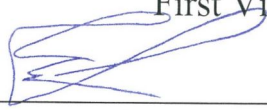


Документ подписан простой электронной подписью  
Информация о владельце:  
ФИО: Стегний Кирилл Владимирович  
Должность: И.о. ректора  
Дата подписания: 21.05.2026 15:26:22  
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Federal State Budget Educational Institution  
of Higher Education  
Pacific State Medical University  
of the Ministry of Health of the Russian Federation

APPROVED BY  
First Vice-Rector

  
/ Trankovskaya L.V./  
" 9 " *май* 2025

## DISCIPLINE WORK PROGRAM

### **Б1.О.39 Traumatology, orthopedics**

(name of discipline)

**Specialty**

**31.05.01 General Medicine  
for international students (in English)**

(code, name)

**Degree**

Specialist's degree

**Profile**

02 "Healthcare" (in the field of  
providing primary health care to the  
population in medical organizations:  
polyclinics, outpatient clinics,  
inpatient/outpatient facilities of the  
municipal health care system)

**Mode of study**

Full-time

**Period of mastering the BEP**

**6 years**

(nominal length of study)

**Institute**

of Surgery

Program of the discipline **Б1.О.39 Traumatology, orthopedics** is based on:

1) Federal State Educational Standard of Higher Education for the specialty approved by the Order No. 988 of Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020.

2) Curriculum for the 31.05.01 General Medicine for international students (in English), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system), 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 Surgery of the FSBEI HE PSMU of the Ministry of Health of Russia, under the guidance of the director of the institute, Doctor of Medical Sciences, Professor Kostiv E.P.

**Developed by:**

Professor

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(position held)

Doctor of Medical Sciences,  
Associate professor

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(academic degree, academic title)

Kostiv E.P.

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(full name)

Assistant professor

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(position held)

Candidate of Medical  
Sciences

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(academic degree, academic title)

Kostiva E.E.

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(full name)

## 1. GENERAL PROVISIONS

### 1.1. Purpose and Objectives of Mastering B1.O.39 Traumatology, orthopedics

The purpose of mastering the discipline is to acquire knowledge of examination methods in traumatology and orthopedics, symptoms of injury to the musculoskeletal system, orthopedic diseases, significance of the additional examination methods in making a diagnosis, methodology of clinical mindset, and methods of general clinical examination and analysis of its results; principles of preventing injuries, conservative and surgical treatment.

**Objectives** of mastering the discipline:

1. Acquire basic knowledge of the procedure and methods of examining a patient, significance of additional diagnostic methods, symptoms of injury to the musculoskeletal system, and classification of fractures;
2. Develop skills of patient examination methods in traumatology and orthopedics, ability to identify the main symptoms of injury or disease of the musculoskeletal system and make a diagnosis;
3. Acquire basic knowledge on determining the scope of necessary additional examination methods and analysing the results in order to diagnose injury or disease of the musculoskeletal system;
4. Acquire basic knowledge of the conservative and surgical treatment of injuries and diseases of the musculoskeletal system.

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

Discipline **B1.O.39 Traumatology, orthopedics** is included in the Mandatory part of the Unit 1 of the basic educational program for the specialty 31.05.01 General Medicine for international students (in English), profile 02 "Healthcare" (in the field of providing primary health care to the population in medical organizations: polyclinics, outpatient clinics, inpatient/outpatient facilities of the municipal health care system), and is part of the 10th and 11th semesters' curriculum

## 3. PLANNED LEARNING OUTCOMES OF THE DISCIPLINE

3.1. Mastering the discipline **B1.O.39 Traumatology, orthopedics** 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) / Labor function | Code and Name of competency of the graduate  | Competency Indicators   |
|--|--|---|
| <b>General Professional Competencies</b>             |  |   |
| Instrumental Diagnostics                             | GPC-4. Is able to use medical devices included in the healthcare guidelines, as well as perform medical examination to make a diagnosis  | CI.GPC-4 <sub>1</sub> - uses medical devices for diagnosis, treatment and rehabilitation in accordance with healthcare guidelines<br>CI.GPC-4 <sub>2</sub> - performs medical examination of a patient using basic and general clinical skills, laboratory tests and diagnostic procedures<br>CI.GPC-4 <sub>3</sub> - evaluates medical examination results in order to make a diagnosis                            |
| Medical rehabilitation                               | GPC-8. Is able to implement and monitor medical rehabilitation of a patient, including implementation of individual rehabilitation programs and habilitation programs for people with disabilities, as well as assess ability to work of a patient | CI.GPC-8 <sub>1</sub> - decides on the type of medical rehabilitation<br>CI.GPC-8 <sub>2</sub> - evaluates the results of rehabilitation measures, selects methods of monitoring the implementation of individual rehabilitation programs and habilitation programs for people with disabilities<br>CI.GPC-8 <sub>3</sub> - assesses the patient's ability to work, determines the duration of temporary disability |

| Professional Competencies  |   |   |
|--|---|---|
| A/01.7 Providing emergency or urgent medical care to the patient | PC-2 Ability and readiness to recognize urgent and life-threatening conditions in acute surgical pathology, traumatic conditions, diseases of the female genital organs and pregnancy requiring urgent and emergency medical care | CI.PC-2 <sub>1</sub> - has a grasp of life-threatening conditions in acute surgical pathology, traumatic conditions, pregnancy and childbirth, that require urgent and emergency medical care;<br>CI.PC-2 <sub>2</sub> - demonstrates skills and selects the tactics of patient management in infectious and noninfectious diseases requiring emergency and urgent medical care;<br>CI.PC-2 <sub>3</sub> - diagnoses life-threatening and emergency conditions in diseases of the organs of visual system and ENT organs, determines the tactics of patient management and providing emergency medical care |

3.2. Types of professional activity corresponding to competencies developed over the course of mastering **B1.O.39 Traumatology, orthopedics:**

Types of professional activity objectives

1. *Medical*

Kinds of professional activity objectives

1. *Diagnostics*

2. *Treatment*

3. *Rehabilitation*

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  |            |
|---|--------------------|------------|------------|
|   |                    | 10         | 11         |
|   |                    | hours      | hours      |
| 1   | 2                  | 3          | 4          |
| <b>Classroom hours (total), including:</b>              | <b>118</b>         | <b>74</b>  | <b>44</b>  |
| Lectures (L)  | 36                 | 20         | 16         |
| Practical classes (C)                                   | 82                 | 54         | 28         |
| <b>Independent work of the student (IW), including:</b> | <b>62</b>          | <b>34</b>  | <b>28</b>  |
| <i>Electronic educational resource (EER)</i>            | 8                  | 4          | 4          |
| <i>Preparing for classes (CP)</i>                       | 22                 | 16         | 6          |
| <i>Preparing for continuous assessment (CAP)</i>        | 24                 | 14         | 10         |
| <i>Preparation for interim assessment (IAP)</i>         | 8                  |            | 8          |
| Interim assessment                                      | 36                 |            | 36         |
| <b>Type of interim assessment</b>                       | pass/fail test (T) |            |            |
|   | exam (E)           | E          | E          |
| <b>TOTAL: TOTAL credit value</b>                        | hrs.               | <b>216</b> | <b>108</b> |
|   | credits            | <b>6</b>   | <b>3</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. 10 |   |           |
| 1.              | Subject and objectives of traumatology and orthopedics. History of traumatology. Organization of the trauma care in the Russian Federation. Examination methods in traumatology and orthopedics | 2         |
| 2.              | Bone tissue regeneration. Impaired fracture healing. False joint. Treatment of impaired fracture healing  | 2         |
| 3.              | Non-surgical and surgical methods of treating fractures. Urgent medical care  | 2         |
| 4.              | Fractures of the bones of the upper limbs. Anatomy, classification, clinical manifestation, diagnosis, treatment  | 2         |
| 5.              | Fractures of the bones of the lower limbs. Anatomy, classification, clinical manifestation, diagnosis, treatment  | 2         |
| 6.              | Injuries of the muscles, tendons, capsule and ligamentous structures, and peripheral nerves   | 2         |
| 7.              | Traumatic dislocations. Clinical manifestation, diagnosis, treatment  | 2         |
| 8.              | Spinal injuries. Anatomy, classification, clinical manifestation, diagnostics, treatment  | 2         |
| 9.              | Pelvic bone fractures. Classification, clinical manifestation, diagnostics, treatment   | 2         |
| 10.             | Polytrauma. Concomitant and multiple traumatic injuries. Multimodal injuries. Traumatic shock. Crush syndrome. Etiology, pathogenesis, clinical manifestation, and treatment                    | 2         |
|                 | <b>Hours per semester total</b>   | <b>20</b> |
| Semester No. 11 |   |           |
| 1.              | Wounds and wound infections. Sepsis, aerobic and anaerobic infection, tetanus. Surgical tactics. Prevention of rabies   | 2         |
| 2.              | Open and gunshot fractures. Chronic posttraumatic osteomyelitis. Surgical tactics   | 2         |
| 3.              | Amputation and prosthetics. Tumors of the bones and joints  | 2         |
| 4.              | Orthopedic pathology of the hand  | 2         |
| 5.              | Congenital orthopedic pathology in children. Congenital dislocation of the hip. Congenital clubfoot. Congenital muscular torticollis  | 2         |
| 6.              | Impaired posture. Scoliosis. Osteochondropathies. Chondrodysplasias   | 2         |
| 7.              | Acquired orthopedic diseases in adults. Osteoarthritis. Structural (static) foot deformities  | 2         |
| 8.              | Rehabilitation and medical examination in accident victims and patients with long-term effects of injuries and diseases of the musculoskeletal system   | 2         |
|                 | <b>Hours per semester total</b>   | <b>16</b> |

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

| No.             | Practical Class Topic   | Hours |
|-----------------|---|-------|
| 1               | 2   | 3     |
| Semester No. 10 |   |       |
| 1               | Subject and objectives of traumatology and orthopedics. History of traumatology. Organization of the trauma care in the Russian Federation. Examination methods in traumatology and orthopedics | 6     |
| 2               | Bone tissue regeneration. Impaired fracture healing. False joint. Treatment of impaired fracture healing.<br>Non-surgical and surgical methods of treating fractures. Urgent medical care       | 6     |

|                 |   |           |
|-----------------|---|-----------|
| 3               | Fractures of the bones of the upper limbs. Anatomy, classification, clinical manifestation, diagnosis, treatment  | 6         |
| 4               | Fractures of the bones of the lower limbs. Anatomy, classification, clinical manifestation, diagnosis, treatment  | 6         |
| 5               | Injuries of the muscles, tendons, capsule and ligamentous structures, and peripheral nerves. Traumatic dislocations. Clinical manifestation, diagnosis, treatment               | 6         |
| 6               | Spinal injuries. Anatomy, classification, clinical manifestation, diagnostics, treatment. Pelvic bone fractures. Classification, clinical manifestation, diagnostics, treatment | 6         |
| 7               | Open injuries of bones and joints. Surgical tactics. Wounds and wound infections. Sepsis, aerobic and anaerobic infection, tetanus  | 6         |
| 8               | Polytrauma. Classification. Aspects of clinical manifestation and progression. Treatment. Ischemic injury of the limbs. Amputation and prosthetics                              | 6         |
| 9               | Polytrauma-induced disease. Shock. Etiology and pathogenesis. Main treatment principles. Crush syndrome. Etiology and pathogenesis. Main treatment principles                   | 6         |
|                 | <b>Hours per semester total</b>   | <b>54</b> |
| Semester No. 11 |   |           |
| 1               | Congenital orthopedic pathology in children. Congenital dislocation of the hip. Congenital clubfoot. Congenital muscular torticollis  | 6         |
| 2               | Impaired posture. Scoliosis. Osteochondropathies. Chondrodysplasias   | 6         |
| 3               | Acquired orthopedic diseases in adults. Osteoarthritis. Structural (static) foot deformities  | 6         |
| 4               | Tumors of the bones. Amputations and prosthetics  | 6         |
| 5               | Rehabilitation and medical examination in accident victims and patients with long-term effects of injuries and diseases of the musculoskeletal system. Disability examination   | 4         |
|                 | <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. 10 |                                |   |             |
| 1               | Fractures                      | Written report on the results of the independent work; practical skills demonstration; working with mini case studies, educational videos, interactive modules; preparing for continuous assessment | 4           |
| 2               | Specialized traumatology       | Written report on the results of the independent work; practical skills demonstration; working with mini case studies, educational videos, interactive modules; preparing for continuous assessment | 24          |
| 3               | Wound infection                | Written report on the results of the independent work; practical skills demonstration; working with mini case studies, educational videos, interactive modules; preparing for continuous assessment | 6           |

|                 |                                 |   |           |
|-----------------|---------------------------------|---|-----------|
|                 | <b>Hours per semester total</b> |   | <b>34</b> |
| Semester No. 11 |                                 |   |           |
| 1               | Congenital orthopedic pathology | Written report on the results of the independent work; practical skills demonstration; working with mini case studies, educational videos, interactive modules; preparing for continuous assessment | 14        |
| 2               | Acquired orthopedic pathology   | Written report on the results of the independent work; practical skills demonstration; working with mini case studies, educational videos, interactive modules; preparing for continuous assessment | 14        |
|                 | <b>Hours per semester total</b> |   | <b>28</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   | Traumatology and Orthopedics Textbook. Manual for Universities [Electronic resource] - 2nd edition, revised and expanded | Kolomiets A.A., Raspopova E.A.              | - M.: Publishing house : Urait, 2024 – 236 p. - EBS "Urait"   | Unlimited access  |
| 2   | Traumatology and Orthopedics: Textbook [Electronic resource] - 2nd edition, revised                                      | Kotelnikov G.P., Lartsev Yu.V., Ryzhov P.V. | Moscow: GEOTAR- Media, 2021 - 560 p. URL: <a href="http://www.studentlibrary.ru">http://www.studentlibrary.ru</a> | Unlimited access  |
| 3   | Traumatology and Orthopedics: Textbook [Electronic resource] / - 4th edition, revised and expanded                       | Edited by N.V. Kornilov and A.K. Dulaev     | Moscow: GEOTAR-Media, 2020 - 656 p. URL: <a href="http://www.studentlibrary.ru">http://www.studentlibrary.ru</a>  | Unlimited access  |

#### Supplementary 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   | Military Field Surgery of Local Wars and Armed Conflicts: A Guide [Electronic resource] | Edited by Gumanenko E.K. and Samokhin I.M. | 2011 - 672 p. URL: <a href="http://www.studentlibrary.ru">http://www.studentlibrary.ru</a> | Unlimited access  |
| 2   | Orthopedics: Reference Guide  | Cherkashina                                | M.: LLC «Publishing House  | Unlimited   |

|   |  |                               |   |                     |
|---|--|-------------------------------|---|---------------------|
|   | [Electronic resource]  | Z.A.                          | “Medical Information Agency”,<br>2024 – 728 p. – EBS “Medlib”   | access              |
| 3 | Traumatology and Orthopedics:<br>Textbook [Electronic resource] -<br>3rd edition, revised and expanded | edited by<br>Kornilov<br>N.V. | Moscow: GEOTAR-Media 2018<br>- 592 p. URL:<br><a href="http://www.studentlibrary.ru">http://www.studentlibrary.ru</a> | 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://tgmru.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 \(tgmru.ru\)](http://Library and Information Center — PSMU (tgmru.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 \(tgmru.ru\)](http://Facility and resource availability and requirements. FSBEI HE PSMU of the Ministry of Health of Russia (tgmru.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 31.05.01 General Medicine 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).   | Portfolio           |

|               |   |           |
|---------------|---|-----------|
|               | <p>Short discussions on current significant events in case the latter occur.</p> <p>Covert<br/>Focusing on civic values-oriented position and legal awareness.<br/>Cultivating mindful social position during professional activity.</p>  |           |
| Social values | <p>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.</p> <p>Covert<br/>Identification in social structure during period of education and in professional activity.</p> | Portfolio |