

FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION
OF HIGHER EDUCATION
"ROSTOV STATE MEDICAL UNIVERSITY"
MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

Faculty of Education of foreign students, residents and postgraduates

CONFIRM
Supervisor
educational program
_____/ E.S. Belousova /
(signature) (FULL NAME.)
31 "abryra 20 ds



DISCIPLINE WORKING PROGRAM

PATHOLOGICAL ANATOMY

Speciality 31.05.01 General medicine

Form of education full-time

Rostov-on-Don
2023

I. GOALS AND OBJECTIVES OF MASTERING THE DISCIPLINE

1.1. The purpose of mastering the discipline is for students to study the structural foundations of diseases, their etiology and pathogenesis, the principles of diagnosis, which is necessary for mastering clinical disciplines and in the work of a doctor.

1.2. Objectives of studying the discipline:

- students' study of general pathological processes, the totality of which the morphological manifestations of a particular disease are determined;
- **acquisition** knowledge about the etiology, pathogenesis and morphology of diseases in different stages of their development (morphogenesis), structural foundations of recovery, complications, outcomes and long-term consequences of diseases;
- mastering the morphology and mechanisms of adaptation and compensation processes the body in response to the influence of pathogenic factors and changing environmental conditions;
- study of changes in diseases arising both in connection with changing conditions human life and treatment (pathomorphosis), and as a result of various manipulations (pathology therapy);
- familiarization with the principles of organizing the pathological service, methodological principles of morphological analysis of biopsy and surgical material and clinical interpretation of the pathological report;
- developing skills in studying scientific literature and official statistics reviews.

II. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

The study of the discipline is aimed at developing the following competence in accordance with the Federal State Educational Standard of Higher Education and the EP of Higher Education in this specialty:

2.1. General professional: GPC-5. Able to assess morphofunctional, physiological states and pathological processes in the human body to solve professional problems.

Achievement indicators for this competency

ID 1 OPK-5 Masters the algorithm for clinical, laboratory and functional diagnostics when solving professional problems.

ID2 OPK-5 Able to evaluate the results of clinical, laboratory and functional diagnostics when solving professional problems.

ID3 OPK-5 Able to assess morphofunctional, physiological parameters and determine the presence of pathological processes in the human body based on data from clinical laboratory, physical and instrumental research methods.

ID 4 OPK-5 Able to determine the main indicators of the patient's physical development and functional state, taking into account the anatomical and physiological characteristics and age of the patient

III. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF EP VO

3.1 Discipline refers to the compulsory part

IV. CONTENT AND STRUCTURE OF DISCIPLINE

Labor intensity of the discipline in 3__7__ hour _252__

4.1. Sections of the discipline studied in _5 - 6_ semesters

No. section	Name section	Number of hours					
		Total	Independent work under control teacher				SRO*
			L	WITH	ETC	L R	
Semester 5							
1	General pathological anatomy 1	50	14		16		20
2	General pathological anatomy 2	48	14		14		20
2	Private pathological anatomy 1	10	4		2		4
Total for the semester:		108	32		32		44
Intermediate form certification (test)							
Semester 6							
2	Private pathological anatomy 1	45	10		18		17
3	Private pathological anatomy 2	63	18		24		21
Intermediate form certification (exam)		36					
Total for the semester:		144	28		42		38
<i>Total for the discipline:</i>		252	60		74		82

* **SRO**- independent work of students **L**-lectures

WITH– seminars (in disciplines in accordance with the standard and RUP)

LR –laboratory work (in disciplines in accordance with the curriculum)

ETC– practical classes (in disciplines in accordance with the curriculum, they include clinical practical classes)

1.2. Independent work under the supervision of a teacher

Lectures

No. section	No. lectures	Lecture topics	Qty hours
Semester 5			
1	1	General pathological anatomy Contents and algorithm for studying the subject “pathological anatomy”. Ethical and deontological norms in pathological anatomy. The main stages in the history of the development of pathological anatomy. Objectives, objects and methods of pathological studies. Rostov School of Pathologists.	2
1	2	Damage and death of cells and tissues: causes, mechanisms. Reversible damage (dystrophy). Morphology of disorders of protein, lipid, carbohydrate and mineral metabolism. Intracellular accumulations, their significance and outcome	2
1	3	Morphological characteristics of protein stromal dystrophies. Hyalinosis. Amyloidosis. Stromal fatty degenerations (atherosclerosis, cholesterosis)	2
1	4	Pathology of chromoproteins. Hemosiderosis, hemochromatosis. Disorders of nucleic acid metabolism. Pathological calcification.	2
1	5	Irreversible damage. General and local death. Necrosis. Apoptosis. Definition, causes and mechanisms of development, morphological characteristics, outcomes and significance for the body.	2
1	6	Water-electrolyte balance: characteristics, regulation, disorders Edema. Circulatory disorders. Morphology of acute and chronic heart failure. Bleeding. Hemorrhages.	2
1	7	Hemostasis (internal and external coagulation systems). Staz Slad and Thrombosis. Embolism. DIC - syndrome. Shock.	2
2	8	Inflammation. Essence and patterns of development. Morphology of the kinetics of inflammatory reactions. Classification. Acute inflammation. Exudative inflammation, its clinical and morphological characteristics.	2
2	9	Productive and chronic inflammation. Granulomatous inflammation. Granulomatous diseases. Specific granulomas (tuberculosis, syphilis, leprosy, rhinoscleroma).	2

2	10	Immunopathological processes. Classification and morphology of hypersensitivity reactions. Autoimmunization and autoimmune diseases. Immune deficiency syndromes (primary and secondary).	2
2	eleven	Adaptation processes. Repair. Cell growth and cell differentiation. Cell-matrix interactions. Healing hyperplasia. Hypertrophy. Atrophy. Metaplasia. Dysplasia. intraepithelial neoplasia.	2
2	12	Introduction to oncomorphology. Tumors: definition, nomenclature principles of classification. Characteristics of tumor growth. Molecular basis of carcinogenesis. Metastasis. General and local effects on the body. Nomenclature and principles of classification. Metastasis. Tumors from tissues derived from mesenchyme, neuroectoderm and melanin-producing tissue.	2
2	13	classification, nomenclature, morphological features of benign and malignant tumors, derivatives of esenchyme, nervous and melanin-forming tissue.	2
2	14	redtumor (precancerous) processes, their essence, orthological characteristics. Epithelial tumors. Principles of classification. Clinical and morphological characteristics. features of metastasis. The effect of a tumor on the body. Raeratoms.	2
3	15	Particular pathological anatomy. Tumors hematopoietic hematopoietic fabrics. Myeloproliferative diseases. Myelodysplastic syndromes.	2
3	16	Tumors of lymphoid tissue. Hodgkin's lymphoma. Non-Hodgkins lymphoma.	2
Total by semester hours:			32
Semester 6			
3	17	Particular pathological anatomy. Atherosclerosis. Hypertensive disease (essential hypertension). Secondary arterial hypertension. Complications of atherosclerosis and hypertension. Cerebrovascular diseases.	2
3	18	Heart diseases. Cardiac ischemia. Classification. Etiology, pathogenesis, clinical and morphological characteristics, complications. Cardiomyopathies. Myocarditis.	2
3	19	Rheumatic diseases. Rheumatism (rheumatic fever). Etiology, pathogenesis, clinical and morphological characteristics, complications. Acquired and congenital heart defects. Infectious endocarditis.	2
3	20	Respiratory diseases: classification. Acute respiratory bacterial and viral infections of the upper respiratory tract. Acute pneumonia.	2

3	21	Chronic obstructive and restrictive pulmonary diseases. Chronic obstructive bronchitis, bronchiectasis, pulmonary emphysema. Bronchial asthma. Pneumoconiosis, fibrosing alveolitis. Lung cancer.	2
4	22	Diseases of the digestive system: classification. Diseases of the esophagus, stomach. Developmental defects. Esophagitis. Gastritis. Peptic ulcer (peptic ulcer). Cancer of the esophagus, stomach, their morphological diagnosis.	2
4	23	Intestinal diseases. Infectious enterocolitis (typhoid fever, dysentery, cholera, amoebiasis). Ischemic colitis. Nonspecific ulcerative colitis. Crohn's disease. Appendicitis. Bowel cancer.	2
4	24	Diseases of the liver and biliary tract. Classification. Hepatocellular failure. Hepatitis. Cirrhosis of the liver. Liver damage caused by drugs and toxins. Alcoholic liver disease. Non-alcoholic liver steatosis. Liver tumors. Cholelithiasis. Cholecystitis. biliary tract.	2
4	25	Glomerular diseases. Acute glomerulonephritis. Chronic glomerulonephritis. Non-inflammatory glomerulopathies. Kidney diseases associated with damage to the tubules and interstitium. Necrotizing nephrosis (acute tubulonecrosis). Pyelonephritis. Urolithiasis. Kidney tumors.	2
4	26	Diseases of the endocrine glands. Diabetes. Diseases of the thyroid gland (thyroiditis, goiter, tumors). Tumors of the endocrine glands.	2
4	27	Inflammatory and dishormonal diseases of male and female genital organs. Precancerous processes and cancers of the cervix, endometrium, ovaries, testicles, mammary and prostate glands. Pathology of pregnancy.	2
4	28	Tuberculosis. Syphilis. Etiology. Pathogenesis. Clinical morphological characteristics. Complications.	2
4	29	Infectious and parasitic diseases, general characteristics. HIV infection. Acquired immunodeficiency syndrome (AIDS). Opportunistic infections and AIDS. Sepsis.	2
4	thirty	Airborne bacterial infections: diphtheria, scarlet fever, meningococcal infection. Etiology. Pathogenesis. Clinical and morphological characteristics. Complications.	2
Total by semester hours:			28
<i>Total hours discipline:</i>			60

Seminars, practical work

No. section	No. seminar, ETC	Topics of seminars, practical works	Number in hours	Shapes of the current control
Semester 5				

No. section	No. seminar, ETC	Topics of seminars, practical works	Number in hours	Shapes of the current control
1	1	General pathological anatomy. Contents and algorithm for studying the subject "pathological anatomy". Ethical and deontological norms in pathological anatomy. The main stages in the history of the development of pathological anatomy. Objectives, objects and methods of pathological studies. Excursion to the museum of the department.	2	Text test-control with situational tasks. Interview, oral survey on macro and microslides.
1	2	Pathology savings (dystrophy). Intracellular accumulations Disorders of protein, lipid, carbohydrate	2	- // - // -
1	3	Vascular-stromal savings Mucoïd and fibrinoid swelling. Hyaline changes Amyloidosis.	2	- // - // -
1	4	Violations chromoprotein metabolism (endogenous pigments). Violations exchange of nucleic acids. Disorders of mineral metabolism. Pathological calcification. Stone formation.	2	- // - // -
1	5	Irreversible damage. Necrosis. Apoptosis	2	- // - // -
1	6	Violation blood supply (plethora, anemia). Bleeding, hemorrhage, plasmorrhagia. Disorders of lymph circulation and tissue fluid content. Stasis. Sludge syndrome.	2	- // - // -
1	7	Thrombosis. Shock. DIC syndrome. Embolism. Ischemia.	2	- // - // -
1	8	Test and repetition lesson.	2	Rubezhny text test control with situational tasks. Interview, oral survey on macro and microslides.
2	9	Inflammation, general characteristic. Acute inflammation. Exudative inflammation.	2	Text test-control with situational tasks. Interview, oral survey on macro and
2	10	Productive and chronic inflammation. Granulomatous inflammation. Granulomatous diseases. Specific granulomas (tuberculosis, syphilis, leprosy,	2	- // - // -

No. section	No. seminar, ETC	Topics of seminars, practical works	Number in hours	Shapes of the current control
2	eleven	Immunopathological processes. Classification and morphology of hypersensitivity reactions. Autoimmunization and autoimmune diseases. Immune deficiency syndromes (primary and	2	- // - // -
2	12	Repair. Wound healing. Hyperplasia. Hypertrophy. Atrophy. Metaplasia. Dysplasia. Intraepithelial	2	- // - // -
2	13	Introduction V oncomorphology. Molecular basics carcinogenesis. Basic properties tumors. Nomenclature And principles classifications. Tumors from fabrics derivatives mesenchyme, neuroectoderm And melanin-producing tissue.	2	- // - // -
2	14	Tumors from epithelium. Principles classifications. Clinical morphological characteristic. Peculiarities metastasis. The effect of a tumor on the body.	2	- // - // -
2	15	Test and repetition lesson	2	Rubezhny text test control with situational tasks. Interview, oral survey on macro and microslides.
3	16	Particular pathological anatomy. Tumors of the hematopoietic hematopoietic fabrics. Myeloproliferative diseases Myelodysplastic syndromes. Tumors of lymphoid tissue. Lymphoma Hodgkin. Non-Hodgkin's lymphomas.	2	Text test-control with situational tasks. Interview, oral survey on macro and
Total for the semester hours:			32	
Semester 6				
3	17	Opening. Atherosclerosis. Hypertensive disease (essential hypertension). Secondary arterial hypertension. Complications of atherosclerosis and hypertension disease.	3	Text test-control with situational tasks. Interview, oral survey on macro and
3	18	Heart diseases. Cardiac ischemia. Cardiomyopathies. Myocarditis.	3	- // - // -
3	19	Rheumatic diseases. Rheumatism. Acquired and congenital heart defects. Vasculitis.	3	- // - // -

No. section	No. seminar, ETC	Topics of seminars, practical works	Number in hours	Shapes of the current control
3	20	Bacterial and viral airborne infections. Flu. Parainfluenza. Respiratory syncytial adenovirus infection. Bacterial, mycotic and protozoal pneumonia.	3	- // - // -
3	21	Chronic obstructive and restrictive pulmonary diseases. Chronic obstructive bronchitis, bronchiectasis, pulmonary emphysema. Bronchial asthma.	3	- // - // -
3	22	Test and repetition exercise	3	Rubezhny text test control with situational tasks. Interview, oral survey on macro and
3	23	Diseases of the esophagus, stomach. Esophagitis. Gastritis. Peptic ulcer (peptic ulcer). Tumors of the esophagus and stomach	3	Test control with situational tasks. Interview, oral survey on
4	24	Intestinal diseases. Infectious enterocolitis (dysentery, typhoid fever, cholera). Ischemic colitis. Nonspecific ulcerative colitis. Crohn's disease. Appendicitis. Intestinal tumors.	3	Test control with situational tasks. Interview, oral survey on macro and microslides.
4	25	Diseases liver Andbiliary systems. Acute and chronic hepatitis. Liver cirrhosis. Liver tumors. Cholelithiasis. Pancreatitis, pancreatic tumors	3	- // - // -
4	26	Inflammatory and dyshormonal diseases of male and female genital organs. Precancerous processes and cancers of the cervix, endometrium, ovaries, testicles, mammary and prostate glands. Chorionepithelioma, seminoma. Pathology of pregnancy.	3	- // - // -
4	27	Diseases of the endocrine glands. Diabetes. Diseases of the thyroid gland (thyroiditis, goiter, tumors). Tumors	3	- // - // -
4	28	Kidney diseases. Glomerulonephritis. Nephrotic syndrome. Pyelonephritis. Urolithiasis. Acute and chronic renal failure. Kidney tumors	3	- // - // -
4	29	Tuberculosis. Syphilis.	3	- // - // -

No. section	No. seminar, ETC	Topics of seminars, practical works	Number in hours	Shapes of the current control
4	thirty	Test and repetition lesson.	3	Test control with situational tasks. Interview, oral survey on macro and microslides.
Total for the semester hours:			42	
<i>Total by discipline hours:</i>			74	

1.3. Independent work of students

No. section	Type of independent work of students	Qty hours	Shapes of the current control
Semester 5			
1	Preparation for classes(<i>PZ</i>)	10	Interview Oral survey on macro and micro drugs.
	Design of albums for macro- and micropreparations (<i>AM</i>)	2	Examination albums.
	Solving test tasks(<i>RTZ</i>)	2	Text test-control
	Solving situational <i>tasks</i> (<i>RSZ</i>)	2	Solution situational tasks.
	Preparation for boundary control(<i>PPK</i>)	4	- // - // -
2	Preparation for classes(<i>PZ</i>)	10	Interview Oral survey on macro and micro drugs.
	Design of albums for macro- and micropreparations (<i>AM</i>)	2	Examination albums.
	Solving test tasks(<i>RTZ</i>)	2	Text test-control
	Solving situational <i>tasks</i> (<i>RSZ</i>)	2	Solution situational tasks.
	Preparation for boundary control(<i>PPK</i>)	4	- // - // -

No. section	Type of independent work of students	Qty hours	Shapes of the current control
3	Preparation for classes(<i>PZ</i>)	2	Interview Oral survey on macro and micro drugs.
	Design of albums for macro- and micropreparations (<i>AM</i>)	1	Examination albums.
	Solving test tasks(<i>RTZ</i>)	0.5	Text test-control
	Solving situational <i>tasks</i> (<i>RSZ</i>)	0.5	Solution situational tasks.
Semester 6			
3	Preparation for classes(<i>PZ</i>)	8	Interview Oral survey on macro and micro drugs.
	Design of albums for macro- and micropreparations (<i>AM</i>)	2	Examination albums.
	Solving test tasks(<i>RTZ</i>)	2	Text test-control
	Solving situational <i>tasks</i> (<i>RSZ</i>)	2	Solution situational tasks.
	Preparation for boundary control(<i>PPK</i>)	3	- // - // -
4	Preparation for classes(<i>PZ</i>)	8	Interview Oral survey on macro and micro drugs.
	Design of albums for macro- and micropreparations (<i>AM</i>)	2	Examination albums.
	Solving test tasks(<i>RTZ</i>)	2	Text test-control
	Solving situational <i>tasks</i> (<i>RSZ</i>)	2	Solution situational tasks.
	Preparation of abstracts for obtaining extra points(<i>ETC</i>)	3	Examination abstracts
	Preparation for boundary control(<i>PPK</i>)	4	- // - // -
Total:		82	

V. ASSESSMENT MATERIALS FOR CURRENT CONTROL, INTERMEDIATE CERTIFICATION (are an appendix to the work program)

VI. EDUCATIONAL AND METHODOLOGICAL SUPPORT DISCIPLINES

6.1. Printed publications.

1. Strukov A.I. Pathological anatomy: a textbook for university students / A.I. Strukov, V.V. Serov; edited by V.S. Paukova. - 6th ed., add. and processed – M.: GEOTAR-Media, 2021. – 878 p. 55 copies Access from the EBS “Student Consultant”.
2. Pathological anatomy: textbook: in 2 volumes / ed. V.S. Paukova – 6th ed., add. and processed - M.: GEOTAR-Media, 2021. – T.1. General pathology. – 742 p. T.2. Private pathology. – 541 p. 51 copies – Access from the EBS “Student Consultant”.
3. Pathological anatomy. Guide to practical classes: textbook: for students and teachers / ed. O. V. Zairatyants, L. B. Tarasova. – 2nd revision and additional - M., GEOTAR-Media, 2021. – 694 p. 51 copies
4. Guide to the biopsy-sectional course: textbook / M.A. Paltsev V.L., Kovalenko, N.M. Anichkov. –M.: Medicine, 2002. - 256 p. 250 copies

6.2. Internet resources.

1. Robbins and Cotran Pathology Atlas / E.K. Klatt; lane from English; edited by O.D. Mishneva, A.I. Shchegolev. – M. Logosphere, 2010. - 544 p. . – Access from the EBS “Student Consultant”.
2. Pathological anatomy [Electronic resource]: national director. / ch. ed. M.A. Paltsev, L.V. Kaktursky, O.V. Zayrayants. – M.: GEOTAR – Media, 2014. – 1264 p. – Access from the EBS “Doctor Consultant”.
3. Pathological anatomy [Electronic resource]: atlas: textbook for medical students. universities and postgraduate studies. education / O. V. Zairatyants [etc.]; edited by O. V. Zairatyantsa.–M.: GEOTAR-Media, 2014.–access from the EBS “Student Consultant”.
4. Pathological anatomy: a guide to practical training (general pathology) [Electronic resource]: interactive electronic educational publication / Kogan E.A., Bekhtereva I.A., Ponomarev A.B. - M.: GEOTAR-Media. 2017. Access mode: <http://www.path-anatomy.ru/book/06-COS-2404.html>
5. Studying pathological anatomy remotely [Electronic resource]: interactive electronic educational publication / Pavlov A.V., Kulikov S.V., Krainova E.A. – Yaroslavl State Medical University of the Ministry of Health of the Russian Federation, 2220. Access mode: <http://hist.yma.ac.ru/pathology.html>

6.3. Periodicals

Pathology Archive” - accessed from Elibrary. ru

6.4. Internet resources

ELECTRONIC EDUCATIONAL RESOURCES				Access to the resource
Electronic library	RostSMU.	–		Access is not limited
URL: http://109.195.230.156:9080/opacq/				

	Student Advisor [Sets: "Medicine. Healthcare. VO"; "Medicine. Healthcare. SPO"; "Psychological Sciences"]: Electronic library system. – Moscow: Politekhresurs LLC. - URL: https://www.studentlibrary.ru + opportunities for inclusive education	Access is not limited
	Consultant doctor.Electronic medical library :Electronic library system. – Moscow: LLC "Higher School of Organization and Management of Healthcare. Comprehensive medical consulting." - URL: http://www.rosmedlib.ru + opportunities for inclusive education	Access is not limited
	Scientific electronic library eLIBRARY. - URL: http://elibrary.ru	Open access
	National Electronic Library. - URL: http://neb.rf/	Access from computers libraries
	SagePublication : [full text collection of e-books eBook Collections]. – URL: https://sk.sagepub.com/books/discipline by IP addresses of RostSMU (<i>National project</i>)	Indefinite subscription
	Ovid Technologies : [Full-text archived collection of Lippincott Williams and Wilkins Archive Journals]. – URL: https://ovidsp.ovid.com/autologin.cgi by IP addresses of RostSMU (<i>National project</i>)	Indefinite subscription
	BEARWEST :Russian doctor portal [library, knowledge base]. - URL: https://medvestnik.ru	Open access
	<i>Cyberleninka Open Science Hub: open scientific electronic library of publications in foreign languages.</i> – URL: https://cyberleninka.org/	Content open that access
	Free Medical Journals. - URL: http://freemedicaljournals.com	Open access
	FreeMedical Books. - URL: http://www.freebooks4doctors.com	Open access
	Medical Bulletin of the South of Russia :electron. magazine/RostSMU. - URL: http://www.medicalherald.ru/jour	Open access
	Categories clinical recommendations of the Russian Ministry of Health. -URL: https://cr.minzdrav.gov.ru/	Open access
	Dictionaries And encyclopedias on Academician. - URL: http://dic.academic.ru/	Open access
	Other open resources You you can find By address: http://rostgmu.ru →Library→Electronic catalogue→Open Internet resources→further by keyword...	

6.5. Guidelines for students on mastering disciplines

No. p/p	Name	Number - in copies according to the image personal program
1	General pathological anatomy. Part one: textbook / comp.: S.S. Todorov, V.V. Voloshin, V.Yu. Deribas [and others]; edited by	5 copies ER

	S.S. Todorova; Federal State Budgetary Educational Institution of Higher Education Rost State Medical University of the Russian Ministry of Health. – Rostov-on-Don: Publishing House Rost State Medical University, 2022. – 157 p.	
2	Pathological anatomy. Part 1: method. developments for practice classes for II-III year students of all faculties. honey. universities / compiled by: I.S. Derizhanova, V.V. Voloshin, V.F. Golovitsky [and others]; Height. state honey. university, [department. pathological anatomy]. – 4th ed. – Rostov n/d: Publishing house RostGMU, 2013. – 109 p.	63 copies
3	Pathological anatomy. Part 2. Hematology. Cardiovascular pathology. Pulmonology: method.developed. to practice classes for students / compiled by: I.S. Derizhanova, V.V. Voloshin, V.F. Golovitsky [and others]; Height. state honey. university, department pathol. anatomy. – IV ed. – Rostov n/d: Rostov State Medical University Publishing House, 2015. – 75 p. – 100 copies.	100 copies
4	Pathological anatomy. Tests and tasks: textbook for students. 3rd year of all faculties / ed. I.S. Derizhanova. – 3rd ed. - Rostov n/d: LaPO, 2009. – Part I. – 178 p.	245 copies
5	Tests and tasks of programmed control in private pathological anatomy for 3rd year students of all faculties / ed. I.S. Derizhanova. – 2nd ed. - Rostov n/a: From – in Rost State Medical University, 2003. – 279 p.	200 copies