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Federal State Budget Educational Institution  
of Higher Education  
Pacific State Medical University  
of the Ministry of Health of the Russian Federation

APPROVED BY  
First Vice-Rector

  
/ Trankovskaya L.V./  
“ 9 ” month 2025

## DISCIPLINE WORK PROGRAM

### B1.O.53 Digital health technologies

|                                    | (name of discipline)                                                                            |
|------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Specialty</b>                   | <b>31.05.03 Dentistry<br/>for international students (in English)</b><br>(code, name)           |
| <b>Degree</b>                      | Specialist's degree                                                                             |
| <b>Profile</b>                     | 02 "Healthcare"<br>(in the field of providing health care in<br>patients with dental pathology) |
| <b>Mode of study</b>               | Full-time                                                                                       |
| <b>Period of mastering the BEP</b> | <b>5 years</b><br>(nominal length of study)                                                     |
| <b>Institute</b>                   | of E-Learning (Digital Department)                                                              |

Program of the discipline **Б1.О.53 Digital health technologies** is based on:

1) Federal State Educational Standard of Higher Education for the specialty approved by the Order No. 984 of Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020.

2) Curriculum for the 31.05.03 Dentistry for international students (in English), profile 02 "Healthcare" (in the field of providing health care in patients with dental pathology), approved by the Academic Council of FSBEI HE PSMU of the Ministry of Health of Russia, Report No. 8/24-25 dated March 31, 2025.

Work program for the discipline was developed by the writing team of the Institute of E-Learning (Digital Department) of the FSBEI HE PSMU of the Ministry of Health of Russia, under the guidance of the director of the Institute Filatova D.S.

**Developed by:**

|                                               |                                                                                |                                       |
|-----------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------|
| <u>Assistant Professor</u><br>(position held) | <u>Candidate of Medical<br/>Sciences</u><br>(academic degree, academic title)  | <u>Lebedev S.V.</u><br>(full name)    |
| <u>Assistant Professor</u><br>(position held) | <u>Candidate of Economic<br/>Sciences</u><br>(academic degree, academic title) | <u>Lugovoi R.A.</u><br>(full name)    |
| <u>Assistant Professor</u><br>(position held) | <u>Candidate of Economic<br/>Sciences</u><br>(academic degree, academic title) | <u>Soldatova Yu.A.</u><br>(full name) |

## 1. GENERAL PROVISIONS

### 1.1. Purpose and Objectives of Mastering B1.O.53 Digital health technologies

**The purpose** of mastering the discipline is developing a system of knowledge and skills necessary to use modern digital and information technologies within the scope of professional activities of a dentist and to implement them into the activities of medical facilities.

**Objectives** of mastering the discipline:

1. Develop a system of concepts of healthcare digitalization, an understanding of significance and principles of modern information technologies in healthcare and their implementation in achieving objectives of professional activity;
2. Develop the ability to correctly identify whether methods of telehealth and other digital technologies are applicable and to use information and communication technologies in order to look up professional information and solve professional objectives;
3. Develop skills of working with Health Information Systems and an understanding of position of healthcare professionals within Electronic Document Management in healthcare.

## 2. DISCIPLINE AS PART OF THE BASIC EDUCATIONAL PROGRAM

Discipline **B1.O.53 Digital health technologies** is included in the Mandatory part of the Unit 1 of the basic educational program for the specialty 31.05.03 Dentistry for international students (in English), profile 02 "Healthcare" (in the field of providing health care in patients with dental pathology), and is part of the 6th semester's curriculum

### 3. PLANNED LEARNING OUTCOMES OF THE DISCIPLINE

3.1. Mastering the discipline **B1.O.53 Digital health technologies** is aimed at the development of students' competencies. The discipline facilitates the development of students' competencies corresponding to the types of professional activity.

| Name of competency category (group)      | Code and Name of competency of the graduate                                                                                                                                                                                                        | Competency Indicators                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>General Professional Competencies</b> |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                             |
| Information literacy                     | GPC-13. Is able to achieve objectives of professional activity using information and bibliographic resources, biomedical terminology, as well as information and communication technologies, while observing basic information security procedures | CI.GPC-13 <sub>1</sub> - searches for and exchanges information using professional bibliographic resources, as well as information and communication technologies<br>CI.GPC-13 <sub>2</sub> - fluent in biomedical terminology<br>CI.GPC-13 <sub>3</sub> - understands the information security policies and complies with them when working to achieve objectives of professional activity |

3.2. Types of professional activity corresponding to competencies developed over the course of mastering **B1.O.53 Digital health technologies**:

Types of professional activity objectives

1. *Medical*
2. *Managerial and administrative*

Kinds of professional activity objectives

1. *examination of the patient in order to make a diagnosis;*
2. *prescribing pharmacological and non-pharmacological treatment and monitoring its efficiency and safety;*
3. *implementation and monitoring of the effectiveness of individual medical rehabilitation programs;*
4. *implementation of anti-epidemic and other measures of public health protection as well as*

- monitoring their effectiveness;*
5. *implementation of health and hygiene education measures in general population and professionals aimed at development of a healthy lifestyle;*
6. *management, administrative work*

3.3. Planned learning outcomes of mastering the discipline are represented by knowledge, skills, abilities and/or experience, characterize the stages of developing competencies and ensure achievement of the planned outcomes of mastering the basic educational program. Learning outcomes of a discipline are correlated with competency indicators.

#### 4. SCOPE AND CONTENT OF THE DISCIPLINE

##### 4.1. Scope of the Discipline and Types of Academic Work

| Type of Academic Work                                                            |                    | Total Hours | Semesters |
|----------------------------------------------------------------------------------|--------------------|-------------|-----------|
|                                                                                  |                    |             | 6         |
|                                                                                  |                    |             | hours     |
| 1                                                                                |                    | 2           | 3         |
| <b>Classroom hours (total), including:</b>                                       |                    | <b>36</b>   | <b>36</b> |
| Lectures (L)                                                                     |                    | 8           | 8         |
| Practical classes (C), including work with Electronic educational resource (EER) |                    | 28          | 28        |
| <b>Independent work of the student (IW), including:</b>                          |                    | <b>36</b>   | <b>36</b> |
| <i>Electronic educational resource (EER)</i>                                     |                    | 10          | 10        |
| <i>Preparing for classes (CP)</i>                                                |                    | 18          | 18        |
| <i>Preparing for continuous assessment (CAP)</i>                                 |                    | 4           | 4         |
| <i>Preparation for interim assessment (IAP)</i>                                  |                    | 4           | 4         |
| <i>Interim assessment</i>                                                        |                    |             |           |
| <b>Type of interim assessment</b>                                                | pass/fail test (T) | T           | T         |
|                                                                                  | exam (E)           |             |           |
| <b>TOTAL: TOTAL credit value</b>                                                 | hrs.               | <b>72</b>   | <b>72</b> |
|                                                                                  | credits            | <b>2</b>    | <b>2</b>  |

##### 4.2. Contents of the Discipline

##### 4.2.1. Topics of Discipline Lectures and Academic Hours per Semester

| No.            | Lecture Topic                                                               | Hours    |
|----------------|-----------------------------------------------------------------------------|----------|
| 1              | 2                                                                           | 3        |
| Semester No. 6 |                                                                             |          |
| 1.             | Digital transformation in healthcare                                        | 2        |
| 2.             | Electronic Document Management in healthcare and Health Information Systems | 2        |
| 3.             | Telehealth and robot automation                                             | 2        |
| 4.             | Digital health technologies                                                 | 2        |
|                | <b>Hours per semester total</b>                                             | <b>8</b> |

##### 4.2.2. Topics of Discipline Practical Classes and Academic Hours per Semester

| No. | Practical Class Topic | Hours |
|-----|-----------------------|-------|
|-----|-----------------------|-------|

|                |                                                                             |           |
|----------------|-----------------------------------------------------------------------------|-----------|
| 1              | 2                                                                           | 3         |
| Semester No. 6 |                                                                             |           |
| 1              | Digital transformation in healthcare                                        | 6         |
| 2              | Electronic Document Management in healthcare and Health Information Systems | 10        |
| 3              | Telehealth and robot automation                                             | 6         |
| 4              | Digital health technologies                                                 | 6         |
|                | <b>Hours per semester total</b>                                             | <b>28</b> |

#### 4.2.3. Independent Work of the Student

| No.            | Name of the Discipline Section                                              | Type of IW                                                                                                                  | Total Hours |
|----------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------|
| 1              | 3                                                                           | 4                                                                                                                           | 5           |
| Semester No. 6 |                                                                             |                                                                                                                             |             |
| 1              | Digital transformation in healthcare                                        | Working with educational literature, preparing for practical classes. Working with EER. Preparing for continuous assessment | 10          |
| 2              | Electronic Document Management in healthcare and Health Information Systems | Working with educational literature, preparing for practical classes. Working with EER. Preparing for continuous assessment | 8           |
| 3              | Telehealth and robot automation                                             | Working with educational literature, preparing for practical classes. Working with EER. Preparing for continuous assessment | 10          |
| 4              | Digital health technologies                                                 | Working with educational literature, preparing for practical classes. Working with EER. Preparing for continuous assessment | 8           |
|                | <b>Hours per semester total</b>                                             |                                                                                                                             | <b>36</b>   |

## 5. REQUIREMENTS FOR IMPLEMENTATION OF DISCIPLINE

### 5.1. Discipline Requirements for Educational Materials and Provided Information

#### Essential reading

| No. | Name/Title, Resource Type                                                                          | Author(s)/Editor                                                              | Publisher Imprint, Web Address                                                               | Number of Copies (accesses) in the Library and Information Center |
|-----|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1   | 2                                                                                                  | 3                                                                             | 4                                                                                            | 5                                                                 |
| 1   | Medical Electronics: Fundamentals of Biotelemetry: Textbook for Universities [Electronic resource] | V.P. Bakalov                                                                  | 2nd ed., corr. and add. - M.: Urait Publishing House, 2022. - 326 p.                         | Unlimited access                                                  |
| 2   | Medical Information Systems: Textbook [Electronic resource]                                        | T.G. Avacheva, M.N. Dmitrieva, N.V. Doroshina, O.A. Milovanova, E.A. Moiseeva | FSBEI HE RyazSMU of the Ministry of Health of Russia. - Ryazan: OOP UITT&OP, 2019. -- 132 p. | Unlimited access                                                  |

### Supplementary reading

| No. | Name/Title,<br>Resource Type                                                                                                     | Author(s)/Editor                                                                                                                   | Publisher Imprint, Web<br>Address                                                              | Number of<br>Copies<br>(accesses) in<br>the Library<br>and<br>Information<br>Center |
|-----|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1   | 2                                                                                                                                | 3                                                                                                                                  | 4                                                                                              | 5                                                                                   |
| 1   | Telemedicine<br>[Electronic resource]                                                                                            | A.V.<br>Vladzimirsky,<br>G.S. Lebedev                                                                                              | M.: GEOTAR-Media, 2018. -<br>576 p.                                                            | Unlimited<br>access                                                                 |
| 2   | Intelligent hardware-<br>software complexes for<br>information transmission in<br>telemedicine networks<br>[Electronic resource] | A.D. Korolev,<br>N.A. Korenevsky,<br>D.N. Kuznetsov,<br>Nguyen The<br>Cuong et al.;<br>edited by Yu.P.<br>Mukha, V.I.<br>Syryamkin | 2nd ed., corr. and add. - Tomsk:<br>Tomsk State University<br>Publishing House, 2019. - 360 p. | Unlimited<br>access                                                                 |

### Online resources

1. Electronic library system "Student Consultant" <http://studmedlib.ru/>
2. Electronic library system "University Library Online" <http://www.biblioclub.ru/>
3. Electronic library system "Urait" <https://urait.ru/>
4. Electronic library system "BookUp" <https://www.books-up.ru/>
5. Resources owned by the Library and Information Center of FSBEI HE PSMU of the Ministry of Health of Russia <https://tgmu.ru/university/bibliotechno-informacionnyj-centr/resursy-bic/sobstvennye/>

Online resources and respective user guides are available on the Library and Information Center website [Library and Information Center — PSMU \(tgmu.ru\)](http://tgmu.ru)



### 5.2. Discipline Requirements for Facilities and Resources

Information on the facility and resource availability and requirements of the discipline is available on the [Facility and resource availability and requirements. FSBEI HE PSMU of the Ministry of Health of Russia \(tgmu.ru\)](http://tgmu.ru) page of the official website of the university.



### 5.3. List of Information Technologies, Information and Reference Systems, Licensed and Free Software (Including Domestically-developed Software):

1. PolycomTelepresence M100 Desktop Conferencing Application (Videoconference system)
2. SunRav Software tTester
3. 7-PDF Split & Merge
4. ABBYYFineReader
5. Kaspersky Endpoint Security

6. INDIGO online testing system
7. Microsoft Windows 7
8. Microsoft Office Pro Plus 2013
9. 1C:University
10. GARANT system
11. MOODLE (Modular Object-Oriented Dynamic Learning Environment)

## **6. ASPECTS OF THE IMPLEMENTATION OF THE DISCIPLINE FOR STUDENTS WITH DISABILITIES AND SPECIAL NEEDS**

### **6.1. Availability of Accessible Environment**

For students with disabilities and special needs, if a written application is submitted, lectures and practical classes are carried out taking into account health limitations, individual capabilities and medical status (hereinafter referred to as individual characteristics) of the student. Compliance with the following general requirements is ensured: teaching aids for collective and individual use are provided, required technical assistance is provided by an assistant; buildings and premises where lectures and practical classes are taking place meet accessibility requirements, other arrangements lack of which makes it impossible or difficult to master the discipline are made.

### **6.2. Ensuring Compliance with General Requirements**

When lectures and practical classes are carried out at the written application of the student, the following general requirements are met: lectures and practical classes for students with disabilities and special needs take place at the same location as for students who do not have disabilities, if this does not cause difficulties for students; an assistant (assistants), who provide(s) students with the necessary technical assistance taking into account individual characteristics of the student, is (are) provided; necessary teaching aids are provided, taking into account individual characteristics of the student.

6.3. Availability of the Internal Policies and Procedures of FSBEI HE PSMU of the Ministry of Health of Russia to Students with Disabilities in a Format Accessible to Them.

All internal policies and procedures of FSBEI HE PSMU of the Ministry of Health of Russia concerning the discipline are made available to students with disabilities in a format accessible to them.

6.4. Increase in the Time Limit of Interim Assessment for Students with Disabilities and Special Needs in Relation to the Established duration

Format of the interim assessment of academic performance within the scope of the discipline conducted for students with disabilities and special needs is selected taking into account individual characteristics of the students (orally, by writing on paper, by typing on a computer, as a test, etc.). The duration of the interim assessment in relation to the established duration is increased at the written application of the student with disabilities. Time limit for the student's preparation for the test is increased by at least 0.5 hours.

## **7. STAFFING REQUIREMENTS OF THE DISCIPLINE**

Academic teaching personnel that ensure the implementation of the discipline education process meet the requirements of the Federal State Educational Standard of Higher Education for the 31.05.03 Dentistry for international students (in English) specialty; list of the aforementioned personnel is available on the website of the educational organization.



## 8. TUTORIAL WORK

| Type of tutorial work         | Forms and approaches to tutorial work                                                                                                                                                                                                                                 | Assessment criteria |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Assistance in personal growth | Overt<br>Talks and problem-centric debates aimed at promotion of healthy lifestyle.<br>Participation in interdepartmental conferences aimed at formation of healthy lifestyle and development of skills necessary to preserve and improve health.                     | Portfolio           |
|                               | Covert – creating atmosphere and infrastructure.<br>Developing a culture of healthy lifestyle, the ability to preserve and improve health.<br>Creating atmosphere of kindness and respect with a high level of communication during implementation of the discipline. |                     |
| Civic position and values     | Overt<br>Conducting events that facilitate development of civil culture (roundtable discussions, discussions/debates, and talks).<br>Short discussions on current significant events in case the latter occur.                                                        | Portfolio           |
|                               | Covert<br>Focusing on civic values-oriented position and legal awareness.<br>Cultivating mindful social position during professional activity.                                                                                                                        |                     |
| Social values                 | Overt<br>Highlighting aspects of organization of healthy lifestyle based on health-preserving technologies.<br>Highlighting ecology-related questions, environmental issues as a factor affecting population health and select population risks.                      | Portfolio           |
|                               | Covert<br>Identification in social structure during period of education and in professional activity.                                                                                                                                                                 |                     |