

UNIVERSITY OF ZAGREB SCHOOL OF MEDICINE

# Plan of the course

# **Pathophysiology**

Academic year **2016/2017**

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prof. dr. sc. Zdenko Kovač

## **I. COURSE AIMS**

The Pathophysiology course is designed for students that have successfully completed courses of physiology, biochemistry (and other Second year courses of the Zagreb Curriculum). Clinical propaedeutic and Pathology courses should be in progress (or completed) during or prior to the Pathophysiology course.

1. To introduce the concepts and principles underlying natural development of disease, organ dysfunction and accompanying overall body performance alterations, as a foundation for understanding, clinical elaboration and treatment of diseases.
2. To introduce etiological frameworks of disease processes and their interactions with defensive, adaptive, self-maintaining and reparatory processes within the pathogenesis of diseases' classes.
3. To enable integration of morphological, biochemical, physiological and p propaedeutical knowledge into plausible etiopathogenetic mechanisms which incorporate and develop a synthetic view of pathobiological basis of the disease.
4. To nurture and stimulate vertical (from gene/molecule to symptom) and horizontal (simultaneous cross-interactive relation of organ systems) reasoning and consideration of disease processes, with emphasis on both quantitative and qualitative aspects of the problem.
5. To facilitate and stimulate active participation of students in elaboration of natural course of diseases and disorders, and thus to nurture a proper clinical reasoning with specific emphasis on the etiopathogenetic clusters as a branching points of reactivity.

## **II. COURSE STRUCTURE**

**Course hours:**

Lectures: 45

Seminar: 60

Practicum: 30

**Total hours: 135**

**Lectures (L)** are given in form of plenaries.

**Seminars (S)** are problem oriented classes with guidance from a handout materials. Students should prepare appropriate topics in advance in order to be able to contribute and participate actively in seminars. All students should develop an etiopathogenetic algorithm out of given elements describing and simulating a realistic clinical problem. Students may use recommended problem solving book in order to solve (item 2 in Additional Literature) the given problem.

**Practicals (P)** include clinical, laboratory, animal demonstrations and labs. Each practical exercise is accompanied with selected audio-visual materials, short movies, to be seen as complementary information - relevant to the subject studied. Movies' titles and duration are indicated in the workbook. Students are advised to see movies, which can be reached through the LMS-system, before the practical - as additional information on given subject to be elaborated in practical classes

**Case study worksheets - Workbook.** Each student needs to elaborate 100 patient-based case reports in form of case studies appropriately structured in a form of worksheet-matrix. The case studies are selected from the 20 most common etiopathogenetic clusters.

## **III. PLAN OF THE COURSE AND COURSE SCHEDULE**

### **BLOCKS OF THE COURSE**

Number of blocks: 1

Block number	Start	End
1.	29.9.2016	25.5.2017

## BLOCKS OF THE COURSE

Number of blocks: 1

Block number	Start	End
1.	29.9.2016	25.5.2017

## BLOCKS OF THE COURSE SCHEME

Block 1

Date	Time	Group	Course hours type	Theme	Teaching staff
Thursday 6.10.2016.	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Introduction to pathophysiology. Overview of blood circulation pathophysiology	prof. dr. sc. Zdenko Kovač
Thursday 13.10.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	99. Hypertrophy due to functional overload 97. Natural pathogenesis of heart septal defect	doc. dr. sc. Filip Sedlić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	99. Hypertrophy due to functional overload 97. Natural pathogenesis of heart septal defect	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Patterns, rules and natural development of etiopathogenetic processes of disease/ disorder/ syndrome	prof. dr. sc. Zdenko Kovač
Thursday 20.10.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	101. Diastolic heart failure 100. Energy shortage in ischemic diseases	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	101. Diastolic heart failure 100. Energy shortage in ischemic diseases	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	General etiology and pathogenesis. Disorders of protein biosynthesis and metabolism	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	Orthostatic and physical exercise hemodynamic effects EPC: Arterial hypotension, Hypovolemia	doc. dr. sc. Borislav Belev
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group b	Practicum	Orthostatic and physical exercise hemodynamic effects EPC: Arterial hypotension, Hypovolemia	doc. dr. sc. Natalija Dedić Plavetić
Thursday 27.10.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	104. Etiopathogenetic effects of hypertension 105. Aortic valve insufficiency	doc. dr. sc. Borislav Belev

Date	Time	Group	Course hours type	Theme	Teaching staff
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	104. Etiopathogenetic effects of hypertension 105. Aortic valve insufficiency	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Etiopathogenesis of hemodynamic shock syndromes	prof. dr. sc. Stjepko Pleština
Thursday 3.11.2016.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	69. Pathogenesis of anaphylactic shock 66. Pathogenesis of hypovolemic shock	doc. dr. sc. Borislav Belev
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	69. Pathogenesis of anaphylactic shock 66. Pathogenesis of hypovolemic shock	doc. dr. sc. Natalija Dedić Plavetić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of inflammation. Part One	izv. prof. dr. sc. Maja Sirotković- Skerlev
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group B	Practicum	ECG recording and interpretation during physical exercise EPC: Arterial hypertension. Cardiac tamponade.	dr. sc. Ivan Bilić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	ECG recording and interpretation during physical exercise EPC: Arterial hypertension. Cardiac tamponade.	doc. dr. sc. Filip Sedlić
Thursday 10.11.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	51. Serum disease 59. Pathophysiology of burn disease	doc. dr. sc. Natalija Dedić Plavetić
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group B	Seminar	51. Serum disease 59. Pathophysiology of burn disease	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of inflammation. Part Two	izv. prof. dr. sc. Maja Sirotković- Skerlev
Thursday 17.11.2016.	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group B	Seminar	47. Genral pathogenesis of fever 57. Pathophysiology of erythrocyte sedimentation	doc. dr. sc. Filip Sedlić
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	47. Genral pathogenesis of fever 57. Pathophysiology of erythrocyte sedimentation	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of DNA: microlesions, chromosomal aberations, genome instability and disorders of gene expression	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	Heart decompensation EPC: Heart decompensation. Cardogenic shock. Heart ischemia	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, edukacijski centar Lj. Čečuk	Group B	Practicum	Heart decompensation EPC: Heart decompensation. Cardogenic shock. Heart ischemia	dr. sc. Ivan Bilić

Date	Time	Group	Course hours type	Theme	Teaching staff
Thursday 24.11.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	2. Molecular pathogenesis of cystic fibrosis 6. Osteogenesis imperfecta	Lada Bradić, dr. med.
	08:00-09:30; KBC, edukacijski centar A. Hahn	Group A	Seminar	2. Molecular pathogenesis of cystic fibrosis 6. Osteogenesis imperfecta	doc. dr. sc. Natalija Dedić Plavetić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Disorders of body fluids osmolality and distribution, Disorders of electrolytes	prof. dr. sc. Zdenko Kovač
Thursday 1.12.2016.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	118. Etiopathogenesis of cholera syndrome 27. Kinetics of body fluids adaptations	doc. dr. sc. Borislav Belev
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	118. Etiopathogenesis of cholera syndrome 27. Kinetics of body fluids adaptations	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Energy metabolism disorders Part One	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Pathological electrocardiograms EPC: Arrhythmia, Seizures.	doc. dr. sc. Natalija Dedić Plavetić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Pathological electrocardiograms EPC: Arrhythmia, Seizures.	doc. dr. sc. Filip Sedlić
Thursday 8.12.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	4. Phenylketonuria 5. Inherited coagulopathy	Lada Bradić, dr. med.
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group A	Seminar	4. Phenylketonuria 5. Inherited coagulopathy	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of stress. Etiopathogenesis of pain	prof. dr. sc. Zdenko Kovač
Thursday 15.12.2016.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	62. Pathophysiology of stress 65. Etiopathogenetic consequences of catabolic reaction	doc. dr. sc. Natalija Dedić Plavetić
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	62. Pathophysiology of stress 65. Etiopathogenetic consequences of catabolic reaction	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Energy metabolism disorders Part two	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Liver insufficiency EPC: Acute liver failure. Chronic liver failure. Jaundice	doc. dr. sc. Filip Sedlić

Date	Time	Group	Course hours type	Theme	Teaching staff
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Liver insufficiency EPC: Acute liver failure. Chronic liver failure. Jaundice	dr. sc. Ivan Bilić
Thursday 22.12.2016.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	115. Etiopathogenesis of nephrotic syndrome 123. Mushroom intoxication (Amanita phalloides)	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	115. Etiopathogenesis of nephrotic syndrome 123. Mushroom intoxication (Amanita phalloides)	Lada Bradić, dr. med.
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of endocrinopathies	doc. dr. sc. Filip Sedlić
Thursday 12.1.2017.	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group A	Seminar	40. Endocrinopathy-Cushing syndrome 37. Endocrinopathy-Insufficiency of adrenal gland	doc. dr. sc. Natalija Dedić Plavetić
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	40. Endocrinopathy-Cushing syndrome 37. Endocrinopathy-Insufficiency of adrenal gland	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Inheritable metabolic disorders. Disorders od subcellular structures	prof. dr. sc. Stjepko Pleština
	11:15-12:45; KBC, edukacijski centar Lj. Čečuk	Group A	Practicum	Disorders of metabolism, nutrition and digestion EPC: Obesity. Malnutrition. Metabolic syndrome	doc. dr. sc. Borislav Belev
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Disorders of metabolism, nutrition and digestion EPC: Obesity. Malnutrition. Metabolic syndrome	doc. dr. sc. Filip Sedlić
Thursday 19.1.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	44. Endocrinopathy-Pheochromocytoma 24. Endocrinopathy-Diabetes insipidus	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	44. Endocrinopathy-Pheochromocytoma 24. Endocrinopathy-Diabetes insipidus	doc. dr. sc. Natalija Dedić Plavetić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of acid-base disorders	prof. dr. sc. Stjepko Pleština
Thursday 2.2.2017.	09:30-10:30; KBC, edukacijski centar I. H. Botteri	SVI	Exam	MID TERM COLLOQUIUM	prof. dr. sc. Zdenko Kovač
Thursday 9.2.2017.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	32. Diabetic ketoacidosis 38. Hyperosolar syndrome in diabetes mellitus	doc. dr. sc. Filip Sedlić

Date	Time	Group	Course hours type	Theme	Teaching staff
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	32. Diabetic ketoacidosis 38. Hyperosolar syndome in diabetes mellitus	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Etiopathogenetic role of immune processes. Tissue grafting reactions, Immune relations in pregnancy	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	Anaemias EPC: Anaemia. Hypersplenism. Transfusion reactions.	doc. dr. sc. Natalija Dedić Plavetić
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group B	Practicum	Anaemias EPC: Anaemia. Hypersplenism. Transfusion reactions.	doc. dr. sc. Filip Sedlić
Thursday 16.2.2017.	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group B	Seminar	53. Pathophysiology of kidney transplantation 52. Pathophysiology of GVHD	doc. dr. sc. Borislav Belev
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	53. Pathophysiology of kidney transplantation 52. Pathophysiology of GVHD	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Endogenous bioactive compounds	doc. dr. sc. Filip Sedlić
Thursday 23.2.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	92. Pathophysiology of hemolytic anemias 23. Magaloblastic anemia	doc. dr. sc. Natalija Dedić Plavetić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	92. Pathophysiology of hemolytic anemias 23. Magaloblastic anemia	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of imunodeficiency, hypersensitivity, autoimmunity, and transfusion reactions	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Acid-base disorders EPC: Metabolic acidosis + Metabolic alkalosis+Respiratory acidosis + Respiratory alkalosis	doc. dr. sc. Borislav Belev
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Acid-base disorders EPC: Metabolic acidosis + Metabolic alkalosis+Respiratory acidosis + Respiratory alkalosis	Lada Bradić, dr. med.
Thursday 2.3.2017.	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group A	Seminar	48. Etiopathogenesis of AIDS 49. Immunodeficiency with hyper-IgM-hypergammaglobulinemia	Lada Bradić, dr. med.
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	48. Etiopathogenesis of AIDS 49. Immunodeficiency with hyper-IgM-hypergammaglobulinemia	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Disorders of consciousness. Disorders of autonomnous nerve system	prof. dr. sc. Stjepko Pleština

Date	Time	Group	Course hours type	Theme	Teaching staff
Thursday 9.3.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	31. Acute hypercapnic acidosis 28. Pathogenesis of acute respiratory alkalosis	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	31. Acute hypercapnic acidosis 28. Pathogenesis of acute respiratory alkalosis	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Disorders of metabolism of micronutrients	doc. dr. sc. Borislav Belev
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	Thermoregulation. EPC: Hypothermia + Hyperthermia	doc. dr. sc. Natalija Dedić Plavetić
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group B	Practicum	Thermoregulation. EPC: Hypothermia + Hyperthermia	Lada Bradić, dr. med.
Thursday 16.3.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	124. Pathophysiology of obstructive jaundice 122. Pathophysiology of liver cirrhosis	Lada Bradić, dr. med.
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group B	Seminar	124. Pathophysiology of obstructive jaundice 122. Pathophysiology of liver cirrhosis	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of carcinogenesis and neoplastic disease	izv. prof. dr. sc. Maja Sirotković- Skerlev
Thursday 23.3.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	73. Four groups of oncogenetic mechanisms 114. Pathophysiology of obstructive uropathy	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	73. Four groups of oncogenetic mechanisms 114. Pathophysiology of obstructive uropathy	Lada Bradić, dr. med.
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Quantitative aspects of pathophysiology	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group B	Practicum	Tumor diseases. Cachexia EPC: Cachexia. Ileus. Pathological fracture.	doc. dr. sc. Natalija Dedić Plavetić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Practicum	Tumor diseases. Cachexia EPC: Cachexia. Ileus. Pathological fracture.	doc. dr. sc. Borislav Belev
Thursday 30.3.2017.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	73. Hyperparathyroidism as a consequence of RB antioncogen dysfunction 36. Pathogenesis of thyroid adenoma	doc. dr. sc. Natalija Dedić Plavetić
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	73. Hyperparathyroidism as a consequence of RB antioncogen dysfunction 36. Pathogenesis of thyroid adenoma	dr. sc. Ivan Bilić



Date	Time	Group	Course hours type	Theme	Teaching staff
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Lipid metabolism disorders. Atherogenesis. Etiopathogenesis of obesity	prof. dr. sc. Stjepko Pleština
Thursday 6.4.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	86. Carbon monoxide intoxication and energy failure 17. Pathophysiology of obesity	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group B	Seminar	86. Carbon monoxide intoxication and energy failure 17. Pathophysiology of obesity	doc. dr. sc. Natalija Dedić Plavetić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of infections	prof. dr. sc. Zdenko Kovač
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Animal experiments. Anesthesia and induced hyperkalemia EPC: Hyperkalemia. Hypokalemia	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Animal experiments. Anesthesia and induced hyperkalemia EPC: Hyperkalemia. Hypokalemia	doc. dr. sc. Natalija Dedić Plavetić
Thursday 20.4.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group A	Seminar	45. Pathophysiology of hypothermia 46. Heat stroke and heat exhaustion	doc. dr. sc. Borislav Belev
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group B	Seminar	45. Pathophysiology of hypothermia 46. Heat stroke and heat exhaustion	doc. dr. sc. Natalija Dedić Plavetić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Integral body reactions to noxious stimuli. Regenerative processes in disease development	prof. dr. sc. Zdenko Kovač
Thursday 27.4.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	117. Gluten enteropathy 119. Pathophysiology of peptic disease	dr. sc. Ivan Bilić
	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	117. Gluten enteropathy 119. Pathophysiology of peptic disease	doc. dr. sc. Borislav Belev
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of chemical noxious stimuli	prof. dr. sc. Stjepko Pleština
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Infectious diseases EPC: Sepsis. Multiple organ failure. Leukocytosis. Neutropenia.	doc. dr. sc. Natalija Dedić Plavetić
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Infectious diseases EPC: Sepsis. Multiple organ failure. Leukocytosis. Neutropenia.	doc. dr. sc. Filip Sedlić
Thursday 4.5.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	22. Familial hypercholesterolemia 20. Pathophysiology of diabetic complications	doc. dr. sc. Filip Sedlić

Date	Time	Group	Course hours type	Theme	Teaching staff
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group A	Seminar	22. Familial hypercholesterolemia 20. Pathophysiology of diabetic complications	dr. sc. Ivan Bilić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of body mechanical forces and trauma	doc. dr. sc. Borislav Belev
Thursday 11.5.2017.	08:00-09:30; KBC, edukacijski centar S. Dogan	Group A	Seminar	50. Goodpasture syndrome 113. Metabolic acidosis in chronic renal failure	doc. dr. sc. Filip Sedlić
	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	50. Goodpasture syndrome 113. Metabolic acidosis in chronic renal failure	Lada Bradić, dr. med.
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of ionizing radiation	doc. dr. sc. Borislav Belev
	11:15-12:45; KBC, edukacijski centar S. Dogan	Group A	Practicum	Endocrinology: Hypothyreosis. Hormon dependent tumors EPC: Hypernatraemia. Hyponatraemia. Hyperkalcaemia. Hypokalcaemia	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Endocrinology: Hypothyreosis. Hormon dependent tumors EPC: Hypernatraemia. Hyponatraemia. Hyperkalcaemia. Hypokalcaemia	doc. dr. sc. Natalija Dedić Plavetić
Thursday 18.5.2017.	08:00-09:30; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Seminar	72. Pathophysiology of aging 20. Pathophysiology of diabetic complications	Lada Bradić, dr. med.
	08:00-09:30; KBC, edukacijski centar Lj. Čečuk	Group A	Seminar	72. Pathophysiology of aging 20. Pathophysiology of diabetic complications	doc. dr. sc. Filip Sedlić
	09:30-11:00; KBC, PF LAB, Bijela zgrada, III. kat	All	Lectures	Pathophysiology of aging. Pathophysiologic role of free oxygen radicals	doc. dr. sc. Filip Sedlić
	11:15-12:45; KBC, PF LAB, Bijela zgrada, III. kat	Group B	Practicum	Respiratory disorders/diseases EPC: Hypoventilation. Hyperventilation. Hypoxemic respiratory insufficiency. Hypercapnic respiratory insufficiency	dr. sc. Ivan Bilić
	11:15-12:45; KBC, edukacijski centar Lj. Čečuk	Group A	Practicum	Respiratory disorders/diseases EPC: Hypoventilation. Hyperventilation. Hypoxemic respiratory insufficiency. Hypercapnic respiratory insufficiency	doc. dr. sc. Borislav Belev
Thursday 25.5.2017.	09:30-10:30; KBC, edukacijski centar I. H. Botteri	SVI	Exam	END TERM COLLOQUIUM	prof. dr. sc. Zdenko Kovač

Lectures (L), seminars (S) and practicals (P) are held at **DEPARTMENT OF PATHOPHYSIOLOGY, HOSPITAL CENTRE-KBC REBRO** Kišpatićeva 12.

Campus locations: White building, „POLIKLINIKA“ -3RD Floor + EDUCATIONAL CENTER EAST – BUILDING LOCATED ABOVE THE PUBLIC GARAGE

**A)** Students need to officially enroll the Pathophysiology course for the current academic year in order to participate in Pathophysiology classes, in accordance to current regulations.

**B)** Attendance of all types of classes (lectures, seminars, practicals) is obligatory. Absenteeism is monitored through individual records of class attendance.

**C)** Students should wear white coats and carry his/her own stethoscopes for the practicals.

**D)** Students' activities and successful mastering of duties and achievements are rewarded by bonuses. Compensation for missed classes is regulated as follows (see F - below).

“Annual bonus“ will be awarded to top students who have earned the highest number of bonuses during the course of Pathophysiology. Annual bonus automatically increases the grade at the oral exam by one. Oral exam cannot be passed solely by the annual bonus.

**E)** Students are advised to use published textbooks and books during classes. Usage of unauthorized forms of materials (like photocopies, electronic versions etc.) is not allowed in the classes without permission of the publisher.

**F)** Students' absence, tardiness or obvious passiveness and/or ignorance during classes will be negatively scored. For seminars and practicals altogether Department of Pathophysiology tolerates three negative points in total, and two negative points for lectures. Negative points exceeding the limit have to be justified, while corresponding subject matter has to be compensated by colloquia.

Absenteeism exceeding >20% of total teaching hours cannot be compensated. It is considered as student's failure in fulfillment of the course requirements. Such student will be advised to enroll and repeat the entire course of Pathophysiology with upcoming generations.

**G)** During the course students should elaborate 100 case studies in the **Case study worksheets-Workbook** and submit the fulfilled material as a prerequisite for the index signature and course testing.

**H)** Students with the excellent grade and the annual bonus are awarded **Certificate of Excellence in Pathophysiology**.

**i) Midterm and Enterm Colloquia are written partial exams. The pass in each colloquium gives 3 bonuses to the student activity records. The passes of both colloquia will be recognized as the pass of the written exam.**

#### **IV. EXAMINATIONS**

1. The exam consists of a written and an oral part. Passed written exam is the prerequisite for the oral exam.

2. Written exam is based on problemsolving, seminar-like test. Test has the same basic structure and topics of the written material used during seminar-classes, with modified statements and relations.

3. The written exam requirements pass may be fulfilled via the passes on both Colloquia (see item I).

In order to pass the written exam, students must have >53% of correct answers in exercises A and C and questions 4 and 5 together, and >53% of correct relations in exercise B (etiopathogenetic algorithm). Failure of any of these two (or both) is considered as failure at the written exam.

4. Oral exam is based on randomly drawn 5 questions out of 210, grouped into five areas. The list of questions will be handed to students during the course of Pathophysiology in a written form. The 6th question is randomly selected from the **Case study worksheets-Workbook, which student brings with himself to the exam (see item VI. A ad 4).**

**Midterm colloquium:** February 2nd, 2017 (can be changed)

**Endterm colloquium:** May 25th, 2017 (can be changed)

**Summer terms:** June 14th, 2017 (Wednesday)

June 28th, 2017 (Wednesday)

July 11th, 2017 (Tuesday)

**Autumn terms:** September 4th, 2017 (Monday)

September 12th, 2017 (Tuesday)

September 20th, 2017 (Wednesday)

#### **V./I. LIST OF LECTURERS AND TEACHING STAFF**

1. prof. dr. sc. Zdenko Kovač
2. prof. dr. sc. Stjepko Pleština
3. izv. prof. dr. sc. Maja Sirotković-Skerlev
4. doc. dr. sc. Borislav Belev
5. dr. sc. Ivan Bilić
6. doc. dr. sc. Natalija Dedić Plavetić
7. doc. dr. sc. Filip Sedlić

#### **V./II EXTERNAL ASSOCIATES:**

1. Lada Bradić, dr. med.
2. dr. sc. Stjepan Gamulin
3. Dražen Belina, dr. med.

#### **V./III UNTENURED LECTURERS:**

1. prof. dr. sc. Vesna Kušec

#### **VI. LITERATURE**

##### **A. Obligatory**

1. S Gamulin, M Marušić, Z Kovač. Pathophysiology. Basic mechanisms of Disease. Medicinska naklada, Zagreb 2014. Book One – Volumes One and Two.
2. Z Kovač, S Gamulin. Pathophysiology. Study guide algorithms – Problem Solver. Book Two. Medicinska

Naklada Zagreb 2014.

3. 3. Handouts for lectures, problem-oriented seminars, and practicals.
4. 4. Z Kovač et al. **Case study worksheets-Workbook**. Each student should have the workbook that will be used in Practicals and contains tasks for the individual case-solving of etiopathogenesis. (Additional information will be given during the first lecture)

#### **B. Additional**

1. 1. S Gamulin, M Marušić, Z Kovač. Patofiziologija VII izdanje. Medicinska naklada Zagreb 2011.
2. 2. Z Kovač, S Gamulin. Patofiziologija-Zadatci za problemske seminare III.-izdanje Medicinska naklada Zagreb 2011.
3. 3. McPhee SJ, Lingappa VR, Ganong WP. Pathophysiology of disease. An introduction to clinical medicine. Lange Medical Books/McGraw Hill, New York.
4. 4. Silbernagel S, Lang F. Atlas of Pathophysiology. Georl Thieme Verlag, Stuttgart.