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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" июня 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

Vladivostok, 2025

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	Doctor of Medical Sciences, Associate professor	Kostiv E.P.
(position held)	(academic degree, academic title)	(full name)
Assistant professor	Candidate of Medical Sciences	Kostiva E.E.
(position held)	(academic degree, academic title)	(full name)

1. GENERAL PROVISIONS

1.1. Purpose and Objectives of Mastering Б1.О.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 **Б1.О.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 **Б1.О.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**
General Professional Competencies		
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_1- uses medical devices for diagnosis, treatment and rehabilitation in accordance with healthcare guidelines CI.GPC-4_2- performs medical examination of a patient using basic and general clinical skills, laboratory tests and diagnostic procedures CI.GPC-4_3- 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_1- decides on the type of medical rehabilitation CI.GPC-8_2- evaluates the results of rehabilitation measures, selects methods of monitoring the implementation of individual rehabilitation programs and habilitation programs for people with disabilities CI.GPC-8_3- 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_1- has a grasp of life-threatening conditions in acute surgical pathology, traumatic conditions, pregnancy and childbirth, that require urgent and emergency medical care; CI.PC-2_2- demonstrates skills and selects the tactics of patient management in infectious and noninfectious diseases requiring emergency and urgent medical care; CI.PC-2_3- 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 **Б1.О.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
Classroom hours (total), including:		**118**	**74**	**44**
Lectures (L)		36	20	16
Practical classes (C)		82	54	28
Independent work of the student (IW), including:		**62**	**34**	**28**
Electronic educational resource (EER)		8	4	4
Preparing for classes (CP)		22	16	6
Preparing for continuous assessment (CAP)		24	14	10
Preparation for interim assessment (IAP)		8		8
Interim assessment		36		36
Type of interim assessment	pass/fail test (T)			
	exam (E)	E		E
TOTAL: TOTAL credit value	hrs.	**216**	**108**	**108**
	credits	**6**	**3**	**3**

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
	Hours per semester total	**20**
	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
	Hours per semester total	**16**

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. 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
	Hours per semester total	**54**
	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
	Hours per semester total	**28**

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

	Hours per semester total		**34**
	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
	Hours per semester total		**28**

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: http://www.studentlibrary.ru	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: http://www.studentlibrary.ru	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: http://www.studentlibrary.ru	Unlimited access
2	Orthopedics: Reference Guide	Cherkashina	M.: LLC «Publishing House	Unlimited

	[Electronic resource]	Z.A.	“Medical Information Agency”, 2024 – 728 p. – EBS “Medlib”	access
3	Traumatology and Orthopedics: Textbook [Electronic resource] - 3rd edition, revised and expanded	edited by Kornilov N.V.	Moscow: GEOTAR-Media 2018 - 592 p. URL: http://www.studentlibrary.ru	Unlimited 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)

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)" 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 Talks and problem-centric debates aimed at promotion of healthy lifestyle. 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. Developing a culture of healthy lifestyle, the ability to preserve and improve health. Creating atmosphere of kindness and respect with a high level of communication during implementation of the discipline.	
Civic position and values	Overt Conducting events that facilitate development of civil culture (roundtable discussions, discussions/debates, and talks).	Portfolio

	Short discussions on current significant events in case the latter occur.	
	Covert Focusing on civic values-oriented position and legal awareness. Cultivating mindful social position during professional activity.	
Social values	Overt Highlighting aspects of organization of healthy lifestyle based on health-preserving technologies. Highlighting ecology-related questions, environmental issues as a factor affecting population health and select population risks.	Portfolio
	Covert Identification in social structure during period of education and in professional activity.	