Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University
Institute of medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

IMMUNOLOGY, CLINICAL IMMUNOLOGY

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Dentistry

higher education programme profile/specialisation title

2026

1. COURSE GOAL(s)

The course goal is to form students' modern knowledge about the structure and functions of the immune system, types of immunity; distinctive characteristics of immune reactions under normal or pathological conditions; methods of clinical, laboratory and instrumental diagnostics, traditional and innovative directions in prevention, treatment of patients with immunopathology.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The mastering of the course «**Immunology, clinical immunology**» is aimed at the formation of the following competencies of students: GC-1, GPC-6, PC-1, PC-6, PC-7

Table 2.1. The list of competencies formed by students during the development of the discipline (results of the mastering of the discipline)

Competence code	**Competence descriptor**	**Competence formation indicators** (within the framework of this discipline)
GC-1	Being able to implement critical analysis of problem situations based on systems approach, develop an action strategy.	GC-1.1. Analysing the problem situation as a system identifying its components and links between them.
		GC-1.2. Defining gaps in the information required to deal with a problem situation and designing processes to address them.
		GC-1.3. Assessing in a critical way the reliability of information sources; working with contradictory information from different sources.
		GC-1.4. Developing and giving meaningful reasons for and against a strategy for solving a problem situation in terms of a systematic and interdisciplinary approaches.
		GC-1.5. Using logical and methodological tools for critical assessment of the modern concepts of a philosophical and social nature in the relevant field of study.
GPC-6	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	GPC-6.1. Developing a plan for dental disease treatment taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.
		GPC-6.2. Selecting medical products (including dental materials) for drawing up a comprehensive plan for dental disease treatment. Following up the treatment of a patient.
		GPC-6.3. Assessing the possible side effects of taking medicinal drugs.

Competence code	Competence descriptor	Competence formation indicators (within the framework of this discipline)
		GPC-6.4. Providing medical care to a dental patient in emergency or urgent forms.
		GPC-6.5. Organizing the prevention and treatment of complications, side effects, undesirable reactions, including the unforeseen ones, which can arise from diagnostic or medicinal manipulations, use of drugs and (or) medical devices, non-drug treatment at a dental appointment.
		GPC-6.6. Organizing personalized treatment of a dental patient, including elderly and senile patients, pregnant women, children with somatic pathologies; evaluating the efficacy and safety of treatment.
		GPC-6.7. Prescribing medicinal drugs, medical devices, taking into account the diagnosis, age and clinical picture, and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account medical care standards.
		GPC-6.8. Prescribing non-drug treatment taking into account the diagnosis, age and disease pattern in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.
		GPC-6.9. Evaluating the efficacy and safety of using medicinal drugs, medical devices and other methods of treatment at a dental appointment.
PC-1	Being able to make an examination of a patient in order to determine a diagnosis.	PC-1.1. Making an initial examination and/or reexamination of a patient in order to make a preliminary diagnosis.
		PC-1.2. Receiving information from patients (their relatives/legal representatives); conducting a questionnaire survey of patients regarding their general health status; identifying concomitant diseases in order to make a preliminary diagnosis.
		PC-1.3. Detecting if patients have dentoalveolar, facial anomalies, deformities and prerequisites for their development, defects in the crowns of teeth and dentition on the basis of the patient examination; laboratory,

Competence code	Competence descriptor	Competence formation indicators (within the framework of this discipline)
		instrumental, and additional examinations in order to make a preliminary/final diagnosis.
		PC-1.4. Detecting if patients have risk factors for oncopathology (including various background processes, precancerous conditions) based on laboratory, instrumental and additional examinations in order to make a preliminary/final diagnosis.
		PC-1.5. Making a preliminary/final diagnosis based on the patient examination; laboratory and instrumental examinations.
		PC-1.6. Making a final diagnosis based on additional examinations of patients.
PC-6	Being able to analyze and present in public medical information based on evidence-based medicine, participate in scientific research, introduce new methods and techniques aimed at protecting public health	PC-6.1. Searching for medical information based on evidence-based medicine, interpreting data from scientific publications and/or preparing a presentation to make medical information, the results of scientific research public.
		PC-6.2. Developing algorithms for the examination and treatment of adults and children with dental diseases in accordance with the principles of evidence-based medicine, as well as searching and interpreting medical information based on evidence-based medicine.
		PC-6.3. Conducting public presentation of medical information based on evidence-based medicine/ partial participation in scientific research.
PC-7	Being able to conduct organizational and managerial activity.	PC-7.1. Keeping medical documentation.
		PC-7.2. Organizing management of medical workers holding positions of paramedic and junior medical staff, quality control over implementing/providing medical care, and medical prescriptions.
		PC-7.3. Making examinations of temporary disability of patients, incapacity for work due to caring for a sick child, determination of medical indications for employment, transfer to easier working conditions, sanatorium treatment.
		PC-7.4. Analyzing and providing the main medical and statistical indicators (morbidity, disability, mortality, lethality) of the population of the service area in the prescribed manner.
		PC-7.5. Drawing up a work plan and a report on their work.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective component of (B1) block of the higher educational programme curriculum.*

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GC-1	Being able to implement critical analysis of problem situations based on systems approach, develop an action strategy.	Mathematics; Physics; Human Anatomy; Philosophy; History of medicine; Bioelements in Medicine; Medical Elementology; Chemistry of Biogenic Elements; Dental Modeling of Teeth;	Pathophysiology - Pathophysiology of Head and Neck; Otorhinolaryngology; Obstetrics; Gnathology and Temporo-Mandibular Joint's Functional Diagnostics; Prosthodontics (Simple Prosthetics); Prosthodontics of Edentulous Patient; Prosthodontics (Complex Prosthetics); Pediatric Maxillofacial Dentistry; Maxillofacial Prosthodontics; Pediatric Dentistry; Orthodontics and Pediatric Prosthodontics; Medical Genetics in Dentistry; Medical Rehabilitation; Observing and Assisting a Dentist (Operative Dentistry and Endodontics); Observing and Assisting a Dentist (Prosthodontics);
GPC-6	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	Basic Military Training. Life Safety; Science of Dental Materials;	Pharmacology; Internal Medicine; Clinical Pharmacology; General Surgery; Surgical Diseases; Health and Safety; Dermatovenerology; Neurology; Psychiatry and Narcology;

			Pediatrics; Operative Dentistry: Cariology and Hard Tissues Diseases; Endodontics; Gerodontics and Oral Mucosa Diseases; Periodontology; Oral Surgery; Gnathology and Temporo-Mandibular Joint's Functional Diagnostics; Prosthodontics (Simple Prosthetics); Prosthodontics of Edentulous Patient; Prosthodontics (Complex Prosthetics); Maxillofacial and Orthognathic Surgery; Head and Neck Diseases; Pediatric Maxillofacial Dentistry; Maxillofacial Prosthodontics; Pediatric Dentistry; Orthodontics and Pediatric Prosthodontics; Medical Genetics in Dentistry; Medical Rehabilitation; Clinical Dentistry; Implantology and Reconstructive Surgery; Modern Endodontics; Emergency Conditions in Outpatient Dentistry Practice
PC-1	Being able to make an examination of a patient in order to determine a diagnosis.	Basic Military Training. Life Safety; Propaedeutics of Dental Diseases; Chemistry of Biogenic Elements; Dental Modeling of Teeth;	Otorhinolaryngology; Obstetrics; Operative Dentistry: Cariology and Hard Tissues Diseases; Endodontics; Gerodontics and Oral Mucosa Diseases; Periodontology; Local Anesthesia and Anesthesiology in Dentistry; Oral Surgery; Gnathology and Temporo-Mandibular Joint's Functional Diagnostics;

			Prosthodontics (Simple Prosthetics); Prosthodontics of Edentulous Patient; Prosthodontics (Complex Prosthetics); Maxillofacial and Orthognathic Surgery; Head and Neck Diseases; Pediatric Maxillofacial Dentistry; Maxillofacial Prosthodontics; Pediatric Dentistry; Orthodontics and Pediatric; Prosthodontics; Medical Genetics in Dentistry; Medical Rehabilitation; Implantology and Reconstructive Surgery; Modern Endodontics; Aesthetic Restoration; Observing and Assisting a Dentist (Oral Surgery); Observing and Assisting a Dentist (Operative Dentistry and Endodontics); Observing and Assisting a Dentist (Prosthodontics); Observing and Assisting a Dentist (Pediatric); Observing and Assisting a Dentist (General Dentistry), Including Research Practice; Cone Beam Computed Tomography in the Diagnosis Planning and Evaluation of the Effectiveness of Dental Solutions; Dental Oncology and Radiotherapy; Pathophysiology - Pathophysiology of Head and Neck; Pathologic Anatomy - Pathologic Anatomy of Head and Neck; Modern Endodontics; Aesthetic Restoration;
PC-6	Being able to analyze and		Pharmacology; Ophthalmology;

	present in public medical information based on evidence-based medicine, participate in scientific research, introduce new methods and techniques aimed at protecting public health		Gnathology and Temporo-Mandibular Joint's Functional Diagnostics; Prosthodontics (Simple Prosthetics); Prosthodontics of Edentulous Patient; Prosthodontics (Complex Prosthetics); Pediatric Maxillofacial Dentistry; Maxillofacial Prosthodontics; Medical Genetics in Dentistry; Observing and Assisting a Dentist (General Dentistry), Including Research Practice; Clinical Trials; Clinical Dentistry; Evidence-based Medicine;
PC-7	Being able to conduct organizational and managerial activity.	Propaedeutics of Dental Diseases;	Public Health and Healthcare;

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 2 credits (72 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)**

Type of academic activities		**Total academic hours**	**Semesters/training modules**
			5
Contact academic hours		**54**	**54**
Lectures (LC)		**18**	**18**
Lab work (LW)		**36**	**36**
Seminars (workshops/tutorials) (S)		-	-
Self-studies		*12*	*12*
Evaluation and assessment (exam/passing/failing grade)		*6*	*6*
Total workload of the discipline	ac.h.	**72**	**72**
	credits	**2**	**2**

5. THE COURSE MODULES AND CONTENTS

Table 5.1. The content of the discipline and types of academic activities

Course module title	Course module contents (topics)	Academic activities types
Module 1 Basic immunology	1.1. Introduction to immunology. Subject, objectives, and theories of immunity Immunology as a scientific discipline. The concept of immunity and its role in maintaining homeostasis. Major theories of immunity (cellular, humoral, clonal selection theory, and pattern recognition theory). Historical development of immunology.	LC, LW
	1.2. Structure of the immune system. organs, hematopoiesis, and types of immunity The immune system: organs, tissues, cells, and molecules. Primary (bone marrow, thymus) and secondary (spleen, lymph nodes, mucosa-associated lymphoid tissue) lymphoid organs. Hematopoiesis: lymphopoiesis (immunopoiesis) and myelopoiesis as processes of differentiation and maturation of immune cells. Age-related changes of the thymus. Innate and adaptive immunity. Features of the immune system of the oral mucosa.	LC, LW
	1.3. Innate immunity. Pattern recognition receptors (PRRs) and signaling pathways Innate immunity: properties and functions. Pattern recognition receptors (PRRs) and their ligands (PAMPs, DAMPs). PRR families (TLR, NLR, RLR, CLR, ALR, cGAS-STING). Signaling pathways (MyD88, TRIF, MAVS, STING; NF-κB, IRF). Production of cytokines and interferons.	LC, LW
	1.4. Cells of innate immunity. Phagocytosis. Innate lymphoid cells Innate immune cells of myeloid lineage: neutrophils, monocytes/macrophages, dendritic cells (myeloid and plasmacytoid), basophils, eosinophils, and mast cells. Phagocytosis: main stages and mechanisms. Innate lymphoid cells (ILC1, ILC2, ILC3), natural killer (NK) cells. Trained immunity. The role of innate immune cells in protecting the oral mucosa.	LC, LW

Course module title	Course module contents (topics)	Academic activities types
	1.5. Humoral factors of innate immunity. The complement system: classical, alternative, and lectin pathways of activation; effector functions (opsonization, lysis, inflammation). Endogenous antimicrobial peptides: defensins (α and β), cathelicidins (LL-37). Antimicrobial proteins (lysozyme, lactoferrin). Interferons: type I (IFN-α/β), type II (IFN-γ), and type III (IFN-λ): sources and functions. Acute-phase proteins (C-reactive protein, mannose-binding lectin). Local immunity factors of the oral mucosa (secretory IgA, lysozyme, lactoferrin).	LC, LW
	1.6. Cytokines, chemokines, and intercellular interactions Intercellular interactions in the immune response: direct and indirect mechanisms. Adhesion molecules: selectins (rolling), integrins (firm adhesion), and immunoglobulin superfamily molecules (ICAM, VCAM). Cytokines: classification (interleukins, interferons, tumor necrosis factors, colony-stimulating factors) and functions (regulation of cell growth, differentiation, and activity). Chemokines and their receptors: regulation of directed migration (chemotaxis). Lymphocyte homing: mechanisms of selective migration to lymphoid organs and tissues (chemokine gradients, adhesion molecules).	LC, LW
	1.7. Major histocompatibility complex (HLA). Antigen presentation Major histocompatibility complex (MHC; HLA in humans): organization and functions. HLA class I and II molecules: expression and role in presenting endogenous and exogenous antigens to CD8+ and CD4+ T lymphocytes. Antigen-presenting cells. Antigen processing: endogenous and exogenous pathways. Cross-presentation of antigens.	LC, LW
	1.8. Antigens and antibodies Antigens: properties and interaction with immune receptors (BCR, TCR), epitopes. Types of antigens (T-dependent, T-independent, superantigens). Antibodies (immunoglobulins): structure and	LC, LW

Course module title	Course module contents (topics)	Academic activities types
	functions (Fab, Fc). Classes of immunoglobulins (IgG, IgA, IgM, IgE, IgD). IgA: serum and secretory forms; role in mucosal immunity. Mechanisms of the humoral response: class switching and somatic hypermutation. Antibody affinity and avidity.	
	1.9. T and B lymphocytes Development and maturation of T and B lymphocytes (thymus, bone marrow), T-cell selection. T-lymphocyte subsets (CD4+: Th1, Th2, Th17, Tfh, Treg; CD8+: cytotoxic T cells). B lymphocytes and their differentiation. Antigen-specific receptors (TCR, BCR): structure and functions. Generation of receptor diversity: V(D)J recombination.	LC, LW
	1.10. Immune response. Types and effector mechanisms The immune response: main stages (antigen recognition, activation, proliferation, and differentiation of lymphocytes, effector phase). Types of T-helper responses (Th1, Th2, Th17, Tfh, Treg) and their functions. Effector mechanisms (cell-mediated and humoral immunity). Mucosal immunity: features, role of IgA and mucosa-associated lymphoid tissue (MALT). Immune regulation of the resident oral microbiota.	LC, LW
	1.11. Regulation of the immune response. Tolerance. Transplantation immunity Mechanisms of immune response regulation. Apoptosis as a mechanism of programmed cell death. Immune suppression (regulatory T cells, myeloid-derived suppressor cells). Immunological tolerance: central and peripheral. Immune-privileged tissues and their protective mechanisms. Transplantation immunity: graft rejection and the importance of HLA compatibility.	LC, LW
Module 2 Clinical immunology	2.1. Immunopathology. Hypersensitivity Reactions Immunopathological reactions: mechanisms and causes. Classification of hypersensitivity according to Gell and Coombs (types I–IV). Major types: IgE-mediated, antibody-dependent cytotoxic, immune complex-mediated, and cell-mediated reactions.	LC, LW

Course module title	Course module contents (topics)	Academic activities types
	Subtypes of type IV (IVa–IVd). Clinical manifestations and diagnostic principles.	
	2.2. Allergy. Pathogenesis, diagnosis, and treatment Allergy: definition and allergens. Immunological mechanisms (predominantly IgE-mediated reactions involving Th2 responses, with possible involvement of other hypersensitivity types). Effector cells (mast cells, basophils, eosinophils, T lymphocytes). Inflammatory mediators and phases of allergic reactions. Clinical forms of allergy. Diagnostics (skin tests, specific IgE, provocation tests). Principles of therapy (allergen avoidance, pharmacotherapy, allergen-specific immunotherapy, biological therapy). Allergic reactions in dentistry.	LC, LW
	2.3. Autoimmune diseases. Pathogenesis, diagnosis, and treatment Autoimmune diseases: breakdown of immunological tolerance to self-antigens. Etiology (genetic predisposition, environmental triggers). Immunopathogenesis (activation of autoreactive T and B lymphocytes, autoantibody production, chronic inflammation). Organ-specific and systemic forms. Diagnostics (detection of autoantibodies). Principles of therapy (immunosuppressants, glucocorticoids, targeted biological agents). Oral manifestations of autoimmune diseases.	LC, LW
	2.4. Inborn errors of immunity (IEI) and secondary immunodeficiencies Inborn errors of immunity (IEI): genetically determined disorders of the immune system. IUIS classification. Main clinical manifestations (infections, autoimmunity, lymphoproliferation, hyperinflammation). Diagnostics (assessment of cellular and humoral immunity, molecular genetic methods). Principles of therapy (immunoglobulin replacement therapy, hematopoietic stem cell transplantation, gene therapy). Secondary immunodeficiencies: causes (infections, immunosuppressive therapy, metabolic and oncological diseases), mechanisms of	LC, LW

Course module title	Course module contents (topics)	Academic activities types
	development. Diagnostics and treatment principles (elimination of the underlying cause, infection prevention, replacement therapy). Oral manifestations of immunodeficiencies. Lec, Lab	
	2.5. Antitumor immunity. Antitumor immunity: mechanisms of recognition and elimination of transformed cells. Cancer immunoediting (elimination, equilibrium, escape). Tumor antigens (TAA, TSA, neoantigens). Effector mechanisms of antitumor immunity. Mechanisms of tumor immune evasion. General principles of cancer immunotherapy. Tumors of the maxillofacial region. Lec, Lab	LC, LW
Module 3 Immunodiagnosis, immunoprophylaxis, immunotherapy	3.1. Methods for assessing the immune system Assessment of immune status (immunogram): quantitative and functional parameters. Quantitative methods (leukocyte differential count, lymphocyte subsets). Functional methods (phagocytosis, complement system, lymphocyte proliferation, cytokine production). Modern techniques (flow and mass cytometry, ELISpot, molecular genetic technologies). Monoclonal antibodies: production and applications in diagnostics and therapy.	LC, LW
	3.2. Vaccines and immunotherapy Vaccines: concept and mechanisms of active immunity formation. Types of vaccines (live attenuated, inactivated, subunit, conjugate, toxoids, mRNA vaccines, vector-based vaccines). Vaccination strategies (national immunization schedules, herd immunity, revaccination). Immunotherapy: active and passive approaches. Main directions (immune checkpoint inhibitors, cellular therapies, monoclonal antibodies). Applications of immunotherapy in oncology, autoimmune, and allergic diseases.	LC, LW

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENT

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	**Classroom equipment**	**Specialised educational / laboratory equipment, software, and materials for coursestudy** (if necessary)
Conference room	Conference room equipped with a set of specialized furniture and digital equipment;	
Lab-work	A classroom designated for laboratory classes, individual consultations, ongoing assessment, and interim assessment, equipped with specialized furniture and laboratory equipment.	
Seminar	A classroom designated for seminar classes, group and individual consultations, ongoing assessment, and interim assessment, equipped with specialized furniture, laboratory equipment (biological microscopes – 8 units; digital microscopy cameras – 2 units; laboratory sinks – 1 unit), and a set of pipette dispensers (4 units) for precise measurements. Classroom 207, ATI builiding	
Lab-work/seminar	A classroom designated for laboratory and seminar classes, group and individual consultations, ongoing assessment, and interim assessment, equipped with specialized furniture, as well as laboratory, diagnostic, and medical equipment.	
Self-studies	Classroom for self-studies of students (can be used for seminars and consultations), equipped with a set of specialized furniture, computers with stable wireless Internet connection.	

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

Electronic sources:

1. Immunology: textbook / R.M. Khaitov ; Khaitov R.M. - Moscow: GEOTAR-Media, 2021. - 272 p. - ISBN 978-5-9704-5861-7. - https://mega.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=518581&idb=0

Additional reading:

Electronic sources:

1. Immunology: textbook / Rakhim M. Khaitov. - 2nd updated edition. - Moscow : GEOTAR-Media, 2022. - 272 c. - ISBN 978-5-9704-7089-3. - https://www.studentlibrary.ru/book/ISBN9785970470893.html
2. Medical Microbiology, Virology, Immunology : textbook : in 2 volumes. Vol. 1 / eds. V. V. Zverev, M. N. Boichenko. - Moscow : GEOTARMedia, 2022. - 384 c. - ISBN 978-5-9704-7072-5. - https://www.studentlibrary.ru/book/ISBN9785970470725.html
3. Medical Microbiology, Virology, Immunology : textbook : Vol. 2. / eds. V. V. Zverev, M. N. Boichenko. - Москва : ГЭОТАР-Медиа, 2020. - 392 с. - ISBN 978-5-9704-5719-1. - https://www.studentlibrary.ru/book/ISBN9785970457191.html
4. The Washington Manual Allergy, Asthma, and Immunology Subspecialty Consult / Edited by Andrew L. Kau, Jennifer M. Monroy, Brooke I. Polk, and Christopher J. Rigell; executive editor, Thomas Ciesielski. - Wolters Kluwer Health, 2022. - 411 c. - (Washington manual subspecialty consult series). - ISBN 9781975113261. - https://mega.rudn.ru:443/MegaPro/UserEntry?Action=Rudn_FindDoc&id=513346&idb=0

Internet (based) sources:

1. Electronic libraries with access for RUDN students:
   - Electronic library network of RUDN – ELN RUDN http://lib.rudn.ru/MegaPro/Web
   - ELN «University Library online» http://www.biblioclub.ru
   - ELN Urait http://www.biblio-online.ru
   - ELN «Student Advisor» www.studentlibrary.ru
   - ELN «Lan» http://e.lanbook.com/
   -
2. Databases and search engines:
   - Database elibrary.ru - scientific electronic library. The link:
   - http://elibrary.ru/defaultx.asp/
   - Electronic libraries with access for RUDN students. The link: http://lib.rudn.ru/MegaPro/Web/
   - Electronic library of the medical university. The link:
   - http://www.studmedlib.ru/
   - National Center for Biotechnological Information. The link:
   - https://www.ncbi.nlm.nih.gov/

Learning toolkits for self-studies during the development of the discipline

1. Lectures Synopsis on the discipline "Immunology, clinical immunology".
2. Methodological guidelines for the implementation and execution of control and independent work on the discipline "Immunology, clinical immunology"

* - All teaching materials for self-studying of students are placed in accordance with the current procedure on the discipline page in the RUDN LMS TUIS.

8. EVALUATION TOOLKIT AND GRADE SYSTEM FOR ASSESSMENT

Evaluation Toolkit (ET) and a point-rating system (PRS)* for assessment the level of competence formation (part of competencies) based on the results of mastering the discipline "Immunology, clinical immunology" are presented in the Appendix to this Work Program of the discipline.

* - ET and PRS are formed on the basis of the requirements of the relevant local regulatory act of the RUDN

DEVELOPERS:

Professor of the Immunology department		E. A. Levkova
position, educational department	signature	name and surname

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