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**Federal State Autonomous Educational Institution
of Higher Education "Peoples' Friendship University of Russia"**

Medical Institute

(name of Educational Division developing the postgraduate program)

Department of Biochemistry named after academician T.T. Berezov

(name of the Educational Department developing the postgraduate program)

PROGRAM OF THE DISCIPLINE

Pedagogical practice

(name of the discipline)

Scientific specialty:

1.5.4. Biochemistry

(code and name of the scientific specialty)

**Practical training of students is carried out within the framework of the
postgraduate education program:**

Biochemistry Molecular mechanisms of cancer

(name of the postgraduate program)

2023 г.

1. COURSE GOALS

The goals of pedagogical practice are:

- consolidation in practice of knowledge, skills and practical skills acquired by students in the scientific specialty 1.5.4. Biochemistry;
- preparation for the implementation of pedagogical activities in the system of higher professional and additional education;
- consolidation and formation of skills of methodological development and analysis of the main forms of educational and extracurricular activities in biochemistry; explanation, development and control of knowledge in biochemistry;
- organization of educational work with students; development and improvement of the curriculum of biochemistry courses for students.

The objectives of pedagogical practice is to prepare graduate students to carry out the following types of pedagogical activity:

- determination of the content, forms and technologies of teaching in the system of higher and additional education;
- system design of educational material, design of training sessions, organization of communication and interaction in study groups; assessment and control of the effectiveness of teaching basic disciplines.

2. REQUIREMENTS TO PRACTICE OUTCOMES

As a result of the pedagogical practice, the student must:

Know:

- basic principles, methods and forms of organization of the pedagogical process at the university;
- systems of competencies and professionally significant qualities of trainees and trainees;
- requirements for a university teacher in modern conditions;
- the main psychological, pedagogical, methodological patterns of teaching the discipline of biochemistry at the university.

Be able to:

- to carry out educational and methodological work on the design and organization of the educational process;
- to analyze difficulties arising in pedagogical activity and adopt an action plan to resolve them;
- develop and improve training course programs;
- conduct self-monitoring and self-assessment of the process and result of pedagogical activity;
- conduct all types of classroom classes in the disciplines of the training profile; to organize extracurricular and educational work with students.

Possess:

- skills of public speaking in front of an audience and creating a creative atmosphere during classes;
- - skills of methodological development and analysis of the main forms of educational and extracurricular activities in biochemistry.

3. THE SCOPE OF THE DISCIPLINE

Total workload of the discipline «Pedagogical practice» takes 5 credits (180 academic hours).

5. CONTENTS OF THE DISCIPLINE

Table 5.1. Contents of the discipline

Name of the practice section	Content of the section (topics, types of practical activities)	Course workload, ac. hours
Section 1. Preparatory stage	An introductory conference at the department, familiarization with the internship program, the procedure for defending the practice report, requirements and evaluation criteria. Safety instruction.	3
	Drawing up an individual practice plan.	3
	Attending practical classes of the teaching staff of the department	18
Section 2. The main stage	Study of job responsibilities and rights of university teaching staff, internal regulations, documents regulating the educational process. Study of the Federal State Educational Standard, curricula and training programs for students in the specialty "Medical Business"; approved working curricula (modules) in the disciplines of the training curriculum and the principles of their compilation.	10
	Selection and analysis of the main and additional literature in accordance with the subject and objectives of the planned classes. Development of the program of the module (section) of the academic discipline. Preparation of teaching materials for conducting classes. Development of a plan and a summary of classes.	60
	Conducting all types of classroom practical (clinical) classes with students	60
	Organization and conduct of extracurricular activities.	26
	Participation in the organization and conduct of intermediate and final certification in the disciplines of the Department of Education.	18
	Making a practice report	9
	Preparation for the defense and protection of the practice report	9
TOTAL:		216

6. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE

Table 6.1. Material and technical support of the discipline

Auditorium type	Equipment the audience	Specialized educational/laboratory equipment, software and materials for the development of the discipline (if necessary)

Auditorium type	Equipment the audience	Specialized educational/laboratory equipment, software and materials for the development of the discipline (if necessary)
Lecture hall	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations. Hall No. 1 for 300 seats, Hall No. 2 for 300 seats, Hall No. 3 for 50 seats, RUDN Medical Institute, 117198, Moscow, Miklukho-Maklaya str., 8	A set of specialized furniture; technical means: a multimedia projector, a computer, a white magnetic board, a set of markers for the board, a set of educational presentations, educational posters and tables. Software: Microsoft products (OS, office application package, including MS Office/Office 365, Teams, Skype).
Specialized audience	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment. Auditoriums 329, 334, 336, RUDN Medical Institute, 117198, Moscow, Miklukho-Maklaya str., 8.	Multimedia projectors and motorized screens NEC V 260X Projector, Motorized Screen for Master Control Projector 203X203. laboratory equipment: Exhaust hood, CENTRIFUGE OPN-8, KFK-3-01 photoelectrocolorimeter, Electric drying cabinet SNOL 67/350, Thermoblock PE-4030 36 gn. d-23*45mm, Spectrophotometer Specord M -40, Computer HP 280 G2 MT V7 Q81E Intel Pentium Dual-Core G4400
Educational and Scientific Laboratory	Laboratory of Molecular Biological and Biochemical Research Methods. Audiences 201, 316, 318, 319, 339, RUDN Medical Institute, 117198, Moscow, Miklukho-Maklaya str., 8	Pestle microbiological homogenizer Vilitex DY89-II, pestles and containers to it for 3, 5, 10, 20 and 50 ml. NANODROP 2000C Thermo Fisher Microspectrophotometer Camera for horizontal electrophoresis Sub-Cell GT, 15x15 cm, combs for 15 and 20 holes (1 piece each), with stops for filling Bio-Rad 1704402 - 2 pieces Camera for vertical electrophoresis Mini-PROTEAN ® Tetra Bio-Rad 165800 - 2 pcs PowerPack Basic Power Supply Power supply for 4 electrophoretic chambers with output voltage up to 300 V. Bio-Rad 1645050 SM - 6M desktop centrifuge with 6M rotor (12 x12ml vials) Elmi Transilluminator TCP-20.MC

Auditorium type	Equipment the audience	Specialized educational/laboratory equipment, software and materials for the development of the discipline (if necessary)
		<p>wavelength 312 and 254 nm, screen size 20 x 20 cm. Vilber Lourmat VL 2161 2017 1</p> <p>Desktop pH Meter Series Starter 5000 Ohaus, Ohaus ST5000, pH meter MettlerToledo</p> <p>Microcentrifuge 5420</p> <p>Microcentrifuge with rotation speed up to 15060 rpm, with the ability to work with standard test tubes on 0,2/0,5/0,6/1,5 and 2 ml and PCR strips. Epp 5420 000.318, Eppendorf</p> <p>Evolution™ 201/220 UV-Visible Spectrophotometer 840-210600, Thermo Fisher</p> <p>Multimodal reader ClarioStar Omega BMG LABTECH 415-10</p> <p>Thermoshaker TS-100C, BS-010143-AAI, BioSan</p> <p>Liebherr GNP 3056 freezer, Biryusa-6 refrigerator, Minsk-17 Freezer.</p> <p>Laboratory medical centrifuge ProfMT, Refrigerator ATLANT XM 6026-031, Freezer Minsk-17,</p> <p>Electronic scales AR0640 Ohaus Europe, Spectrophotometer Hitachi F-2700, Distiller GTL-200, Thermostat, Thermoblock PE-4030 36 gn. d-23*45mm, Bi-beam Spectrophotometer U-2900, Centrifuge L7-55</p> <p>HP 280 G2 MT V7 Q81E Intel Pentium Dual-Core G4400 Computer</p> <p>There is an Internet connection</p> <p>Electrophoretic chamber, 1mm, Analytical scales EP214C, Laboratory washing table 985*610*900 .</p> <p>Microcentrifuge Eppendorf Minispin</p> <p>Vortex V-1 plus</p> <p>Flow cytometer MACSQuant Analyzer 10, Fume hood,</p>

Auditorium type	Equipment the audience	Specialized educational/laboratory equipment, software and materials for the development of the discipline (if necessary)
		Thermoblock PE-4030 36 gn. d-23*45mm, Spectrophotometer Specord M -40, HP 280 G2 MT V7 Q81E Intel Pentium Dual-Core G4400 Computer
For independent work of students	An auditorium for independent work of students (can be used for laboratory classes and consultations), equipped with a set of specialized furniture. Auditorium 203, 339, RUDN Medical Institute, 117198, Moscow, Miklukho-Maklaya str., 8	A set of specialized furniture, Software: Microsoft products (OS, office application package, including MS Office/ Office 365, Teams), Drying cabinet, Specord M-40 spectrophotometer, dry-air thermostat

7. METHODS OF PRACTICE

"Pedagogical practice" is carried out both in the structural divisions of the RUDN or in organizations in Moscow (stationary), and at bases located outside Moscow (field).

The internship program includes the preparation and conduct of practical (clinical) classes in the discipline "Biochemistry" with 2nd-year students of the specialty "Medicine", attending classes and participating in their discussion, as well as organizing educational work with students.

The practice on the basis of an external organization (outside of the RUDN) is carried out on the basis of a corresponding contract, which specifies the terms, place and conditions of the practice in the base organization.

The terms of the internship correspond to the period specified in the calendar curriculum of the postgraduate program. The terms of the internship can be adjusted in coordination with the Department of Educational Policy and the Department of Organization of Practices and Employment of Students at the RUDN.

8. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE PRACTICE

a) basic literature

1. Smirnov S.D. Pedagogy and psychology of higher education: from activity to personality [Electronic resource]: Textbook for universities / S. D. Smirnov. - 5th ed., stereotype.; Electronic text data. - M.: Academy, 2010. - 400 p.
2. Kanke V.A. History, philosophy and methodology of pedagogy and psychology [Text/electronic resource]: Textbook for universities / V. A. Kanke; Edited by M.N.Berulava. - Electronic text data. - Moscow: Yurayt, 2014. - 487 p.
3. Atabekova A.A. Communicative training for the formation of foreign language communicative competence of students in a multi-level multicultural study group

[Electronic resource]: Monograph / A. A. Atabekova, Natalia Markovna Belenkova. - M.: RUDN Publishing House, 2010. - 326 p.

4. Verbitsky A.A. Personal and competence approaches in education: problems of integration [Text/electronic resource]: Monograph. - Electronic text data. - Moscow: Logos, 2009, 2010, 2013. - 336 p.

5. Philosophy of education in a multicultural society of the 21st century: A collection of scientific articles. Issue 2 / Edited by V.M.Filippov; Ed. Col.: N.S.Kirabaev, A.V.Semushkin. - M.: Publishing House of RUDN, 2011. - 238 p.

b) additional literature

1. Mamatov A.V., Nemtsev A.N., Klepikova A.G., etc. Methods of application of distance learning technologies by university teachers: studies. the manual /. Belgorod: BelSU Publishing House, 2006. pp. 161-162.

2. Orlov A.O. The role of the competence approach in the evolution of the Russian education system // Competence approach in the intellectually developing educational space of the region: mater. 3rd International scientific- method. conf. 2009.

3. Slobodin V.Ya. Information technologies and educational process // New information technologies in university education: mater. XI International Scientific - method. conf. Kemerovo, 2006.

4. Pedagogy and psychology of higher education: Textbook. Ed. Bulanova-Toporkova-M. - Rostov n/A: Phoenix, 2002. - 544 p.

5. Pedagogy in medicine/ edited by N.V.Kudryavoy. - M.: Academy, 2006 - 320s.

6. Belagurova V.A. Scientific organization of the educational process. - M., GEOTAR - Media, 2006 - 320p.

Resources of the Internet information and telecommunication network:

1. EBS RUDN and third-party EBS, to which university students have access on the basis of concluded contracts:

- Electronic library system of RUDN - EBS RUDN
<http://lib.rudn.ru/MegaPro/Web>

- EBS "University Library online" <http://www.biblioclub.ru>

- ABS Yurayt <http://www.biblio-online.ru>

- EBS "Student Consultant" www.studentlibrary.ru

- EBS "Doe" <http://e.lanbook.com/>

- EBS "Trinity Bridge"

2. Databases and search engines:

- electronic Fund of legal and normative-technical documentation
<http://docs.cntd.ru/>

- search engine Yandex <https://www.yandex.ru/>

- Google search engine <https://www.google.ru/>

- bibliographic database SCOPUS <http://www.elsevierscience.ru/products/scopus/>

*Educational and methodological materials for practical training, filling out a diary and making a report on practice *:*

1. Safety rules during the "Pedagogical practice" (primary instruction).

2. Methodological guidelines for students to fill out a diary and formalize a practice report.

* - all teaching materials for practical training are placed in accordance with the current procedure on the practice page in TEIS!

8. EVALUATION MATERIALS AND A POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF COMPETENCE FORMATION BASED ON THE RESULTS OF THE INTERNSHIP

Evaluation materials and a point-rating system* for evaluating students based on the results of the "Pedagogical Practice" are presented in the Appendix to this Internship Program (module).

* - EM and PRS are formed on the basis of the requirements of the relevant local regulatory act of the RUDN (regulations / order).

DEVELOPERS:

Head of the Department of Biochemistry Post, Department	 Signature	V.S. Pokrovsky Name
Associate Professor of the Department of Biochemistry Post, Department	 Signature	E.V. Neborak Name
HEAD OF THE DEPARTMENT: Department of Biochemistry Name of the Department	 Signature	V.S. Pokrovsky Name