



MEDICAL UNIVERSITY

“PROF. DR. PARASKEV STOYANOV” - VARNA

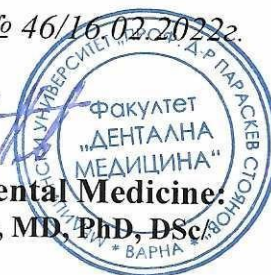
FACULTY OF DENTAL MEDICINE

Approved with a Protocol of № 46/16.02.2022.

Approved:

DEAN of Faculty of Dental Medicine:

/ Prof. Stefan Peev, MD, PhD, DSc



EDUCATIONAL PROGRAMME

OF

“PATHOPHYSIOLOGY“

Specialty “DENTAL MEDICINE”

Educational-qualification degree “MASTER”

Professional qualification “PHYSICIAN IN DENTAL MEDICINE”

	Semester	Horarium weekly	Total horarium
Lectures	V	2	30
Exercises	V	2	30
Total	V	4	60
Monitoring and evaluation forms	Current control		Exam – V semester
Credits (ECTS)			4
Extracurricular employment			60

Varna, 2021

ANNOTATION

Pathophysiology is a fundamental medical discipline, which studies etiology, mechanisms/pathogenesis/ of all pathologic processes and diseases, the principles of therapy and serves as a bridge between pre-clinical and clinical subjects. The main goal of this discipline is to present information regarding the reasons, risk factors and mechanisms following different diseases and healing processes as well. Pathophysiology will provide knowledge and skills that are necessary for good practice and decision making in the clinical setting.

There are 30 hours scheduled for lectures and practical classes during the 5th semester. The lecture course will include topics that cover general and specific pathophysiology. The practical course will include theoretic part (discussions about pathogenic mechanisms and clinical manifestations) and clinical part (experimentation and clinical case reviews). The students will appreciate the subject by multimedia presentations, films with experiments, analysis of medical documents.

There is one colloquium scheduled for the semester that will cover the topics of: General terminology and main types of pathophysiologic processes.

I. CURRICULUM IN PATHOPHYSIOLOGY FOR SPECIALTY " DENTAL MEDICINE "

Theme No 1

PATHOPHYSIOLOGY as fundamental and applied discipline in medical education – object, tasks and its place among other medical disciplines - historical development.

Theme No 2

OVERALL IMPORTANCE OF DISEASE

The definition of health and disease. Modern concepts of disease. Periods of disease. Typical pathological processes. Pathological condition. Protective-adaptable processes and disease. Terminal conditions and principles for the revitalization of the body; preagoniya, agony, clinical and biological death.

Theme No 3

GENERAL IMPORTANCE OF ETIOLOGY AND PATHOPHYSIOLOGY OF DISEASE.

The definition of etiology and pathogenesis, relationship, modern present. Therefore, conditions, risk factors, polietiology. Basic pathogenetic mechanisms: cellular- tissue, humoral-hormonal, and neuro- reflex mechanisms. Causal relations in the development of the disease process. Main unit and leading pathogenetic mechanisms.

Theme No 4

ROLE OF REACTIVITY AND ALLERGY IN THE PATHOPHYSIOLOGY OF DISEASE

Reactivity and resistance: definition, types. Basic mechanisms of reactivity. Role of resistance and reactivity in pathology. Disturbances in immune reactivity. Allergy of humoral and cell-mediated type. Manifestations of drug allergy in dental practice. Autoimmune and immunodeficiency diseases.

Theme No 5**PATHOPHYSIOLOGY OF CELL DAMAGE**

Mechanisms of cell - tissue damage - free radicals, enzyme abnormalities, membrane alterations. Pathophysiological manifestations of cell damage - atrophy, dystrophies, nekrobiosis, apoptosis. Impaired intercellular and cell-tissue interaction. Hyperbiosis - mechanisms of adaptation and damage, hyperfunction, hypertrophy, hyperplasia, metaplasia.

Theme No 6**PATHOLOGICAL INFLUENCE OF EXTERNAL AND INTERNAL ENVIRONMENT**

Traumatic injuries, burns, radiation sickness. Intoxication with drugs, metals, smoking. Pathological effect of biological factors. Social and psychological factors. Stress and disease.

Theme No 7**DISTURBANCES OF METABOLISM**

Disorders of carbohydrate metabolism - resorption, intermediate metabolism, hypoglycemia and hyperglycemia. Disorders of lipid metabolism - digestion and absorption, transport, hyperlipemia, intermediate metabolism, obesity. Disturbances in lipoprotein metabolism. Hiperlipoproteinemia. Atherosclerosis, pathogenesis. Protein - energy malnutrition - digestion and absorption, intermediary metabolism of proteins and amino acids, final stages, quantitative and qualitative changes in protein composition of blood, impaired metabolism of nukleoproteids - gout. Disorders of water metabolism - negative and positive water balance, pathogenesis of edema. Disturbances in the metabolism of macro-and microelements. Disorders of the vitamin metabolism. Disorders of acid-base status - definition and nature of its deviations, compensation mechanisms, performance, principles of rectification.

Theme No 8**DISORDERS OF BLOOD FLOW AND PERIPHERAL CIRCULATION**

Hyperemia, ischemia, thrombosis, embolism, heart attack. Bleeding - definition, symptoms, mechanisms, consequences. Disseminated mikrotrombosis.

Theme No 9**INFLAMMATION**

Definition and nature. Etiology. Basic processes of inflammation: alteration - nature, types, inflammatory mediators, vascular changes, exudation and migration of leukocytes, proliferation.

Theme No 10**FEVER**

Definition. Pyrogens - types, mechanism of action. Pathogenesis, stages of temperature reaction, changes in metabolism, changes in the functions of various organs and systems. Biological (natural) and pathogenic (harmful) effects of fever.

Theme No 11**DISORDERS OF TISSUE GROWTH**

Characteristics of Benign and Malignant Neoplasms. Hyper-and hypobiotic processes - definition and nature. Tumor growth - etiology and pathogenesis. Pathobiochemistry and immune pathology of tumor growth. Tumor in the oral cavity.

Theme No 12**HYPOXIA**

Definition and nature. Indicators. Species. Adaptive-compensatory mechanisms.

SPECIAL (CLINICAL) PATHOPHYSIOLOGY

Theme No 13

PULMONARY DISEASE

General mechanisms breaking lung function. Alterations in respiratory function. Basic pathological mechanisms in pulmonary diseases. Leading pathogenetic factors in external respiration abnormal. Alterations in Ventilation – types. Respiratory Failure - pathogenesis, functional activities, types.

Theme No 14

CARDIOVASCULAR DISORDERS.

Compensatory mechanisms. Heart failure - definition, etiology, forms, pathogenesis. Disorders of rhythm and conduction. Endocardial disease - valvular defects, abnormal hemodynamics. Diseases of the myocardium - a common etiology and pathogenesis. Ischemic heart disease - etiology and pathogenesis, forms. Myocardial disease - pericarditis, cardiac tamponade. Pathophysiology of altered blood pressure. Secondary hypertension, hypertension disease - etiology and pathogenesis. Symptomatic hypotonia, hypotonic disease. Acute vascular insufficiency. Etiology and pathogenesis of shock.

Theme No 15

ALTERATIONS IN THE HEMATOLOGIC SYSTEM

Etiology and pathogenesis of the changes in blood volume. Disorders of erythropoiesis: anemia - definition, classification and characteristics, pathogenesis; poliglobulia - definition and types, pathogenesis. Leucopoiesis disorders, leukocytosis, leukemia, leukemoid reaction, neutropenia - etiology and pathogenesis. Disorders of platelet clotting system: hemorrhagic conditions - definition, types, pathogenesis.

Theme No 16

ALTERATIONS IN GASTROINTESTINAL SYSTEM AND LIVER

General etiology of diseases of the digestive system. Digestive disorders in the oral cavity - machining, hypo-and hypersalivation, swallowing difficulties and the movement of food in the esophagus. Caries - etiology and pathogenesis. Periodontal disease - etiology and pathogenesis. Motility and secretory disorders of the stomach and intestines. Malsorbition and maldigestion. Etiology and pathogenesis of gastritis, peptic ulcer disease and pancreatitis. Ileus. Digestive autointoxication. General etiology and pathology of liver disorders. Pathogenesis of hepatitis, liver cirrhosis, gall-stone disease. Functional liver failure, events. Hepatic encephalopathy - basic concepts in pathogenesis.

Theme No 17

ALTERATIONS IN THE ENDOCRINE SYSTEM

General etiology and pathogenesis of endocrine diseases. Role of endocrine disorders in the pathogenesis of endocrine diseases. Hypo-and hyperfunction of endocrine glands. Disturbances of hypothalamic-pituitary system. Dysfunctions of the thyroid gland, the parathyroid glands, adrenal glands, gonads. Diabetes mellitus – etiology, pathogenesis and complications. Role of endocrine disorders in the pathogenesis of nonendocrine diseases.

Theme No 18

ALTERATIONS IN THE NERVOUS SYSTEM

General etiology and pathogenesis of diseases of the nervous system. Changes in reflex activity and sensation. Pathophysiology of pain. Dysfunctions of the autonomic nervous system. Psycho-emotional distress - etiology and pathogenesis.

II.PLAN OF TOPICS OF LEECTURES

WEEK	TOPIC	HOURS
I	INTRODUCTION TO PATHOPHYSIOLOGY CONCEPTS OF HEALTH AND DISEASE	2
II	ALTERATION IN BLOOD FLOW. HEMODYNAMIC DISORDERS OF PERIPHERIAL MICROCIRCULATION	2
III	PATHOPHYSIOLOGY OF INFLAMMATION	2
IV	DISORDERS OF THE IMMUNE RESPONSE: HYPERSENSITIVITY DISORDERS. ATOIMMUNE DISEASE	2
V	ENVIRONMENTAL DISEASES: DISORDERS OF TEMPERATURE REGULATION. FEVER.	2
VI	DISORDERS OF FLUID AND ELECTROLYTE BALANCE DISORDERS IN ACID – BASE STATUS	2
VII	HYPOXIA. ALTERATIONS IN OXYGEN TRANSPORT	2
VIII	DISORDERS OF RESPIRATORY FUNCTION. MECHANISMS RESPONSIBLE FOR ALTERATIONS IN GAS EXCHANGE	2
IX	DISORDERS OF CARDIOVASCULAR FUNCTION. DISORDERS OF CARDIAC FUNCTION	2
X	DISORDERS OF BLOOD PLESSURE. HEART FAILURE AND CIRCULATORY SHOCK	2
XI	DISORDERS OF ENDOCRINE FUNCTION. DIABETES MELLITUS	2
XII	DISORDERS OF THE HEMATOPOIETIC SYSTEM	2
XIII	DISORDERS OF RENAL FUNCTION.ACUTE KIDNEY INJURY AND CHRONIC KIDNEY DISEASE	2
XIV	DISORDERS OF GASTROINTESTINAL FUNCTION. DISORDERS OF HEPATOBILIARY AND EXOCRINE. PANCREAS FUNCTION.	2
XV	DISORDERS OF NEURAL FUNCTION.PAIN	2
	Total	30

III.PLAN OF TOPICS OF PRACTICAL CLASSES

WEEK	TOPIC	HOURS
I	Hemodynamic disorders: venous and arterial hyperemia, thrombosis, embolism, ischemia, infarction. Modeling of peripheral circulation disturbances	2
II	Pathophysiology of inflammation Vascular changes in acute inflammation Clinical cases with inflammation in oral cavity	2
III	Disorders of the immune response: hypersensitivity disorders. Anaphylactic shock	2
IV	Disorders of fluid and electrolyte balance. Edema. Vitamin metabolism disorders.	2
V	Disorders of Acid-Base Balance Model of metabolic acidosis.	2
VI	Environmental diseases: disorders of temperature regulation. Fever Pathologic factors of environment. Temperature and chemical effects	2
VII	Midterm: concepts of health and disease, hemodynamic disorders, inflammation, disorders of the immune response, Disorders of fluid and electrolyte balance, disorders of Acid-Base Balance	2
VIII	Neoplasia: general concepts. Neoplasms in the oral cavity	2
IX	Disorders of respiratory function: obstructive and restrictive lung diseases. Hypoxia. Clinical cases	2
X	Disorders of cardiovascular function: arterial hypertension, heart failure, circulatory shock. Clinical cases	2
XI	Disorders of the hematopoietic system: disorders of red blood cells, disorders of white blood cells and lymphoid tissues, disorders of hemostasis. Presentation of clinical cases with coagulopathy	2
XII	Disorders of gastrointestinal function: disorders of the oral cavity and stomach. Malabsorption and maldigestion syndrome. Disorders of hepatic and biliary function. Jaundice. Clinical cases	2
XIII	Disorders of endocrine function: Diabetes mellitus and metabolic syndrome. Presentation of clinical cases with Diabetes Mellitus	2
XIV	Disorders of renal function: glomerular and Tubulointerstitial disorders. Acute kidney failure and chronic kidney disease. Clinical cases	2
XV	Disorders of neural function: pain. Types of pain. Pathogenesis of pain. Clinical cases	2
	Total	30

IV. MONITORING AND EVALUATION FORMS:

Control will be established at every practical seminar in the form of an entry test, case file reviews, tasks and demonstrations of acquired practical skills. There will be control during lectures too, in the form of frontal discourse

The final grade will be in the “6 point” scale in which “3” would be the minimum to pass. The exam grade will be a result from the exam entry test, the practical part and theory part which will include two topics from the syllabus from the seminars and the main lecture course. The final grade will be a result from the three grades from the exam and the grades during the semester. If the students receive “2” in one of the exam parts they would have failed the exam even if they have a different grade on the other exam parts.

Only students with verified semester, students book and successfully passed colloquium are allowed to the exam. The retake exam has the same requirements

V. REFERENCES:

Recommended Reading List

1. Pathophysiology lecture course,
2. Porth, Carol. Essentials of Pathophysiology: Concepts of Altered Health States. 2nd ed. Philadelphia: Lippincott Williams & Wilkins, 2010.
3. Sue Huether, Kathryn McCance. Understanding Pathophysiology, Elsevier, 2020

Additional literature sources:

1. Kumar, Vinay, Abul K. Abbas, and Jon C. Aster. Robbins and Cotran Pathologic Basis of Disease. Ninth edition. Philadelphia, PA: Elsevier/Saunders, 2015
2. Gary D. Hammer, Stephen J. McPhee. Pathophysiology of Disease: An Introduction to Clinical Medicine, 2014
3. Leonidovna Dariya, Bekyarova Ganka. 510 Pathophysiology Exam Questions. Varna Medical University Press, 2019

VI. QUESTIONNAIRES:

SYLLABUS PATHOPHYSIOLOGY THEORY EXAMINATION FACULTY OF DENTAL MEDICINE

1. Concepts of health and disease. General aspects of etiology. Etiologic and risk factors.
2. Concepts of health and disease. General aspects of pathogenesis. Disease and disease-related mechanisms. Compensatory mechanisms.
3. Concepts of health and disease. Pathologic reaction, pathological process, pathological state. Periods of the disease. Death.
4. Concepts of health and disease. Epidemiology and patterns of disease.
5. Hemodynamic disorders. Venous and arterial hyperemia: etiology,

- regulation, pathogenetic aspects, signs, types, consequences.
6. Hemodynamic disorders. Ischemia: etiology, pathogenetic aspects, signs, consequences.
 7. Hemodynamic disorders. Infarction: etiology, pathogenetic aspects, signs, types, consequences.
 8. Hemodynamic disorders. Thrombosis: etiology, pathogenetic aspects, signs, types, consequences.
 9. Hemodynamic disorders. Embolism: etiology, pathogenetic aspects, signs, types, consequences.
 10. Inflammation. Definition, etiology, pathophysiology aspects- signs and symptoms, phases.
 11. Inflammation. Alteration: primary and secondary alteration, local and systemic manifestation of inflammation .
 12. Inflammation. Microvascular responses: exudation, types of exudation, immune cell migration, phagocytosis.
 13. Inflammation. Inflammatory mediators: cell-derived and plasma-derived (chemical) mediators of inflammation.
 14. Inflammation. Proliferation. Biological significance of inflammation.
 15. Chronic inflammation, types - etiology, pathophysiology aspects.
 16. Disorders of temperature regulation. Fever: definition, etiology, pathogenetic aspects, stages.
 17. Disorders of temperature regulation. Fever: types of temperature curves, manifestations, purpose.
 18. Disorders of temperature regulation. Hypertermia: definition, etiology, pathogenetic aspects, manifestations.
 19. Disorders of temperature regulation. Hypotermia: definition, etiology, pathogenetic aspects, manifestations.
 20. Environmental disorders. Injury by physical agents: types, etiologic and pathogenetic aspects.
 21. Environmental disorders. Injury by physical agents: mechanical trauma, traumatic shock.
 22. Environmental disorders. Injury by chemical agents: types, etiologic and pathogenetic aspects.
 23. Environmental disorders. Injury by biological agents: types, etiologic and pathogenetic aspects.
 24. Concepts of cell differentiation and growth.
 25. Neoplasia. Terminology, classification.
 26. Neoplasia. Etiologic aspects, hypotheses of origin.
 27. Neoplasia. Pathogenetic aspects, phases of carcinogenesis.
 28. Hypoxia. Definition, classification, clinical indicators.
 29. Hypoxic hypoxia, Anemic hypoxia, Stagnant hypoxia, Histotoxic hypoxia: etiologic and pathogenetic aspects.
 30. Hypoxia. Adaptation and compensatory mechanisms.
 31. Disorders of the immune response. Hypersensitivity disorders: types, etiologic and pathogenetic aspects, clinical manifestations.
 32. Disorders of the immune response. Mechanisms of autoimmunity. General features of autoimmune diseases.
 33. Disorders of the immune response. Immunodeficiency syndromes: primary immunodeficiencies.
 34. Disorders of the immune response. Immunodeficiency syndromes: secondary immunodeficiencies. AIDS.
 35. Purine metabolism disorders. Gout: types, etiology, pathogenetic aspects, manifestations.

36. Nutritional disorders. Overweight and obesity.
37. Nutritional disorders. Disorders of protein metabolism. Disorders of carbohydrate metabolism – hyperglycemia and hypoglycemia.
38. Disorders of arterial circulation. Atherosclerosis.
39. Disorders of venous circulation. Varicose veins, chronic venous insufficiency, venous thrombosis.
40. Disorders of fluid and electrolyte balance. Volume excess and volume deficit – isotonic, hypotonic and hypertonic. Etiology and pathogenetic aspects.
41. Edema – etiology and pathogenesis. Types of edema.
42. Disorders in the metabolism of micronutrients – potassium, chloride, magnesium, calcium, phosphorus.
43. Disorders of Acid – base balance. Metabolic acidosis and alkalosis – etiology, pathogenetic aspects and compensatory mechanisms.
44. Disorders of Acid – base balance. Respiratory acidosis and alkalosis - etiology, pathogenetic aspects and compensatory mechanisms.
45. Pathophysiology of the endocrine system – basic mechanisms of endocrine disorders, etiology and manifestations of endocrinopathy.
46. Pathogenesis of hypothalamic-pituitary disorders.
47. Pathogenesis of the adrenal glands disorders.
48. Thyroid and parathyroid disorders – etiology and pathogenesis.
49. Diabetes mellitus: types, etiology, pathogenetic aspects. Metabolic syndrome.
50. Diabetes mellitus: complications, counter-regulatory mechanisms, Somogyi effect, dawn phenomenon.
51. Disorders of neural function – general etiology and pathogenesis.
52. Pain – definition, types, and mechanisms.
53. Pathophysiology of the digestive system. General etiology and pathogenesis.
54. Disorders of gastrointestinal function. Disorders of the stomach – gastritis. Etiology and pathogenesis.
55. Disorders of gastrointestinal function. Peptic ulcer disease – types, etiology and pathogenesis.
56. Disorders of the small and large intestines. Inflammatory bowel disease, infectious enterocolitis and neoplasms.
57. Disorders of the accessory organs of digestion. Pancreatitis – acute and chronic. Etiology and pathogenesis.
58. Disorders of the accessory organs of digestion. Disorders of hepatic function – general etiology and pathogenesis.
59. Disorders of the accessory organs of digestion. Jaundice – types, etiology and pathogenetic aspects.
60. Pathophysiology of the cardiovascular system. Disorders of the endocardium. Valvular heart disease – hemodynamic derangements. Rheumatic heart disease.
61. Disorders of the myocardium – myocarditis and cardiomyopathies. Disorders of the pericardium – cardiac tamponade, pericarditis.
62. Coronary artery disease – classification, etiology and pathogenesis. Acute myocardial infarction.
63. Disorders of cardiovascular function. Disorders of cardiac conduction and rhythm.
64. Disorders of cardiovascular function. Heart failure – etiology and pathogenesis. Classification and compensatory mechanisms.
65. Disorders of blood pressure regulation. Arterial (essential) hypertension – etiology and pathogenesis.
66. Secondary arterial hypertension. Classification, etiology and pathogenesis.
67. Arterial hypotension. Circulatory shock – classification, etiology and pathogenesis.

68. Pathophysiology of the pulmonary system. Disorders of respiratory function - general mechanisms responsible for alterations in gas exchange.
69. Disorders of the respiratory system. Obstructive and restrictive disorders. Pulmonary vascular disease.
70. Disorders of the respiratory system. Respiratory failure – etiology and pathogenesis. Atelectatic disorders.
71. Disorders of renal function – general etiology and pathogenesis. Glomerular disorders - nephrotic and nephritic syndrome. Pyelonephritis.
72. Disorders of renal function. Acute renal injury – types, etiology and pathogenesis.
73. Disorders of renal function. Chronic kidney disease – definition, etiology, pathogenesis and clinical manifestations.
74. Disorders of red blood cells. Anemia – types, etiology and pathogenesis.
75. Disorders of white blood cells and lymphoid tissues. Etiology and pathogenesis.
76. Disorders of hemostasis. Hypercoagulability states and bleeding disorders. Etiology and pathogenetic aspects

SYLLABUS

Practical exam - Pathophysiology

1. Venous hyperemia of the frog tongue.
2. Thrombus formation in the vessels of a frog mesenterium.
3. Compressive ischemia of a frog tongue.
4. Ischemia of a rabbit ear.
5. Dynamics of vascular changes in inflammation, occurred under the influence of AgNO₃.
6. Phagocytosis of chicken erythrocytes.
7. Anaphylactic shock in guinea pig.
8. Experimental hyperkalaemia.
9. Acute metabolic acidosis.
10. Acute metabolic alkalosis.
11. Analysis of ABB (clinical cases).
12. Experimental hyperthermia.
13. Hypoxic hypoxia, occurring in breathing in a confined space.
14. CO poisoning.
15. Acute increasing of the intraalveolaric pressure.
16. Stenosis of the trachea and mechanical asphyxia.
17. Experimental hydrothorax.
18. Clinical case - respiratory system.
19. Experimental model of hydropericardium.
20. Myocardial infarction after ligature of the left coronary artery. ~ -
21. Clinical case - hypertension.
22. Clinical case - digestive system.
23. Clinical case - endocrine system.
24. Violation of the reflex arc. Blocking the receptors.
25. Influence of bile on the speed of motor reflex.
26. Influence of bile on the rhythm of the frog's heart.

Department's council protocol № 108/24.11.2021

PREPARED:.....

**/Assoc.prof. Kameliya Zhechkova Bratoeva,MD, PhD
HEAD OF ES of Pathophysiology/**

**HEAD OF DEPARTMENT OF PHYSIOLOGY AND
PATHOPHYSIOLOGY:.....**

/ Assoc.prof. M.Velikova, ,MD, PhD /

**Approved by Decision of the Council of the Faculty of Faculty Of Dental
Medicine, Protocol No.../...**

ПРОТОКОЛ № 108

от заседание на Катедрения съвет на Катедрата по физиология и патофизиология
при МУ-Варна

Днес, **24.11.2021г.**, се проведе заседание на Катедрения съвет (КС) на Катедрата по физиология и патофизиология при МУ-Варна. Присъстваха членовете на академичния състав на катедрата: проф. д-р Златислав Стоянов, декан на ФМ, доц. д-р Маргарита Великова, д.м., ръководител на Катедрата по физиология и патофизиология, доц. д-р Ирина Пашалиева, д.м., ръководител на УС по физиология, доц. д-р Пиарета Николова, д.м., доц. д-р Диана Ганчева-Томова, д.м. д-р Антония Хачмериян, д.м., доц. д-р Камелия Братоева, д.м., ръководител на УС по патофизиология, доц. д-р Радко Радев, д.м., д-р Минка Христова, д.м., д-р Мирослав Маринов, д.м., д-р Дария Леонидовна, д-р Дияна Ключукова, д-р Добринка Дончева, д-р Виктор Велянов, д-р Габриела Панайотова,

Дневен ред:

1. Утвърждаване на атестационни карти на докторанти
2. Разни

Доц. Великова представи за обсъждане атестационните карти на докторантите д-р Добринка Дончева и д-р Дария Леонидовна за периода септември – ноември 2021г.

След като се запознаха с атестационните карти, членовете на КС приеха единодушно да бъде поставена полжителна крайна атестационна оценка на работата на докторантите.

Доц. Братоева представи актуализираните учебни програми и конспекти по *патофизиология*, за англоезично и българоезично обучение на студенти от специалност „Дентална медицина“.

Учебните програми и конспекти бяха одобрени от членовете на КС.

Поради изчерпване на дневния ред, заседанието на КС беше закрито.

Ръководител Катедра: доц. д-р М. Великова

Протоколчик: д-р Д. Дончева

