

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

THERAPEUTIC AND PROPHYLACTIC  
Department

Supervisor  
educational program  
\_\_\_\_\_  
(signature) E.S. Belousova /  
(FULL NAME.)  
" 30 " августа 2023



**DISCIPLINE WORKING PROGRAM**  
Endocrinology

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. Goals** mastering the discipline: in-depth training in clinical methods examination of an endocrinological patient, modern laboratory and instrumental examination methods, recognition of various symptoms of endocrine diseases, understanding their etiology and pathogenesis, constructing a syndromic diagnosis, assessing the significance of symptoms and syndromes in the diagnosis of the most important diseases with an analysis of the principles of emergency treatment, mastering the basic principles of medical ethics and deontology, formation of the foundations of clinical thinking, a holistic understanding of the diagnostic process, training in practical skills for interpreting the results of clinical, laboratory, and instrumental studies.

**1.2. Tasks** mastering the discipline:

- developing in students knowledge and skills to carry out the full scope of diagnostic and therapeutic measures in accordance with clinical protocols for the management of patients with endocrine pathology at the hospital and outpatient stages,
- development of students' skills in questioning and clinical examination of patients with diseases of the endocrine system, interpretation of the results of routine and special laboratory and instrumental research methods, morphological examination of tissues,
- developing students' skills in making a differential syndromic diagnosis, setting, justifying and formulating a diagnosis, drawing up a plan for examining patients, determining tactics for their management,
- developing in students the ability to carry out prevention, treatment and rehabilitation of patients with diseases of the endocrine system, prescribe and directly carry out treatment of patients with major endocrine diseases in hospital and outpatient settings.
- diagnosis of emergency conditions caused by diseases of the endocrine system;
  
- developing skills in preparing a medical history and outpatient card outlining all the main sections, justifying the clinical diagnosis, examination and treatment plan, determining work capacity and indications for hospitalization, keeping diaries and preparing stage-by-stage epicrises when working with endocrine patients, preparing abstracts on modern scientific problems.

## **II. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE**

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

2.1. Universal:

2.2. General professional: OPK-4, OPK-7;

2.3. Professional: PC-3, PC-4.

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

3.1. Discipline "Endocrinology" constitutes the basic part of the professional disciplines in the training of a young specialist in therapy.

**IV. CONTENT AND STRUCTURE OF DISCIPLINE Labor  
intensity of the discipline in 32 hour72**

**4.1. Sections of the discipline studied in the 12th semester**

No. section	Section name	Number of hours					SRO	
		Total	Contact work					
			L	WITH ETC	LR			
Semester 12								
1	Diabetes	12	4	-	8	-	-	
2	Complications of sugar diabetes	10	-	-	4	-	6	
3	Emergency conditions for diabetes	6	-	-	-	-	6	
4	Thyroid diseases glands	12	4	-	6	-	2	
5	Adrenal diseases	10	2	-	6	-	2	
6	Pituitary gland diseases	6	2	-	4	-	-	
7	Obesity	10	-	-	4	-	6	
8	Diseases of the gonads	6	-	-	-	-	6	
	Intermediate form certification	-	Test					
	<i>Total:</i>	72	12	-	32	-	28	

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

**WITH**- seminars

**LR** -laboratory works **ETC**- practical lessons

**4.2. Contact work**

**Lectures**

No. section	No. lectures	Lecture topics	Qty hours
Semester 12			
1	1	Diabetes. Definition. Classification. Etiology of diabetes type 1 and 2. Epidemiology. Reasons for the increase in prevalence. Pathogenesis. Clinical manifestations. Diagnostics, differential diagnostics. Diabetic macro- and microangiopathy. Diabetic polyneuropathy. Diabetic foot syndrome.	2
1	2	Treatment sugar diabetes Diet. Principles drug therapy. Metformin. DPP-4 inhibitors, GLP-1 analogues/agonists, SGLT-2 inhibitors, sulfonylureas. Mechanism of action of tablets	2

		sugar-lowering drugs, readings And contraindications To application. Insulin therapy diabetes mellitus type 1 and 2. Principles of self-control and patient education. Prevention of diabetes.	
4	3	Diseases thyroid glands. Iodine deficient conditions, prevention, treatment. Endemic goiter. Autoimmune thyroiditis. Hypothyroidism is congenital. acquired, primary, secondary. Clinic, diagnosis, treatment, prevention	2
4	4	Diffuse toxic goiter. Etiology, pathogenesis, clinical picture, diagnosis, principles of treatment. Toxic adenoma of the thyroid gland. Thyrotoxic crisis, causes, clinical diagnosis, emergency measures	2
5	5	Diseases adrenal glands Diseases bark adrenal glands Hypercortisolism - total, partial, Itsenko- Cushing's disease and syndrome. Diagnostics. Differential diagnosis. Principles of treatment. Congenital adrenal cortex dysfunction (CAD). Acute and chronic insufficiency of the adrenal cortex. Diseases of the medulla. Pheochromocytoma.	2
6	6	Diseases of the hypothalamic-pituitary system. Pituitary adenomas. Pathology of growth in childhood. Disturbance of sexual development. Delayed field development, hypogonadism. Premature sexual development.	2
		<b>Total for the semester</b>	<b>12</b>

### Practical work

No. section	No. ETC	Topics of practical work	Number in hours	Forms current control
Semester 12				
1	1	<p style="text-align: center;">Sugar diabetes. Etiology, pathogenesis, classification.</p> <p>Using examples of analysis of patients with <i>various</i> forms of diabetes</p> <p>The features of the pathogenesis of the disease are considered, the nature of the disturbance of metabolic processes in the body is assessed. The features of the clinical picture and the course of the disease depending on the type of diabetes are discussed. Using the example of supervised patients, variants of the development of diabetic microangiopathy, stages of development, and clinical manifestations are identified. The options, typical features and tactics of managing diabetic polyneuropathies are considered. The danger of developing diabetic foot and the need for its early diagnosis are discussed. Students independently evaluate the obtained objective data, additional studies, and determine the severity of the disease. The differential diagnosis is discussed, various variants of the leading syndrome are considered. Express methods for studying the content of sugar and acetone in urine are performed.</p>	4	Test control Interview Solving clinical problems

1	2	<p>Diabetes. Treatment. Based on analysis patients understand the principles of treating diabetes mellitus types 1 and 2. Familiarization is made with the target points of diabetes therapy and markers of its compensation. Students independently calculate diet options (physiological, hypocaloric). The main treatment regimens for diabetes mellitus and the features of their variations are considered. Indications for prescribing insulin, pharmacodynamics, possible complications, principles of individual selection of adequate doses of insulin. Antihyperglycemic tablets: metformin, insulin sensitizers, DPP-4 inhibitors, GLP-1 analogs/agonists, SGLT-2 inhibitors, sulfonylureas, glinides, <math>\alpha</math>-glucosidase inhibitors. Methodology and sequence</p> <p>appointments principles combination treatment, indications for use, side effects and complications. Treatment of diabetic microangiopathy: medications, the importance of physiotherapeutic treatment methods, hyperbaric oxygenation. Indications for amputation in diabetic foot and the possibility of avoiding it.</p> <p>Every student receives sick For independent supervision and writing of medical history. Gets acquainted with the data of additional studies of the supervised patient.</p>	4	<p>Test control Interview Solving clinical problems</p>
2	3	<p>Microangiopathies: retinopathy, nephropathy. Macroangiopathies. Neuropathy. Syndrome diabetic feet. Basic clinical manifestations, methods of laboratory and instrumental diagnostics for complications of diabetes. Treatment of late complications: compensation for diabetes mellitus, dietary features for nephropathy, medicinal and non-medicinal treatment methods. Preventive measures to prevent the progression of diabetes complications.</p>	4	<p>Test control Interview Clinical solution tasks</p>

4	4	<p>Thyroid diseases. Diffuse toxic goiter.</p> <p>Using the example of patients with diffuse toxic goiter, the features of the development of this disease are considered. The clinical picture is discussed, the degree of enlargement of the thyroid gland and the severity of thyrotoxicosis are determined. The principle of differential diagnosis is discussed depending on the identified leading syndrome; other diseases of the thyroid gland, accompanied by the clinical picture of thyrotoxicosis, are considered. Students determine a plan for conducting additional studies in specific patients with a picture of thyrotoxicosis, and interpret the data obtained. The state of compensation and decompensation of thyrotoxicosis is determined, conditions emergence thyrotoxic crisis, its therapy and prevention. Possible complications of diffuse toxic goiter are discussed. A treatment plan for thyreostatic drugs is outlined, and principles for selecting an individual dose of the drug are discussed. Symptomatic therapy. Indications for surgical treatment and treatment with radioactive iodine. Autoimmune ophthalmopathy, principles of diagnosis and treatment. The ability to work in supervised patients is determined, and an examination of the ability to work is carried out with an assessment of its loss.</p>	3	<p>Test control Interview Solving clinical problems</p>
4	5	<p>Thyroid diseases. Hypothyroidism. When analyzing patients with a clinical picture of hypothyroidism, the development options for this disease, etiological factors, and issues of pathogenesis are determined. The clinical manifestations of the disease are discussed, and the pathogenetic mechanisms of the appearance of symptoms are considered. The severity of hypothyroidism is determined, a plan for additional examinations is determined, and an interpretation of the data obtained is given. When analyzing supervised patients, issues of differential diagnosis with other diseases of internal organs and systems are discussed, depending on the leading syndrome, as well as with diseases thyroid glands, accompanied by clinic hypothyroidism. Attention is drawn to the importance of prevention and timely diagnosis of endemic goiter in the Rostov region. Plan being discussed treatment patients, principles of individual dosing, features of replacement therapy depending on the severity of the disease, damage to the cardiovascular system. An examination of work capacity is carried out, recommendations for further management of patients with hypothyroidism are determined.</p>	3	<p>Test control Interview Solving clinical problems</p>

5	6	<p>Adrenal diseases. Itsenko-Cushing's disease and syndrome. Using the example of a specific patient, the pathogenetic aspects of the disease and syndrome are considered. Itsenko-Cushing. I define pathogenetic mechanisms of characteristic clinical symptoms, identifying the main differences in the clinical picture. A plan for additional research is determined to clarify the diagnosis, and the importance of radiological and laboratory research methods is considered. I discuss the principles of differential diagnosis depending on the leading syndrome (hypertension, virile syndrome, obesity, hyperglycemia, etc.). The tactics of patient management are determined, and radical conservative treatment methods are considered.</p>	3	<p>Test control Interview Solving clinical problems</p>
5	7	<p>Adrenal diseases. Addison's disease. When analyzing a patient with Addison's disease, the etiological facts of the development of this disease and the pathogenesis of the development of clinical symptoms are clarified. An interpretation is given to the data obtained from the additional study, and the severity of the disease is determined. Diagnosis issues are differential considered, justification final diagnosis. Students determine the scope of necessary therapeutic measures, consider the principles of individual selection of the dose of glucocorticoids, and indications for prescribing mineralocorticoids.</p>	3	<p>Test control Interview Solving clinical problems</p>



6	8	<p>Diseases of the hypothalamic-pituitary system. Using the example of a patient with diabetes insipidus, the etiopathogenetic mechanisms of this disease and development options are considered. Analyzed results objective examination, the degree of severity is determined. A plan for additional research is outlined, and an interpretation of the data obtained is given. Differential diagnosis is discussed. A treatment plan is outlined. The concept of inadequate production of antidiuretic hormone is specified. Using the example of supervised patients are being considered etiopathogenetic mechanism hypothalamic-pituitary insufficiency, features of the development of the clinical picture, principles of differential diagnosis. Issues of replacement therapy are discussed, and an examination of work ability is carried out. The concept of the syndrome of pubertal-adolescent dyspituitarism is considered.</p> <p>Sheehan and Simmonds syndrome. Their pathogenesis is discussed. clinical manifestations, laboratory data, differential diagnosis, principles of hormone replacement therapy.</p>	4	Test control Interview Solving clinical problems
7	9	<p>Obesity. Metabolic syndrome. Using the example of an obese patient, options for the development of this disease and the classification of obesity are considered. Issues of differential diagnosis for various types of obesity are discussed (nutritional-constitutional, endocrine, metabolic, etc.). Students evaluate survey data and determine the degree of obesity. A plan for additional research is outlined to clarify the diagnosis, and an interpretation of the data obtained is given. The issues of treatment of obesity, the role of a hypocaloric diet, and physical therapy are considered.</p>	4	Test control Interview Solving clinical problems
<b>Total for the semester</b>			<b>32</b>	

#### 4.3. Independent work of students

No. section	Type of independent work of students	Qty hours	Shapes of the current control
<b>Semester 12</b>			
2	Independent preparation for practical classes on the topic: Diabetes mellitus, complications	6	Oral survey Test tasks Clinical objectives

No. section	Type of independent work of students	Qty hours	Shapes of the current control
3	Independent preparation for practical classes on the topic: Emergency conditions during diabetes mellitus	6	Oral survey Test tasks Clinical objectives
4	Thyroid diseases	2	Oral survey Test tasks Clinical objectives
5	Adrenal diseases	2	Oral survey Test tasks Clinical objectives
7	Independent preparation for practical classes on the topic: Obesity.	6	Oral survey Test tasks Clinical objectives
8	Independent preparation for practical classes on the topic: Primary and secondary hypogonadism	6	Oral survey Test tasks Clinical objectives
<b>Total for the semester</b>		<b>28</b>	

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

**VI. EDUCATIONAL AND METHODOLOGICAL SUPPORT OF DISCIPLINE**

**6.1. Printed publications**

1. Endocrinology: textbook: [rec. UMO]: for students. universities / I.I. Dedov, G.A. Melnichenko, V.V. Fadeev. - 2nd ed., revised. and additional – M.: GEOTAR-Media, 2014. - 422 p.
2. Visual endocrinology: textbook. manual / ed. G.A. Melnichenko. – M.: GEOTAR-MEDIA, 2008. – 120 p.
3. Polin K. Evidence-based endocrinology: textbook. allowance / K. Polin. - M.: GEOTAR-MEDIA, 2008. – 640 p.
4. Gardner D. Basic and clinical endocrinology. Book 1/Gardner, Shobeck; lane from English IN AND. Kandror [etc.]; edited by G.A. Melnichenko. – M.: Binom, 2010. – 463 p.
5. Gardner D. Basic and clinical endocrinology. Book 2/David Gardner, Dolores Shobeck; lane from English edited by G.A. Melnichenko. – M.: Binom, 2011. - 696c. 6. Endocrinology. Clinical recommendations: textbook. manual / ed. I.I. Dedova, G.A. Melnichenko. - M.: GEOTAR-Media, 2007. – 304 p.
7. Selected lectures on endocrinology / A.S. Ametov. – M.: MIA, 2009. - 496c.
8. Chaplygina E.V. Endocrine glands: textbook. allowance: [rec. UMO] / E.V. Chaplygina, O.A. Kaplunova, O.T. Vartanova. – 2nd ed., rev. and additional – Rostov n/d: Publishing house of Rostov State Medical University, 2015. – 120 p.

**6.2. Internet resources**

<b>ELECTRONIC EDUCATIONAL RESOURCES</b>					<b>Access to the resource</b>
	<b>Electronic library</b>	<b>RostSMU.</b>	–	URL:	Access is not limited
	<a href="http://109.195.230.156:9080/opac/">http://109.195.230.156:9080/opac/</a>				

	<b>Student Advisor</b> [Kits: "Medicine. Healthcare. IN"; "Medicine. Healthcare. SPO"; "Psychological Sciences"]: Electronic library system. – Moscow: Politekhresurs LLC. - URL: <a href="https://www.studentlibrary.ru">https://www.studentlibrary.ru</a> + opportunities for inclusive education	Access is not limited
	<b>Doctor's consultant. Electronic medical library:</b> Electronic library system. – Moscow: LLC "Higher School of Organization and Management of Healthcare_Comprehensive Medical Consulting". - URL: <a href="http://www.rosmedlib.ru">http://www.rosmedlib.ru</a> + opportunities for inclusive education	Access is not limited
	<b>Scientific electronic library eLIBRARY.</b> - URL: <a href="http://elibrary.ru">http://elibrary.ru</a>	Open access
	<b>National Electronic Library.</b> - URL: <a href="http://neb.rf/">http://neb.rf/</a>	Access from computers libraries
	<b>Scopus/Elsevier Inc., Reed Elsevier.</b> – Philadelphia: Elsevier BV, PA. – URL: <a href="http://www.scopus.com/">http://www.scopus.com/</a> via IP addresses of RostSMU and remotely after registration( <i>National project</i> )	Access limited
	<b>Web of Science / Clarivate Analytics.</b> - URL: <a href="http://www.webofscience.com/">http://www.webofscience.com/</a> via IP addresses of RostSMU and remotely after registration( <i>National project</i> )	Access limited
	<b>Freedom Collection</b> [magazines] /ScienceDirect. Elsevier. – URL: <a href="http://www.sciencedirect.com">www.sciencedirect.com</a> via IP addresses of RostSMU and remotely after registration( <i>National project</i> )	Access limited
	<b>Springer Nature database.</b> - URL: <a href="https://link.springer.com/">https://link.springer.com/</a> via IP addresses of RostSMU and remotely after registration, remotely via RFBR CIAS <a href="https://kias.rfbr.ru/req/index.php">https://kias.rfbr.ru/req/index.php</a>	Access is not limited
	<b>Wiley Online Library /John Wiley &amp; Sons.</b> - URL: <a href="http://onlinelibrary.wiley.com">http://onlinelibrary.wiley.com</a> via IP addresses of RostSMU and remotely after registration( <i>National project</i> )	Access limited
	<b>Questel database Orbit Premium edition:</b> patent database search <a href="http://www.orbit.com/">http://www.orbit.com/</a> by IP addresses of RostSMU( <i>National project</i> )	Access limited
	<b>Nano Database:</b> reference publications on nanomaterials. - URL: <a href="https://nano.nature.com">https://nano.nature.com</a> via IP addresses of RostSMU and remotely after registration	Access limited
	<b>Russian education. Single window of access /Federal portal.</b> -URL: <a href="http://www.edu.ru/">http://www.edu.ru/</a> . – New educational environment.	Open access
	<b>Electronic Library of the Russian Foundation for Basic Research (RFBR).</b> -URL: <a href="http://www.rfbr.ru/rffi/ru/library">http://www.rfbr.ru/rffi/ru/library</a>	Open access
	<b>Federal Electronic Medical Library of the Russian Ministry of Health.</b> - URL: <a href="http://femb.rucml.ru/femb/">http://femb.rucml.ru/femb/</a>	Open access
	<b>Archive scientific magazines / NEICON.</b> - URL: <a href="https://arch.neicon.ru/xmlui/">https://arch.neicon.ru/xmlui/</a> (Yandex search engine)	Open access
	<b>CyberLeninka:</b> scientific electron. beep. -URL: <a href="http://cyberleninka.ru/">http://cyberleninka.ru/</a>	Open access
	<b>BEARWEST.</b> Russian doctor portal: library, knowledge base. - URL: <a href="https://medvestnik.ru">https://medvestnik.ru</a>	Open access
	<b>Medical Bulletin of the South of Russia.</b> - URL: <a href="http://www.medicalherald.ru/jour">http://www.medicalherald.ru/jour</a> or from the RostSMU website( <a href="#">search engine Yandex system</a> )	Open access
	<b>Journal of Urology</b> ("Urology Herald"): magazine of RostSMU. – URL: <a href="http://www.urovest.ru/jour">http://www.urovest.ru/jour</a> or from the RostSMU website( <a href="#">search system</a> )	Open access

	<a href="#">Yandex)</a>	
	<b>South Russian Journal of Therapeutic Practice.</b> -URL: <a href="http://www.therapeutic-j.ru/jour/index">http://www.therapeutic-j.ru/jour/index</a>	Open access
	<b>National Library of Medicine (PubMed).</b> - URL: <a href="http://pubmed.ncbi.nlm.nih.gov/">http://pubmed.ncbi.nlm.nih.gov/</a>	Open access
	<b>Directory of Open Access Journals:</b> full-text journals121 countries of the world, incl. in medicine, biology, chemistry. - URL: <a href="http://www.doaj.org/">http://www.doaj.org/</a>	Open access
	<b>Free Medical Journals.</b> - URL: <a href="http://freemedicaljournals.com">http://freemedicaljournals.com</a>	Open access
	<b>Free Medical Books.</b> - URL: <a href="http://www.freebooks4doctors.com">http://www.freebooks4doctors.com</a>	Open access
	<b>International Scientific Publications.</b> -URL: <a href="http://www.scientific-publications.net/ru/">http://www.scientific-publications.net/ru/</a>	Open access
	<b>Univadis.ru</b> : international honey. portal. - URL: <a href="http://www.univadis.ru/">http://www.univadis.ru/</a>	Open access
	<b>ECO-Vector Journals Portal/Open Journal Systems.</b> <a href="http://journals.eco-vector.com/">http://journals.eco-vector.com/</a> - URL:	Open access
	<b>Evrika.ru</b> information and educational portal for doctors. – URL: <a href="http://www.evrika.ru/">http://www.evrika.ru/</a>	Open access
	<b>Med-Edu.ru:</b> medical video portal. - URL: <a href="http://www.med-edu.ru/">http://www.med-edu.ru/</a>	Open access
	<b>DoctorSPB.ru:</b> information-reference portal about medicine. - URL: <a href="http://doctorspb.ru/">http://doctorspb.ru/</a>	Open access
	<b>Rubricator of clinical recommendations</b> Ministry of Health of Russia. -URL: <a href="http://cr.rosminzdrav.ru/">http://cr.rosminzdrav.ru/</a>	Open access
	<b>Dictionaries And encyclopedias on Academician.</b> - URL: <a href="http://dic.academic.ru/">http://dic.academic.ru/</a>	Open access
	<b>Official Internet portal of legal information.</b> - URL: <a href="http://pravo.gov.ru/">http://pravo.gov.ru/</a>	Open access
	<b>Education on</b> Russian: portal / State. Institute of Russian language them. A.S. Pushkin. - URL: <a href="http://pushkininstitute.ru/">http://pushkininstitute.ru/</a>	Open access
	<b>History.RF.</b> [The main historical portal of the country] - URL: <a href="https://histrf.ru/">https://histrf.ru/</a>	Open access
	<b>ENVOC.RU English vocabulary:</b> educational site for English learners. language - URL: <a href="http://envoc.ru">http://envoc.ru</a>	Open access
	<b>World Health Organization.</b> - URL: <a href="http://who.int/ru/">http://who.int/ru/</a>	Open access
	<b>Ministry of Science and Higher Education</b> Russian Federation. - URL: <a href="http://minobrnauki.gov.ru/">http://minobrnauki.gov.ru/</a>	Open access
	<b>Modern problems of science and education:</b> electron. magazine. - URL: <a href="http://www.science-education.ru/ru/issue/index">http://www.science-education.ru/ru/issue/index</a>	Open access
	<b>Other</b> Open resources can be found at: <a href="http://rostgmu.ru">http://rostgmu.ru</a> → Library→ Electronic catalogue→ Open Internet resources→ further by keyword...	

### 6.3. Guidelines for students on mastering the discipline

**Planning and organizing the time needed to study the discipline.**An important condition for successful mastery of the discipline Immunology is creating a system of proper organization of work that allows you to distribute the educational load evenly in accordance with the schedule of the educational process. Large

Drawing up a work plan can help with this. Its presence will allow you to subordinate your free time to study purposes and work more successfully and efficiently. In the evening you should always distribute work for tomorrow. At the end of each day, it is advisable to summarize the work: carefully check whether everything was completed according to the plan, whether there were any deviations, and if there were, for what reason they occurred. It is necessary to exercise self-control, which is a necessary condition for successful study. If something is left undone, time must be found to complete that part of the work. It is recommended to complete all tasks for practical classes, as well as tasks assigned for independent work, immediately after the corresponding topic of the lecture course, which contributes to better assimilation of the material, allows you to promptly identify and eliminate "gaps" in knowledge, systematize previously covered material, and proceed on its basis to mastering new knowledge and skills.

**Preparation for lectures.** Acquaintance with the discipline occurs already at the first lectures, where the student is required not only to pay attention, but also to independently prepare notes. When working with lecture notes, it is necessary to take into account the fact that some lectures provide answers to specific questions on the topic, while others only reveal the relationships between phenomena, helping the student understand the deep processes of development of the subject being studied, both in history and at the present time.

Lecture note-taking is a complex type of university classroom work that involves intense mental activity of the student. A note is useful when the most essential things are written down and done by the student himself. There is no need to try to write down the entire lecture verbatim. This kind of "note-taking" does more harm than good. It is advisable to first understand the main idea presented by the lecturer and then write it down. It is advisable to record on one page of the sheet or leave fields on which later, when working independently with notes, you can make additional notes and mark unclear places.

It is better to divide the lecture notes into points, observing the red line. This will be greatly facilitated by the lecture plan questions proposed to the teachers. You should pay attention to the emphasis and conclusions that the lecturer makes, marking the most important points in the lecture material with the remarks "important", "well remember", etc. You can also do this using colorful markers or pens, emphasizing terms and definitions.

It is advisable to develop your own system of abbreviations, abbreviations and symbols. However, when further working with notes, it is better to replace the symbols with ordinary words for quick visual perception of the text.

When working on lecture notes, it is always necessary to use not only the textbook, but also the literature that the lecturer additionally recommended. It is this kind of serious, painstaking work with the lecture material that will allow you to deeply master the theoretical material.

**Preparation for practical classes.** Preparation for each practical The student must begin the lesson by familiarizing himself with the practical lesson plan, which reflects the content of the proposed topic. Careful thinking through and study of the plan's issues is based on studying the current lecture material, and then studying the required and additional literature recommended for this topic. All new concepts on the topic being studied must be memorized and included in a glossary, which should be kept from the very beginning of the course.

The result of such work should be manifested in the student's ability to freely answer theoretical questions of the workshop, his speech and participation in a collective discussion of issues on the topic being studied, the correct completion of practical assignments and tests.

In the process of preparing for practical classes, students need to pay attention to

special attention to independent study of recommended literature. Despite the completeness of the lecture notes, it is impossible to present all the material in it due to the limit of classroom hours. Therefore, independent work with textbooks, teaching aids, scientific and reference literature, materials from periodicals and the Internet is the most effective method of acquiring additional knowledge, allows you to significantly intensify the process of mastering information, promotes a deeper assimilation of the material being studied, and shapes students' attitude to a specific problem.

**Recommendations for working with literature.** It is advisable to work with literature start by studying general works on the topic, as well as textbooks and teaching aids. Next, it is recommended to move on to the analysis of monographs and articles that consider individual aspects of the problems studied in the course, as well as official materials and unpublished documents (research papers, dissertations), which may contain the main issues of the problem being studied.

Work with sources should begin with introductory reading, i.e. view the text, highlighting its structural units. During introductory reading, bookmarks mark those pages that require more careful study.

Depending on the results of the introductory reading, a further method of working with the source is chosen. If solving the problem requires studying certain fragments of the text, then the selective reading method is used. If the book does not have a detailed table of contents, the student should pay attention to the subject and name indexes.

Selected fragments or the entire text (if it is entirely related to the topic) require thoughtful, leisurely reading with "mental elaboration" of the material. Such reading involves highlighting: 1) the main thing in the text; 2) main arguments; 3) conclusions. Particular attention should be paid to whether the thesis follows from the arguments or not.

It is also necessary to analyze which of the author's statements are problematic, hypothetical in nature and to grasp hidden issues.

It is clear that the ability to work with text in this way does not come immediately. The best way to learn to highlight the main points in a text, to grasp the problematic nature of statements, and to evaluate the author's position is comparative reading, during which the student gets acquainted with different opinions on the same issue, compares the weight and evidence of the arguments of the parties and draws a conclusion about the greatest persuasiveness of that one. or other position.

If in the literature there are different points of view on a particular issue due to the complexity of past events and legal phenomena, they cannot be rejected without understanding them. If there are discrepancies between the authors, it is necessary to find a rational grain in each of them, which will allow a deeper understanding of the subject of study and a more critical assessment of the issues being studied. Getting acquainted with the special positions of the authors, you need to identify their similar judgments, arguments, conclusions, and then compare them with each other and apply the one that is more convincing.

The next stage of working with literary sources is the creation of notes that capture the main theses and arguments. You can make notes on separate sheets of paper, which can then be easily organized into individual topics of the course being studied. Another way is to keep thematic notebooks on one topic. It is advisable to take notes on large specialized works of a monographic nature in separate notebooks. Here it is important to remember that notes are written on one side of the sheet, with margins and sufficient line spacing for corrections and remarks (these rules are observed for ease of editing). If quotations are given in the notes, then an indication of the source (author, title, imprint, page number) must certainly be given. Subsequently, this information can be used when writing the text of an essay or other

tasks.

Thus, when working with sources and literature, it is important to be able to: compare, compare, classify, group, systematize information in accordance with a specific educational task;

summarize the information received, evaluate what you listened to and read; record the main content of messages; formulate, orally and in writing, the main idea of the message; draw up a plan, formulate theses;

prepare and present detailed reports such as a report;

work in different modes (individually, in pairs, in groups), interacting with each other;

use abstracts and reference materials;

control your actions and the actions of your comrades, objectively evaluate your actions;

seek help and additional clarification from the teacher or other students.

use linguistic or contextual guesses, dictionaries of various kinds, various kinds of hints, supports in the text (keywords, text structure, preliminary information, etc.);

use periphrases, synonymous means, words that describe general concepts, explanations, examples, interpretations, "word creation" when speaking and writing;

repeat or paraphrase the interlocutor's remarks to confirm understanding of his statement or question;

ask your interlocutor for help (clarify the question, ask again, etc.); use facial expressions and gestures (in general and in cases where linguistic means are not enough to express certain communicative intentions).

**Preparation for intermediate certification.** In preparation for the midterm certification is advisable:

- carefully study the list of questions and determine in which sources there is information necessary to answer them;

- carefully read the recommended literature;

- make short notes of answers (answer plans).

## VII. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE

<p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (1st floor, room 187)</p> <p>Classroom for conducting lecture-type classes</p>	<p>Room <span style="float: right;">staffed</span> specialized <span style="float: right;">educational furniture:</span> chairs, tables. Technical training facilities serves to provide educational information to a large audience: laptop, multimedia projector.</p>
<p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (1st floor, room 49, 157)</p> <p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (2nd floor, room 36)</p>	<p>Premises <span style="float: right;">staffed</span> <span style="float: right;">educational</span> furniture: chairs, tables, teaching boards, a computer, sets of clinical situational tasks for each topic of classes, sets of test tasks for each topic of classes, a set of radiographs,</p> <p style="text-align: right;">set</p> <p>electrocardiogram, stethoscope, device for measuring blood pressure.</p>
<p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. GBU RO</p>	

<p>"Rostovskaya regional clinical hospital" (5th floor)</p> <p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (6th floor, room 61)</p> <p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (8th floor, room 27)</p> <p>344090, Rostov region, Rostov-on-Don, st. Blagodatnaya, 170. State Budgetary Institution RO "Rostov Regional Clinical Hospital" (ground floor, room 56) Classrooms for conducting seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification</p>	
<p>344022, Rostov region, Rostov-on-Don, lane. Nakhichevan, 38/57-59/212-214. Department and Clinic of Neurosurgery, Clinic of Therapy (Liter A, 2nd floor, room 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) Classrooms For carrying out seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification</p>	<p>Room staffed specialized educational furniture: tables, chairs. Educational videos, sets of materials on topics (ECG, x-rays, laboratory tests, ultrasound data, etc.), a set of presentations for a multimedia projector for practical work. classes and lectures. Simulation technologies: role-playing games</p>
<p>344022, Rostov region, Rostov-on-Don, lane. Nakhichevan, 38/57-59/212-214. Department and Clinic of Neurosurgery, Clinic of Therapy (Liter A, 2nd floor)</p> <p>Classroom for conducting lecture-type classes</p>	<p>Room staffed specialized educational furniture.</p>
<p>344022, Rostov region, Rostov-on-Don, lane. Nakhichevan, 38/57-59/212-214. Educational and laboratory building (2nd floor, 4th floor)</p> <p>344022, Rostov region, Rostov-on-Don, lane. Nakhichevansky, 38. Medical and diagnostic building (Liter: B-A, 6th floor)</p> <p>Premises for independent work of students - library, auditorium</p>	<p>Computer equipment with the ability to connect to the Internet and provide access to the EIOS RostSMU</p>



Department of Physics, Department of Automation and Monitoring of Education Quality	
--	--