensatory mechanisms and decompensation pathways		
8-9 Pathophysiology of acid-base balance		4 h
10. Pathophysiology of hydro-electrolites balance		4 h
		2 h
11. Pathophysiology of phosphocalcic metabolism		2 h
12. Pathophysiology of thermoregulation. Thermal homeostasis disorders		2 h
13-14. Pathophysiology of carbohydrates metabolism. Diabetes melitus - mechanisms of disease and complication		4 h
15. Pathophysiology of lipids metabolism. Mechanisms of their complications.		2 h
16. Atherosclerosis. Pathophysiology of atheromatic plaque complications Pathophysiology of digestive system diseases		2 h
17-18 Pathophysiology of cardiac failure - ethiology, mechanisms, compensatory mechanisms, decompensation pathways		4 h
19-20. Pathophysiology of respiratory/pulmonary failure - classification, mechanisms		4 h
21-22. Pathophysiology of renal failure - phases, mechanisms		4 h
23-24. Pathophysiology of hepatic failure - metabolisms disorders, and toxicity theories.		4 h
25-26 . Pathophysiology of digestive system diseases		4 h
27-28. Pathophysiology of blood pressure variations. Mechanisms of occurrence and pathophysiological consequences.		4 h

Bibliography:

1. Guyton – Human physiology and mechanism of diseases, editia 6-a *W.B.Sauders*
2. Kathryn L.McCance, Sue E. Heuther, Valentina L.Brashers, Neal S.Rote, Pathophysiology, The Biologic Basis for Disease in adults and Children, Mosby Elsevier, sixth edition, 2010
3. Rose DB, Post T Clinical physiology of acid-base and electrolyte disorders, ed 5, New York,

2001, McGrawHill,

4. I.Teodorescu Exarcu, Fiziologia și fiziopatologia respirației, Ed. Medicală, București, 1979
5. I Teodorescu Exarcu, Excreția, Ed. Medicală, București, 1980,
6. Kaushansky, K. Lichtman M- Williams hematology, ed. 8, McGraw Hill, 2011
7. Goldman, L. Schaffer A, - Goldman's cecil medicine, ed. 24, Elsevier Saunders, 2012
8. Guyton, A. - Guyton and Hall textbook of medical physiology, ed. 12, 2011
9. Kumar, V. - Robbin's and Cotran pathologic basis of disease, ed. 8, 2010
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11. Boyer, Th. Mann M, Sanyal A- Zakim and Boyer's hepatohepatology: A textbook of liver disease, ed. 6, Elsevier Saunders, 2012
12. Eckman M, Labus D, Thomson G, Atlas of pathophysiology, ed. 3, Lippincott, Williams, Wilkins 2010
13. Longo, D. - Harrison's principles of internal medicine: Vol. I & II, ed. 18, Ed McGraw Hill 2012
14. Stephen J. McPhee, Gary D. Hammer, Pathophysiology of Disease An Introduction to Clinical Medicine, Publisher: McGraw-Hill Medical; 7th edition, Data publicarii – 2014)
15. Mason R, Broaddus V Courtnay, Martin T, King T, Schraufnagel D, Murray J and Nadel J; Murray and Nadel. Textbook of respiratory medicine, 5th ed, Elsevier Saunders 2010
16. De Fronzo, Ferrannini E. Keen H, Zimmet P - International Textbook of Diabetes Mellitus 3rd edition, John Wiley & Sons, 2005

8.2. Laboratory	Teaching method	Observations
1-6 Clinical Electrocardiography	Oral / video presentation illustrated in Powerpoint, analysis bulletins, clinical case reviews	12 h
7-9 Hemostasis - laboratory investigation - clinical application		6 h
10-12. Erythrocytes - laboratory investigation - clinical application		6 h
13. Investigation in acid-base balance		2 h
14. Investigation in hydro-electrolites balance		2 h
15-16 Investigation in lipids metabolism		4 h
17-18 Investigation in proteins metabolism		4 h
19-21 Investigation in carbohydrates metabolism		6 h
22-23. Respiratory functional investigation		4 h
24-25. Renal function investigation methods		4 h
26-27. Hepatic function investigation methods		6 h

Bibliography

1. Alice Brînzea, Roxana Ioana Nedelcu, Marina Ruxandra Oțelea Fiziopatologie. Lucrări practice pentru studenți. Diagnosticul electrocardiografic., Editura Didactică și Pedagogică, 2016, ISBN 978-606-31-0342-1
 2. West, J. - Pulmonary pathophysiology, 8th ed, Lippincott Williams & Wilkins, 2013
 3. Kaushansky, K. Lichtman M - Williams hematology, 8th ed, McGrawHill, 2011
 4. Klain, G.- Clinical electrophysiology review, 2nd ed, McGraw Hill, 2013
 5. Ashfaq H: Handbook of blood gas / acid-base interpretation. 2nd ed, Springer-Verlag, 2009
- 9. Correlation between department activity and expectation of epistemic community members, professional associations and employers in representative fields**

Complete course and laboratory of Pathophysiology allows the accumulation of knowledge for promotion in the fourth year of study in the Medicine Faculty and acquiring knowledge for the license, residency and doctorate.

10.Evaluation

Activity type	Evaluation criteria	Methods of evaluation	% out of final grade
Cours	Knowledge of the theoretical notions of pathophysiology	During each semester a control paper from the theory delivered in the lecture is given. Single and multiple choice questionnaire from a previously displayed theme, treatable in 1.30 / 2 h	75%
Laboratory sessions	The ability to interpret an ECG route and medical analysis bulletins	Practical exam with oral examination in front of ASSISTANT PROFESSOR	25 %
Minimum performance standards			
Students can take the exam only if they have obtained the pass mark (note 5) at the practical exam. Minimum grade is five at cours exam			

Data completării:

Semnătura sefului disciplinei

4.04.2018

Data avizării în Consiliul
Departamentului:

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Semnătura directorului de departament

