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MINISTRY OF SCIENCE AND HIGHER EDUCATION

RUSSIAN FEDERATION

Federal State Autonomous Educational Institution of Higher Education

NORTH-CAUCASUS FEDERAL UNIVERSITY

APPROVED

Assoc. Prof. Kubanov S.I.

PhD in Medical Sciences

Dean

Faculty of Medicine and Biology

COURSE OUTLINE OF THE DISCIPLINE (MODULE)

«Traumatology, Orthopedics»

Name of the discipline (module)

- Specialty: 31.05.01 General Medicine
- Mode of training: Full-time
- Year of commencement of studies: 2026
- Delivered in Semester: 9,10

Developed by:

Associate Professor of the Department of Surgery,

Orthopedics and Traumatology,

Cand. Sci. (Med.), Associate Professor

position

S.I. Kubanov

full name

Stavropol 2026

1. Aim and Objectives of Mastering the Discipline (Module)

- The aim of mastering the discipline is to train students in modern concepts of the theoretical and practical sections of this field of medicine; to teach students, based on knowledge of examination methods for orthopedic and traumatological patients, to correctly establish a diagnosis, and to develop proficiency in mastering practical skills in providing care to victims with injuries.
- Objectives of mastering the discipline: Acquisition of modern professional knowledge in the following sections: features of organizing medical care during mass and sports events, in emergency situations, and during peacetime disasters; features of providing first aid and conducting resuscitation measures for victims of road traffic injuries; clinical symptoms of injuries to the musculoskeletal system, chest, abdominal cavity, pelvic cavity, head, and cranial cavity; modern methods of diagnosis and treatment of injuries and diseases of the musculoskeletal system.

2. Place of the Discipline (Module) in the Structure of the Training (educational) Program

The discipline «Traumatology, Orthopedics» belongs to the compulsory part of the curriculum.

3. List of Potential Learning Outcomes for the Discipline (Module), Correlated with the Outcomes of Mastering the Educational Program

Code and definition of the competence	Code and definition of the indicator	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
PC-3. Able to identify the main pathological conditions, symptoms, syndromes of diseases, and nosological forms in a patient in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th Revision.	IA-1 PC-3. Able to construct an algorithm and select criteria for identifying the main pathological conditions, syndromes, and diseases in patients of various profiles in accordance with the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). IA-2 PC-3. Identifies the main pathological symptoms and syndromes, and formulates a clinical diagnosis in accordance with ICD-10.	Formation of clinical reasoning. Acquisition of specialized medical skills and their application in practical healthcare.
PC-6. Ready to determine the necessity of applying natural therapeutic factors, medicinal and non-pharmacological therapy, and other methods in patients requiring medical rehabilitation and sanatorium-	IA-2 PC-6. Determines medical indications for conducting medical rehabilitation measures, including when implementing an individual program of rehabilitation or	Acquisition of specialized medical skills and their application in practical healthcare.

resort treatment.	habilitation for persons with disabilities, in accordance with the current procedures for providing medical care, clinical guidelines (treatment protocols) on the provision of medical care, taking into account the standards of medical care.	
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4. Volume of the Academic Discipline (Module) and Control *

Volume of classes: Total: 5 ECTS credits, 180 academic hours.	Full-time type of study, in academic hours
Face-to-face work	110
Lectures / including practical training	32
Practical classes / including practical training	78/24
Independent work	34
Forms of control	
Examination	36

* The discipline (module) provides for the use of e-learning and remote learning technologies (unless otherwise set by the educational standard).

5. Content of the Discipline (Module), Structured by Topics (Sections) with an Indication of the Hours and Types of Classes

#	Section (topic) of the discipline and brief content	Competen- cies and indicators to be developed	Full-time training				Forms of current control of academic progress
			Contact work of students with the teacher / of them practical skills training, hours			Independent work, hours	
			Lectures	Practical classes	Laboratory work		
9th semester							

1	Symptomatology and Semiotics of Traumatological Patients. Methods of Examination. Conservative Methods of Treatment. ??. Anamnesis, Inspection, Palpation, Percussion, Assessment of Function. ??. X-Ray Diagnostics. 3. Measurement of Length, Circumference, and Muscle Strength.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)
2	Operative Methods of Treatment of Injuries. ??. Classification of Operations on Bones and Joints. ??. Indications and Contraindications to the Operative Method of Treatment. 3. Types of Skin Grafting.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)
3	Fractures of the Femur. Intra-Articular Injuries of the Knee Joint. ??. Classification, Diagnosis, and Methods of Treatment of Femoral Neck and Femoral Shaft Fractures. 2. Classification, Clinical Picture, Diagnosis, and Methods of Treatment of Intra-Articular Injuries of the Knee Joint.	IA-2 PC-3 IA-2 PC-6	2	4		2	Interview (discussion)
4	Fractures of the Clavicle, Scapula, Sternum, and Ribs. Possible Complications. Injuries of the Shin Bones, Ankle Joint, and Foot Bones. ??. Classification, Clinical Picture, Diagnosis of Fractures of the Clavicle, Scapula, Sternum, and Ribs, and Their Treatment. ??. Treatment of Complications of Rib Fractures. 3. Clinical Picture, X-Ray Diagnostics, Methods of Treatment of Fractures of the Shin, Ankle Joint, and Foot.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)
5	Fractures of the Humerus, Forearm Bones, and Hand Bones. Injuries of the Tendon Apparatus of the Hand. ??. Classification, Clinical Picture, and Diagnosis of Fractures of the Proximal and Distal Ends of the Humerus. ??. Clinical Picture and Diagnosis of Fractures of the Forearm Bones. ??. X-Ray Diagnostics, Treatment of Fractures of the Hand Bones. 4. Diagnosis of Tendon Injuries.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)

6	Fractures of the Pelvic Bones and Spine. Multiple and Combined Injuries. Traumatic Disease. ???. Classification, Clinical Picture, Diagnosis of Injuries. 2. Main Methods of Treatment of Fractures of the Spine and Pelvis.	IA-2 PC-3 IA-2 PC-6	2	4		2	Interview (discussion)
7	Traumatic Dislocations of the Musculoskeletal System. ???. Classification, Clinical Picture, Diagnosis. 2. Methods and Techniques of Reduction of Dislocations of the Hip, Shoulder, Forearm, and Clavicle.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)
8	Amputation and Prosthetics. Orthopedics. Congenital Deformities of the Osteoarticular Apparatus. Spinal Deformities. ???. Indications for Amputation, Types of Amputations, Techniques. ???. Classification. Prosthetics of the Upper and Lower Extremities Using Orthopedic Devices. 3. Congenital Hip Dislocation, Congenital Muscular Torticollis, Winging Scapula, Amniotic Bands.	IA-2 PC-3 IA-2 PC-6	2	4		2	Interview (discussion)
9	Osteochondropathies. Systemic Diseases and Skeletal Deformities. Deforming Osteoarthritis. Spinal Osteochondrosis. 1. Classification, Clinical Picture, Diagnosis, and Treatment of Chondrodystrophy, Dyschondroplasia, Arthrogryposis, Fibrous Osteodysplasia, Osteogenesis Imperfecta, Endocrine and Alimentary Osteodystrophies.	IA-2 PC-3 IA-2 PC-6	2	4/2		2	Interview (discussion)
	TOTAL in Semester		18	36/12		18	
10th semestr							
10	Bone Tumors. Diseases and Deformities of the Feet. Spastic and Flaccid Paralysis. ???. Classification, Clinical Picture, Diagnosis, and Treatment of Tumor-Like Formations of Bone, Cartilage, and Soft Tissue Origin. 2. Principles of Treatment of Bone Tumors.	IA-2 PC-3 IA-2 PC-6	2	6/2		2	Interview (discussion)

11	Military Field Surgery. Stages of Medical Evacuation of the Wounded and Injured. Gunshot Wounds and Their Treatment at the Stages of Medical Evacuation. ?? History of the Development of Military Field Surgery. ?? Medical Evacuation and Triage of the Wounded. 3. Classification of Gunshot Wounds, Clinical Picture, Diagnosis, and Treatment at the Stages of Medical Evacuation.	IA-2 PC-3 IA-2 PC-6	2	6/2		4	Interview (discussion)
12	Injuries of Blood Vessels. Blood Loss. Blood Transfusion in War. Gunshot Injuries of the Upper Extremity. 1. Types of Bleeding, Diagnosis, and Clinical Picture of Acute Blood Loss. 2. Methods of Temporary and Definitive Hemorrhage Control. 3. Classification, Clinical Picture, Diagnosis of Upper Extremity Wounds, and Their Treatment at the Stages of Medical Evacuation.	IA-2 PC-3 IA-2 PC-6	2	6/2		2	Interview (discussion)
13	Wound Infection, Its Prevention and Treatment at the Stages of Medical Evacuation. Gunshot Injuries of the Lower Extremities. ?? Clinical Picture and Diagnosis of Purulent Infection. ?? Indications for Secondary Surgical Debridement. ?? General and Local Therapeutic Measures. ?? Complications: Abscess, Fistulous Tracts, Phlegmons, Osteomyelitis, Sepsis, Lymphangitis, Lymphadenitis. 5. Principles of Treatment.	IA-2 PC-3 IA-2 PC-6	2	6		2	Interview (discussion)
14	Traumatic Shock and Prolonged Compression Syndrome, Their Treatment at the Stages of Medical Evacuation. ?? Concept of Traumatic Shock and Prolonged Compression Syndrome. ?? Classification and Phases of the Course of Traumatic Shock and Prolonged Compression Syndrome. 3. Clinical Picture, Prevention, and Treatment at the Stages of Medical Evacuation.	IA-2 PC-3 IA-2 PC-6	2	6/2		2	Interview (discussion)

15	?? Injuries of the Chest, Abdomen, and Pelvis, and Their Treatment at the Stages of Medical Evacuation. ?? Classification of Closed Injuries and Wounds of the Chest. ?? Clinical Picture, Diagnosis, and Treatment of Chest Injuries at the Stages of Medical Evacuation. 4. Early and Late Complications, Their Prevention.	IA-2 PC-3 IA-2 PC-6	2	6/2	2	Interview (discussion)
16	Organization of Medical Care for the Wounded and Injured at the Stage of the Medical Aid Post (Trauma Center). Basic Principles of Treatment and Rehabilitation of Patients with Traumatological and Orthopedic Profile in Outpatient Settings (Trauma Center). ?? Intrapoint and Evacuation-Transport Triage at the Medical Aid Post. 2. Possible Terms of Treatment of Patients with Consequences of Injuries.	IA-2 PC-3 IA-2 PC-6	2	6/2	2	
	TOTAL in Semester		14	42/12	16	
	TOTAL		32	78/24	34	

6. Assessment Tools Fund for the Discipline (Module)

The assessment tools fund (ATF) for the discipline (module) «Traumatology, Orthopedics» is based on the list of competencies to be mastered, indicating the stages of their formation in the process of mastering the discipline (module). The ATF provides an objective control over the achievement of the planned learning outcomes. The ATF includes:

- A description of indicators and criteria for evaluating competencies at various stages of their formation, a description of evaluation scales;
- Methodological materials determining the procedures for evaluating knowledge, skills, abilities and (or) work experience characterizing the stages of competency formation;
- Standard control tasks and other materials necessary for assessing knowledge, skills, and the level of mastery of the formed competencies in the process of mastering the discipline (module).

The ATF is an appendix to this discipline (module) program.

7. Methodological Guidelines for Students on Mastering the Discipline

When starting work, each student must take into account the following provisions.

The discipline (module) is structured on a thematic principle; each topic represents a logically completed section.

The lecture material is dedicated to the consideration of key, basic provisions of the courses and the clarification of learning tasks assigned for the independent work of students.

Practical classes are conducted with the aim of consolidating the mastered information, acquiring skills for its application in solving practical problems in the relevant subject area.

Laboratory works are aimed at gaining practical experience in the relevant subject area.

The independent work of students is aimed at the independent study of additional material, preparation for practical and laboratory classes, as well as the execution of all types of independent work.

In order to successfully master the discipline, it is important to complete all types of independent work employing the recommended sources of information.

8. Educational, Methodological, and Informational Support for the Discipline

8.1. List of Main and Additional Literature Required for Mastering the Discipline (Module)

8.1.1. List of Main Literature:

1. Zhidkova O. I. Travmatologiya i ortopediya [Traumatology and Orthopedics] [Electronic resource]: uchebnoe posobie. 2nd ed. Saratov: Nauchnaya kniga, 2019. 158 p. ISBN 978-5-9758-1794-5. Available at: <http://www.iprbookshop.ru/80994.html> (in Russian).
2. Anan'yeva O. V., Bondarenko D. A., Gradovich V. V. et al. Polnyy spravochnik travmatologa [Complete Reference Book of a Traumatologist] [Electronic resource]. Saratov: Nauchnaya kniga, 2019. 734 p. ISBN 978-5-9758-1840-9. Available at: <http://www.iprbookshop.ru/80217.html> (in Russian).

8.1.2. List of Additional Literature:

1. Zhulikov L. A. Kontrol'nye testovye zadaniya po distsipline «Travmatologiya i ortopediya» [Control Test Tasks in the Discipline "Traumatology and Orthopedics"] [Electronic resource]: uchebnoe posobie. Volgograd: VolgGMU, 2019. 88 p. Available at: <https://e.lanbook.com/book/141182> (in Russian).
2. Fishkin A. V. Spravochnik. Travmatologiya [Handbook. Traumatology] [Electronic resource]. Saratov: Nauchnaya kniga, 2019. 319 p. ISBN 978-5-9758-1875-1. Available at: <http://www.iprbookshop.ru/80218.html> (in Russian).

8.2. List of Educational and Methodological Support for the Independent Work of Students in the Discipline (Module)

1. Uchebno-metodicheskoe posobie: Metodicheskie ukazaniya dlya obuchayushchikhsya po organizatsii i provedeniyu samostoyatel'noy raboty po distsipline «Travmatologiya, ortopediya» [Study Guide: Methodological Instructions for Students on Organizing and Conducting Independent Work in the Discipline "Traumatology, Orthopedics"]. Stavropol: SKFU, 2026.
2. Uchebno-metodicheskoe posobie: Metodicheskie ukazaniya po vypolneniyu laboratornykh rabot po distsipline «Travmatologiya, ortopediya» [Study Guide: Methodological Instructions for Performing Laboratory Work in the Discipline "Traumatology, Orthopedics"]. Stavropol: SKFU, 2026.

8.3. List of Resources of the Information and Telecommunications Network **Internet Required for Mastering the Discipline (Module)**

1. <http://rudocor.net/> — Medical Portal
2. <http://www.e-reading.club/> — Large Online Library
3. <https://dic.academic.ru/> — Dictionaries and Encyclopedias
4. <https://roszdravnadzor.gov.ru/> — Federal Service for Surveillance in Healthcare (Roszdravnadzor)
5. <https://www.rmj.ru/> — Russian Medical Journal
6. <http://www.pubmed.com/> — Database of Full-Text Articles on Medicine

9. List of Information Technologies Employed through the Discipline (Module), Including a List of Software and Information Reference Systems

When delivering lectures, computer equipment and demonstrations of multimedia presentation materials are used. In seminars and practical classes, students deliver presentations prepared by them during the hours of independent work.

Information Reference Systems:

Information-reference and information-legal systems used in the study of the discipline:

1.	Electronic Library System "University Library Online" — www.biblioclub.ru (Contract No. 50-04/19 on the Provision of Information Services dated 13.05.2019)2.
2.	"eLIBRARY.RU": [Scientific Electronic Library]. — URL: http://elibrary.ru
3	Information and Legal Portal "Garant" — http://www.garant.ru/
4.	Reference and Legal System "Russian Legislation and Judicial Practice" in Free Access — http://www.pravo.ru/
5.	Electronic Library System "IPRbooks" (License Agreement No. 5168/19 dated 13.05.2019 for the provision of access to the electronic library system IPRbooks. Organization: IPR Media Company LLC)

Software:

1.	Alt Workstation 10
2.	Alt Workstation K
3.	Alt Server
4.	Office software package – P7-Office

10. Description of the Material and Technical Resources Required for the Educational Process for the Discipline (Module)

Lecture classes	A classroom equipped with multimedia equipment and technical training facilities.
Laboratory classes	
Practical classes	A classroom, equipped with multimedia equipment and technical training facilities.
Independent work	A room for the independent work of students, equipped with computer hardware with the capability to connect to the Internet network and provide access to the electronic information and educational environment of the university.
Practical training	Carried out in the structural subdivisions of the university and (or) in organizations engaged in activities matching the profile of the respective training program, including its structural subdivision.

11. Specific Features of Mastering the Discipline (Module) by Persons with Disabilities

Students with disabilities shall be provided with special textbooks, teaching aids, and didactic materials, special technical training facilities for collective and individual use, the services of an assistant (helper) providing the necessary technical assistance to the students, as well as the services of sign language interpreters and tactile sign language interpreters.

The mastery of the discipline (module) by students with disabilities may be organized jointly with other students, as well as in separate groups.

Mastering the discipline (module) by students with disabilities is to be carried out taking into account the peculiarities of psychophysical development, individual capabilities, and health status.

In order to ensure the accessibility of higher education under the educational program for persons with disabilities, the following is provided during the mastery of the discipline (module):

- 1) for persons with visual impairments:
 - the presence of an assistant offering the student the necessary technical assistance, taking into account individual features (help taking the workplace, moving around, reading and formatting the task, including writing under dictation),
 - written tasks, as well as instructions on the procedure for their execution, are formatted in an enlarged font,
 - special textbooks, teaching aids, and didactic materials (having a large font or audio files),individual uniform lighting of at least 300 lux,
if necessary, a magnifying device is provided to the student to complete the task;
- 2) for persons with hearing impairments:
 - the presence of an assistant providing the student with the necessary technical assistance, taking into account individual characteristics (helps to take a workplace, move around, read and format the task, including writing with dictation),
 - the availability of sound-amplifying equipment for collective use is ensured; if necessary, sound-amplifying equipment for individual use is provided to the student;
 - provision with proper sound means of reproducing information is ensured;
- 3) for persons with musculoskeletal disorders (including severe motor function impairments of the upper limbs or the absence of upper limbs):
 - written tasks are performed on a computer with specialized software or are dictated to an assistant;
 - at the request of the student, tasks may be performed verbally.

12. Specific Features of Implementing the Discipline with the Use of Distance Learning Technologies and E-Learning

Subject to Part 1 of Article 16 of the Federal Law of December 29, 2012, No. 273-FZ On Education in the Russian Federation, e-learning shall be viewed as the arrangement of educational activities employing information contained in databases and used in the implementation of educational programs, as well as information technologies, technical means, and information and telecommunication networks that ensure the processing and transmission of the specified information via communication lines, and the interaction of students and pedagogical workers.

Remote (distance) learning technologies are understood as educational technologies implemented mainly with the use of information and telecommunication networks during the indirect (at a distance) interaction of students and pedagogical workers.

The implementation of the discipline may be carried out with distance learning technologies and e-learning in full or in part. The components of the Educational And Methodological Complex (EMC) of the discipline (working program of the discipline, assessment and methodological materials, forms of attestation) implemented with the use of distance learning technologies and e-learning contain an indication of their use.

When arranging educational activities with distance learning technologies and e-learning, asynchronous and synchronous methods of interaction between participants in educational relations via the information and telecommunications network Internet may be offered.

When using distance learning technologies and e-learning, the schedule for the discipline shall indicate: methods of interaction among participants in educational relations via the information and telecommunications network Internet (VCC – videoconferencing, ET – electronic testing); links to the electronic information and educational environment of NCFU, to educational platforms and resources of other organizations to which open access is provided via

the information and telecommunications network Internet; for synchronous learning – the time of online classes and instructors; for asynchronous learning – the authors of online courses.

When arranging intermediate attestation with distance learning technologies and e-learning, the Methodological Recommendations on the use of technical means ensuring the objective reliability of results when conducting intermediate and state final attestation for higher education educational programs – Bachelor's Degree programs, Specialist's Degree programs, and Master's Degree programs with distance learning technologies are used (Letter of the Ministry of Science and Higher Education of Russia dated December 7, 2020, # MN-19/1573-AN On sending methodological recommendations).

The implementation of the discipline with the use of e-learning and distance learning technologies is carried out using the electronic information and educational environment of NCFU, to which students are provided access via the information and telecommunications network Internet, or using the resources of other organizations, including platforms providing services for videoconferencing, online meetings, and distance learning (MTS-Link), as well as using the capabilities of social networks to carry out communication between students and instructors.

The educational and methodological support for a discipline shall be ensured with e-learning and distance learning technologies includes the working program presented in electronic form, educational and methodological manuals or a course of lectures, methodological guidelines for performing various types of educational activities of students provided for by the discipline, and other educational and methodological materials posted in the information and educational environment of NCFU.