

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.)



20 20

**DISCIPLINE WORKING PROGRAM**

**IMMUNOLOGY**

Speciality 31.05.01 General medicine

Form of education full-time

## I. GOALS AND OBJECTIVES OF MASTERING THE DISCIPLINE

**Target** mastering the academic discipline "Immunology" consists of preparing students to independent work on the diagnosis, treatment and prevention of immune-mediated diseases.

### **Tasks** disciplines:

- acquisition by students of fundamental knowledge in the field of immunopathogenesis immunodeficiencies, autoimmune and allergic diseases;
- training students in the most important methods of clinical and laboratory instrumental diagnostics, allowing timely suspicion and verification of immune-mediated pathology;
- teaching students to recognize leading and pathognomonic signs in examining the patient, determining the severity of the immune-mediated disease, differential diagnosis;
- training in the algorithm of therapeutic, rehabilitation and preventive measures for patients with various nosological forms of immunopathology;
- developing skills in studying scientific literature and official statistical reviews;
- developing communication skills with patients, taking into account ethics and deontology depending on the identified pathology and characterological characteristics of the patients.

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

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

- **general professional:** *OPK-9. The ability to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems.*

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

2.1. Academic discipline is basic

2.2. The formation of the above competencies is facilitated by the study of the following previous disciplines: Anatomy, Histology, embryology, cytology, Microbiology, virology, Pharmacology, Propaedeutics of internal diseases, Pathophysiology, Pathological anatomy, Vaccinology.

2.3. The discipline Immunology creates the prerequisites for the formation of these competencies by the disciplines: Polyclinic therapy, Hospital therapy

## IV. CONTENT AND STRUCTURE OF DISCIPLINE

The complexity of the discipline in 22 hour22

### 4.1. Sections of the discipline studied in 10 semester

No. chapter A	Name section	Number of hours						
		All th	Contact Job				SRS	
			L	WITH	ETC	LR		
Semester 10								
	<b>Immunology</b>	72	12	-	32	-	28	
1	<b>General issues immunology</b>	16	2		8	-	6	
2	<b>Immunodeficiencies</b>	thirty	8		12	-	10	
3	<b>Autoimmune pathology</b>	8			2	-	6	
4	<b>Allergic diseases</b>	16	2		8	-	6	
Intermediate form certification		Test					2	

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

**WITH**- seminars (in accordance with the RUP)

**LR** –laboratory work (in accordance with the RUP)

**ETC**– practical exercises (in accordance with the RUP, they include clinical practical exercises)

### 4.2. Contact work

Lectures

No. section	No. lectures	Lecture topics	Qty hours
Semester 10			
1	1	Introduction to Clinical Immunology and Allergology	2
2	2	Primary immunodeficiencies (part 1)	2
2	3	Primary immunodeficiencies (part 2)	2
2	4	Secondary immunodeficiencies - classification, pathogenesis, clinical picture, principles of therapy	2
2	5	Principles of immunorehabilitation	2
4	6	Modern principles of diagnosis and therapy of allergic diseases	2
Total hours per semester			12

Total hours discipline:	12
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### Practical work

No. section	No. seminar, ETC	Topics of practical work	Qty hours	Forms current control
Semester 10				
1	1	Role assessments immune status at diagnostics, prognosis and monitoring of effectiveness therapy immune-mediated diseases.	4	Testing, situational tasks
1	2	Immunological anamnesis. Principles constructing an immunological diagnosis	4	Testing, situational
2	3	PID of humoral type, T-cell and combined primary immunodeficiencies.	4	Testing, situational tasks
2	4	Primary ID factors congenital immunity. NAO	4	Testing, situational
2	5	Principles immunodiagnostics And immunorehabilitation herpesvirus infections.	4	
3	6	Immunodiagnostics And principles immunorehabilitation autoimmune pathology.	2	Testing, interview, situational
4	7	Urgent state at allergopathology. Drug allergy	4	
4	8	Modern approaches to the diagnosis and treatment of asthma (GINA2020)	4	Testing, situational
<b>1-4</b>		Test	2	Testing, situational tasks
Total hours per semester			32	
Total hours discipline:			32	

### 4.3. Independent work of students

No. section	Type of independent work of students	Number in hours	Shapes of the current control
Semester 10			
1	Preparation for classes Preparation for current control	6	Testing, interview
2	Preparation for classes Preparation for current control	10	Testing, interview
3	Preparation for classes Preparation for current control	6	Testing, interview
4	Preparation for classes Preparation for current control	6	Testing, interview
Total hours per semester		28	
Total hours discipline:		28	

### V. ASSESSMENT FUND FOR CURRENT CONTROL, INTERMEDIATE CERTIFICATION

The fund of assessment tools for determining the level of development of competencies as a result of mastering the discipline is an appendix to the work program.

### VI. EDUCATIONAL AND METHODOLOGICAL SUPPORT OF DISCIPLINE

#### 6.1. Main literature.

1. Kovalchuk L.V. Clinical immunology and allergology with the basics of general immunology: a textbook for university students / L.V. Kovalchuk, L.V. Gankovskaya, R.Ya. Meshkova. – M.: GEOTAR-Media, 2014. - 639 p.
2. Medical microbiology, virology and immunology. T. 1: textbook for medical universities in 2 volumes / ed. V.V. Zvereva, M.N. Boychenko. – M.: GEOTAR-Media, 2011. - 448 p.

#### 6.2. Additional literature.

1. Immunology. Workshop: cellular, molecular and genetic methods research: textbook. manual for medical universities / ed. L.V. Kovalchuk, G.A. Ignatieva, L.V. Gankovskaya. – M.: GEOTAR-Media, 2010. - 176 p.
2. Khaitov R.M. Immunology: atlas: 600 color illustrations/ R.M. Khaitov, A.A. Yarilin, B.V. Pinegin. – M.: GEOTAR-Media, 2011. - 624 p.

3. Immunotherapy: manual / ed. R.M. Khaitova, R.I. Ataulakhanova, A.E. Shulzhenko. - Moscow: GEOTAR-Media, 2020. – 768 p. – Access from the EBS "EMB Physician Consultant".
4. Mironov A. Yu. Fundamentals of clinical microbiology and immunology: textbook. manual for students of medical universities / A.Yu. Mironov, G.G. Kharseeva, T.V. Klyukina; Height. state honey. univ. – Rostov n/d: Publishing house RostGMU, 2011. – 248 p.
5. Spickett G. Clinical immunology and allergology: Oxford reference book [for doctors, medical students. universities, wedge. residents] / Gavin Spickett = Clinical Immunology and Allergy: Oxford Handbook / Gavin Spickett; lane from English edited by N.I. Ilyina. - Moscow: GEOTAR-Media, 2019. - 832 p. – Access from the EBS "EMB Physician Consultant".
6. Tactics of diagnosis and treatment of allergic diseases and immunodeficiencies: a practical guide / ed. R.M. Khaitova. - Moscow: GEOTAR-Media, 2019. - 150 p. - Access from the EBS "EMB Physician Consultant".
7. Principles of diagnosis of primary immunodeficiencies: methodological recommendations / L.P. Sizyakina, I.I. Andreeva; Height. state honey. university, department wedge. immunology and allergology FPK and PPS. - Rostov-on-Don: RostSMU, 2016. - 31 p.
8. Immunodeficiencies: classification, principles of diagnosis and treatment: textbook / comp.: L.P. Sizyakina, I.I. Andreeva; Federal State Budgetary Educational Institution of Higher Education Rostov State Medical University. Rostov n/a: RostSMU, 2018 – 100 p.
9. Primary immunodeficiencies of the complement system: textbook. method. rec. for doctors / L.P. Sizyakina, I.I. Andreeva; FSBEI HE RostSMU. - Rostov n/a: RostSMU, 2018 – 33 p.

#### 6.4. Internet resources

	<b>ELECTRONIC EDUCATIONAL RESOURCES</b>	<b>Access to the resource</b>
1.	<b>Electronic library RostSMU.</b> – URL: <a href="http://109.195.230.156:9080/opac/">http://109.195.230.156:9080/opac/</a>	Access is not limited
2.	<b>Doctor's consultant.</b> Electronic medical library: EBS. – Moscow: LLC GC "GEOTAR". - URL: <a href="http://www.rosmedlib.ru">http://www.rosmedlib.ru</a>	Access is not limited
3.	<b>UpToDate:</b> DB /Wolters Kluwer Health. – URL: <a href="http://www.uptodate.com">www.uptodate.com</a>	Access is not limited
4.	Legal reference system " <b>Consultant Plus</b> ". - URL: <a href="http://www.consultant.ru">http://www.consultant.ru</a>	Access from computers university
5.	<b>Scientific electronic library eLIBRARY.</b> - URL: <a href="http://elibrary.ru">http://elibrary.ru</a>	Open access
6.	<b>National Electronic Library.</b> - URL: <a href="http://neb.rf/">http://neb.rf/</a>	Access from computers libraries
7.	<b>Scopus/Elsevier Inc.,</b> Reed Elsevier. – Philadelphia: Elsevier BV, PA,	Access

	2015. – URL: <a href="http://www.scopus.com/">http://www.scopus.com/</a> (National project)	is not limited
8.	<b>Web of Science</b> / Clarivate Analytics. – URL: <a href="http://apps.webofknowledge.com">http://apps.webofknowledge.com</a> (National project)	Access is not limited
9.	<b>MEDLINE Complete EBSCO</b> / EBSCO. – URL: <a href="http://search.ebscohost.com">http://search.ebscohost.com</a> (National project)	Access is not limited
10.	<b>ScienceDirect. Freedom Collection</b> /Elsevier. – URL: <a href="http://www.sciencedirect.com">www.sciencedirect.com</a> via IP addresses of RostSMU → remotely. (National project)	Access is not limited
eleven	<b>Publishing house database Springer Nature.</b> - URL: <a href="http://link.springer.com/">http://link.springer.com/</a> by IP addresses of RostSMU. (National project)	Access is not limited
12.	<b>Wiley Online Library</b> / John Wiley & Sons. <a href="http://onlinelibrary.wiley.com">http://onlinelibrary.wiley.com</a> . - URL: by IP addresses of RostSMU. (National project)	Access from computers university
13.	<b>Single window of access to information resources.</b> - URL: <a href="http://window.edu.ru/">http://window.edu.ru/</a>	Open access
14.	<b>Federal Electronic Medical Library of the Ministry of Health Russia.</b> - URL: <a href="http://www.femb.ru/feml/">http://www.femb.ru/feml/</a> , <a href="http://feml.scsml.rssi.ru">http://feml.scsml.rssi.ru</a>	Open access
15.	<b>Medline</b> (PubMed, USA). – URL: <a href="https://www.ncbi.nlm.nih.gov/pubmed/">https://www.ncbi.nlm.nih.gov/pubmed/</a>	Open access
16.	<b>CyberLeninka</b> [Electronic resource]: scientific. electron. beep. - URL: Access mode: <a href="http://cyberleninka.ru/">http://cyberleninka.ru/</a>	Open access
17.	<b>Archive of scientific journals</b> /NEICON. - URL: <a href="http://archive.neicon.ru/xmlui/">http://archive.neicon.ru/xmlui/</a>	Open access
18.	<b>Medical Herald South Russia.</b> - URL: <a href="https://www.medicalherald.ru/jour">https://www.medicalherald.ru/jour</a> or from the RostSMU website	Open access
19.	<b>World Health Organization.</b> - URL: <a href="http://who.int/ru/">http://who.int/ru/</a>	Open access
20.	<b>Evrika.ru:</b> information and educational portal for doctors. – URL: <a href="http://www.evrika.ru/">http://www.evrika.ru/</a>	Open access
21.	<b>DoctorSPB.ru:</b> information-reference portal about medicine. - URL: <a href="http://doctorspb.ru/">http://doctorspb.ru/</a>	Open access
22.	<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

## 6.5. Guidelines for students on mastering disciplines

### - Planning and organizing the time needed to study disciplines.

An important condition for successfully mastering the discipline of Immunology is the creation of 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. Drawing up a work plan can be of great help in 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. All tasks for practical classes, as well as tasks assigned for independent work, are recommended to be completed immediately after

the corresponding topic of the lecture course, which contributes to better assimilation of the material, allows you to timely identify and eliminate "gaps" in knowledge, systematize previously covered material, and on its basis begin to master new knowledge and skills.

- **Preparation for lectures.**

Acquaintance with the discipline occurs already at the first lecture, 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.**

The student must begin preparing for each practical 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 special attention to independent study of the 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, and contributes to more



deep assimilation of the studied material, forms in students their attitude to a specific problem.

- **Recommendations for working with literature.**

It is advisable to start working with literature 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 assignment.

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 types, 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;
- seek help from your interlocutor (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.**

When preparing for intermediate certification, it is advisable to:

- carefully study the list of questions and determine which sources contain the information necessary to answer them;
- carefully read the recommended literature;
- make short notes of answers (answer plans).

## **VII. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE**

### **7.1. Educational and laboratory equipment.**

The training rooms are located at the main bases of the Department of Clinical Immunology and allergology FPK and PPS:

1. 344022, Rostov region, Rostov-on-Don, lane. Nakhichevansky, 38. Medical and diagnostic building (Liter: B-A), 6th floor:

No. 1 Classroom for conducting lecture-type classes in the discipline "Immunology"

No. 2. Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

No. 3 Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

No. 4 Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

No. 5 Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

2. 344112, Rostov region, Rostov-on-Don, 1st Cavalry Army street, 33, GBU RO | Regional Clinical Hospital No. 2, 5th floor," pulmonology department (including allergy beds). Agreement No. 76/2-16 dated November 15, 2016.

No. 1. Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

No. 2. Classroom for conducting seminar-practical classes, group and individual consultations, ongoing monitoring and intermediate certification in the discipline "Immunology"

**7.2. Technical and electronic means:** standard sets of professional models with the results of laboratory and instrumental research methods, specialized educational furniture, multimedia presentation complex, VOTUM interactive training system, a set of remote controls (30) for interactive questioning