MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION OF THE REPUBLIC OF UZBEKISTAN
MINISTRY OF HEALTH CARE OF THE REPUBLIC OF UZBEKISTAN

DEPARTMENT OF TRAUMATOLOGY, ORTHOPEDICS, MILITARY FIELD SURGERY, NEUROSURGERY, ANESTHESIOLOGY AND EMERGENCY MEDICINE

«CONFIRMED»
Deputy Director for
Academic Affairs
_____ Y.B.Gulyamov
"31" 08 " 2022

Field of knowledge: 500000 Health care and social security

Education: 510000 Healthcare

Field of study: 5510100 General medicine

WORKING CURRICULUM OF THE SCIENCE

IV course

Total study hours are	213
including:	
Lecture	18
Practical training	108
hours of independent study	87

Termez – 2022

The working curriculum of the subject was prepared on the basis of the subject program "Traumatology and Orthopedics. Children's Traumatology and Orthopedics" approved by Appendix 1 of the order of the Ministry of Health of the Republic of Uzbekistan No. 107 dated April 25, 2019.

Developers:

A.B.Bolgayev	Head of the department "Traumatology-orthopedics, military field surgery, neurosurgery, anesthesiology and emergency medical care" of Tashkent Medical Academy, Termiz branch, Ph.D.
Y.B. Gulyamov	Associate Professor of the Department of "Traumatology-orthopedics, military field surgery, neurosurgery, anesthesiology and emergency medical care", Tashkent Medical Academy, Termiz branch, Ph.D.
N.R. Ishburiyev	Assistant of the department "Traumatology-orthopedics, military field surgery, neurosurgery, anesthesiology and emergency medical care" of Tashkent Medical Academy, Termiz branch.
Y.U. Joynarov	Assistant of the department "Traumatology-orthopedics, military field surgery, neurosurgery, anesthesiology and emergency medical care" of Tashkent Medical Academy, Termiz branch.

Reviewers:

M.Y.Karimov	Head of the department "Traumatology-orthopaedics, HDJ and neurosurgery" of TTA, Ph.D., professor.
M.Y.Jumayev	Head of the Department of "Otolaryngology, Ophthalmology, Oncology and Medical Radiology" of TTA Termiz branch, Ph.D.

The working curriculum of the subject was reviewed at the department of "Traumatology-orthopedics, military field surgery, neurosurgery, anesthesiology and emergency medical care" and recommended to the branch council.

The working curriculum of the subject was discussed and approved at the branch council. (Declaration No. 1 of "31" 08 of 2022.)

Head of department: **A.B.Bolgayev**

No. 2, dean of the "Treatment" faculty: **N.J.Sagirayev**

Head of the educational method department: **M. I. Bozorova**

INTRODUCTION

In this program "Traumatology and Orthopedics. "Children's traumatology and orthopedics" science content, subject and method, essence, its purpose and tasks, medical and organizational basis of organization of health care activities of the Republic of Uzbekistan, qualification requirements for traumatology specialty, logical sequence from the point of view reflected. "Traumatology and Orthopedics" is aimed at forming students' theoretical and practical knowledge of topical issues of traumatology and orthopedics

1. The goals and tasks of science

"Traumatology and orthopedics. The main goal of the "Children's Traumatology and Orthopedics" science is to train students to organize trauma prevention and traumatological-orthopedic care on the basis of theoretical, practical, and organizational knowledge and practical skills, to correctly diagnose patients, primary medicine, and specialized medical consists of forming theoretical and practical knowledge on providing assistance.

The task of science is to its students:

- Basics of organization of traumatological and orthopedic care in the Republic of Uzbekistan;
- to train students in methods of examination, diagnosis and treatment of musculoskeletal injuries and diseases, as well as restoration of working capacity and social rehabilitation.
- formation of professional clinical thinking skills necessary for a traumatologist-orthopedic doctor.
- requirements for the knowledge, skills and practical skills of traumatology-orthopedics students.

Requirements for imagination, knowledge, skills and abilities of students in science

A bachelor in the process of mastering "Traumatology and Orthopedics" subjects:

- the goals and tasks of the science, its importance for the professional activity of traumatologists-orthopedic doctors, the history of the development of traumatology-orthopedics, traumatism and its types, reparative regeneration of bone tissue, modern principles of treatment of diseases and injuries of the

musculoskeletal system, anatomy of the musculoskeletal system and physiology, classification of fractures and dislocations, modern methods of treatment of injuries and diseases of the musculoskeletal system, know and use the etiology, pathogenesis and treatment of common orthopedic diseases;

- transport immobilization in case of damage to the musculoskeletal system, anesthesia of the fractured and dislocation site, novocaine blockades, repositioning of bone fragments in uncomplicated fractures, correction of protrusions, preparation and placement of plaster bandages, in open fractures should have the skills to perform primary surgical treatment of a wound, puncture joints and pleural space, pass a needle for skeletal traction and determine the necessary load;

- independent work on scientific and educational literature, examination of patients with injuries and diseases of the musculoskeletal system, identification of fractures and protrusions by clinical signs, diagnosis of typical congenital and acquired deformities, reading radiographs, diagnosis Must have the skills to express, write a medical history, test, and solve situational tasks.

Interrelationship of the subject with other subjects in the curriculum and methodological coherence

"Normal Anatomy", "Pathological Anatomy", "Topographic Anatomy and Operative Surgery", "Normal and Pathological Physiology", "General Surgery", "Neurology", "Nur Diagnostics", "Pharmacology" ” subjects are required to have knowledge and skills.

The role of science in science and production

"Traumatology and Orthopedics" has not lost its relevance in modern times, taking into account the increase in injuries among the population due to the development of scientific technology and natural disasters. It is of great importance that the students become experts in the treatment of these diseases and their consequences by teaching these subjects. In addition, it is noted that the first emergency medical care is mainly the responsibility of the first link of modern medicine, and taking into account that the general practitioner is involved in it, these disciplines occupy the main place in the health care system.

Modern information and pedagogical technologies in teaching science

- It is important for the student to use innovative methods of education, to apply new pedagogical, information and Internet technologies in mastering the subjects of "Traumatology and Orthopedics". It is recommended to use educational

and methodological support (textbook, educational and methodological manuals, module tasks) in mastering the subject. Various methods and tools can be used in lectures and practical sessions, in particular, brainstorming, cluster, practical work and didactic games, portfolio, case-study, as well as computer programs and Internet systems.

Methodological guidelines for the teaching of academic subjects.

The purpose of training students in the field of traumatology and orthopedics is to teach the diagnosis, clinic, and treatment of injuries during traumas in the training of a general practitioner (GP).

The following requirements are set for the knowledge, skills and qualifications of students in science.

Duties:

- Basic principles of treatment of fractures and dislocations;
- Main views of plaster bandages;
- The technique of placing a plaster bandage on the shoulder joint;
- Thoracobrochial plaster banding technique;
- The technique of putting a plaster bandage with a boot;
- The technique of putting a plaster bandage with a boot using a deratator;
- The technique of putting a plaster bandage on the upper boot;
- Spike-type plaster dressing technique;
- Dezo-type plaster dressing technique.

A bachelor in the process of mastering the science of traumatology and orthopedics:

- about the science of traumatology-orthopedics;
- classification of traumas;
- the concept of traumatism;
- the main content - the essence of providing the necessary medical assistance to the injured;
- types of medical assistance during injuries;
- prevent injuries;
- should know the rehabilitation of injured patients.

In addition to these, a bachelor's degree:

- providing medical assistance to the injured;
- examining the injured;
- conducting clinical examinations: palpation, auscultation, etc.
- make a diagnosis based on complaints, anamnesis and clinical examinations;
- to determine the extent of movement of injured areas;
- X-ray image interpretation;
- to inform patients about their injuries;
- must have the skills to provide medical assistance to injured patients.

2. Lecture sessions

1- table

№	Lecture topics	Lesson hours volume
1	Introduction to the science of traumatology and orthopedics. History of science in the world and in Uzbekistan. Traumatism, classification and prevention. Occupational diseases of musculoskeletal system. Principles of modern examination and treatment of traumatological and orthopedic patients. Reparative regeneration of bone tissue.	**2**
2	Chest and shoulder girdle injuries. Hand injuries: traumatic injuries of the shoulder, wrist and hand.	**2**
3	Pelvic bones and spine injuries.	**2**
4	Injuries of the leg: femur, knee joint, tibia, ankle and foot.	**2**
5	Traumatic shock. Polytrauma. Open fractures. Complications of trauma.	**2**
6	Congenital and acquired deformations of the musculoskeletal system. Measures taken to prevent congenital and acquired deformations of the musculoskeletal system.	**2**
	Total	**12**

Lectures are held in an auditorium equipped with multimedia devices for the flow of academic groups.

3. Practical training

2- table

№	Subject of training	Hour
1	Diagnosing fractures and dislocations of the musculoskeletal	4

	system. First aid. Transport immobilization.	
2	Closed reposition of limb fractures. Gypsum technique (Working in plasterboard). Body drawer with skeleton and leucoplast.	4
3	Reparative regeneration of bone tissue.	4
4	Chest and shoulder girdle injuries.	4
5	Shoulder bone and shoulder joint injuries. Shoulder bone protrusions.	4
6	Injuries to the bones of the wrist and elbow. Protrusions of the bones of the wrist. Palm - finger injuries. Perilunar exits.	4
7	Spine injuries.	6
8	Pelvic fractures. Femoral injuries. Protrusions of the femoral head.	6
9	Injuries of the knee joint: injuries of the menisci and ligaments, dislocation of the knee cap.	6
10	Injuries to the lower leg, ankle joint, and leg. Foot claw protrusions.	6
11	Polytrauma. Traumatic shock.	6
12	Degenerative-dystrophic diseases of the spine: etiology, pathogenesis, classification, clinic, diagnosis, modern treatment methods.	6
13	Degenerative-dystrophic and inflammatory joints diseases: etiology, pathogenesis, classification, clinic, diagnosis, modern treatment methods.	6
14	Congenital protrusions of the hip bone, congenital curvature of the etiology, pathogenesis, classification, clinic, diagnosis, modern treatment methods.	6
15	Delayed bone fracture healing and false joints.	6

16	Paw deformities and diseases. Flat feet. Mycorrhizal disease: etiology, pathogenesis, classification, clinic, diagnosis, modern treatment methods.	6
17	Scoliosis: clinic, classification and treatment. Deformations of the ankle.	6
18	Rehabilitation of traumatological and orthopedic patients and prosthesis.	6
	Total	**96**

Practical training is held separately for each academic group in classrooms adapted for practical training organized on the basis of branch clinical bases. Classes are held using active and interactive methods.

In the process of teaching traumatology and orthopedics, modern methods of education, pedagogical and information and communication technologies are used:

The following pedagogical technologies are used in order to improve the educational process and increase the mastery rate:

- "cat in a bag"
- "who is bigger and who is faster?"
- "weak line"
- "round table"

Along with this, didactic technology will be held.

It is used in the educational process:

- educational videos;
- educational computer programs;
- test and mastering programs;
- X-ray speed, mulaj.

4. Independent education

Suggested freelance work topics:

3-table

№	Suggested freelance work topics:	Lesson hours volume
1	Folkman's ischemic contracture	6
2	Amputation, prosthetic work and rehabilitation of the disabled	6
3	Hematogenous osteomyelitis.	6
4	Characteristics of bone injuries in children.	6
5	Dupuytren's contracture.	6
6	Joint contracture and ankylosis.	6
7	Systemic diseases of bones and joints.	6
8	Arthrogryposis.	6
9	Osteochondropathies.	6
10	Damage to the tendons of fingers and toes	6
11	Children with cerebral palsy.	6
12	Static deformation of the paw	6
13	Scoliosis.	6
	Total	**78**

Independent study topics are mastered by students outside of the classroom and are taken into account in current subject assessments. Abstracts are prepared by students on topics to be mastered independently and their presentation is organized. Independent works are carried out in the form of various cases, situational problems and crosswords in the module system.

Recommended educational and methodological resources for organizing

independent education: manuals, literature, photographs, phantoms, dummies, simulators, equipment, tables, teaching and control tests, computer programs, clinical evening shifts for subjects, volunteering, working in simulation centers, etc.

- independent work is conducted in the audience and outside the audience.
- The following forms are used to organize a student's independent work:

- in addition to classroom training, practical skills confirmed in simulators, simulators and simulation halls/centers are performed under the supervision of a pedagogue in terms of quantity and quality and reflected in practical skills mastering notebooks;

- implementation of proven practical skills in the clinical duty organized outside the auditorium in medical higher education institutions clinics and clinical educational bases under the supervision of the doctor-pedagogue on duty in terms of quantity and quality and reflected in the duty notebooks;

- participation in patient care with the attending physician or duty nurse;

- conducting interviews and lectures on sanitary bleaching among the population;

- independent mastering of some theoretical topics with the help of educational literature;

- preparation of information (abstract) on the given topic;

- work and give lectures on special or scientific literature (monographs, articles) on sections or topics of the module;

- solving situational problems focused on situational and clinical problems;

- solving CASE (case-study based on real clinical situations and clinical situations).

- making models, making crosswords, making organizers, etc.

5. List of practical skills:

From traumatology-orthopaedics:

1. Kramer bandage technique for fractures;
2. Dietrich's bandage technique for fractures;
3. Harnessing technique;
4. Place an aseptic bandage on open wounds;
5. Checking the function of the joints;
6. Anesthetizing the broken branch;
7. Putting on a chance collar;
8. Orthopedic examination of the musculoskeletal system;
9. Installation of a body drawer in the case of fractures of the shin bones;

10. Transport immobilization technique in spinal injuries;
11. Transport immobilization technique in pelvic injury;
12. Intercostal blockade technique;
13. Installation of a body drawer in femoral fractures.
14. Installation of a body drawer in cases of vertebral fractures.

From the field of pediatric traumatology:

1) Examination of an orthopedic patient
2) The method of providing first aid for a fracture of the shoulder bone
3) Identify Gunther's triangle and line.

In practical training, the process of teaching practical skills is planned in detail and includes several stages:

1. The first stage - based on the goals and tasks of the training, the motivational basis for learning the practical skill is determined, and its theoretical aspects are discussed. Students will be introduced to the working mechanism and rules of use of the tools necessary for the implementation of practical skills.

For the implementation of the first stage, the department must have all the equipment and be in working order.

2. The second stage is to demonstrate practical skills and practice many times. A step-by-step algorithm of practical skills for the implementation of this stage is demonstrated by the pedagogue and through video films, special attention is paid to the correct execution of each stage based on the algorithm. Students learn practical skills independently, but under the supervision of a teacher, on dummies, simulators, phantoms and mannequins, and students practice many times with each other. At the beginning, all stages are allowed to be used on the patient after being able to perform them completely and correctly in the case of generalization (imitation training).

For the implementation of the second stage, a step-by-step algorithm and video film of practical skills developed by the department, a teaching-methodical manual, a scheme or technique, etc., evaluation criteria should be developed. There should be bicycles, simulators, phantoms and mannequins, imitators, equipment, and the necessary conditions (modeled as close to working conditions as possible) should be created. At this stage, the pedagogue monitors and, if necessary, corrects errors in the work of students. In this process, the student's actions can be videotaped, shown to him, and critically discussed. The student explains to the teacher and other students what his mistake is and then repeats the process. Interactivity is manifested in the fact that other students participate in acting as experts and evaluating the student's correct mastery of the practical skill. It is desirable to bring practical skills up to the level of automatism.

3. The third stage is the application of the learned knowledge and practical skills to the patient. At this stage, the student is taught to apply the acquired knowledge and practical skills in various clinical situations (including emergency situations), to analyze the obtained results and to determine the tactics of action based on this information under the supervision of a pedagogue.

For the implementation of the third stage, educational and methodical manuals, photographs, a set of case studies and tests, cases, clinical protocols, diagnostic and treatment standards, teaching case histories and outpatient cards, etc., developed by the department. should be used. Interactivity is manifested in the fact that other students participate not only in acting as experts and evaluating the correct mastery of practical skills of the student being taught, but also in working in a team.

4. The fourth stage is the conclusion. At this stage, the pedagogue must make sure that the student can correctly and completely apply the knowledge and skills acquired by the student in different situations and in the process of activity, and then it is considered that practical skills have been mastered.

For the implementation of the fourth stage, the student's independent work with the patient is monitored by the pedagogue, and evaluated when he defends the medical documents and medical history.

At the end of the lesson, the teacher confirms that each student has mastered practical skills. In cases where the student is unable to master the practical skills, it is recommended to master them independently outside of the training and re-submit to the pedagogue. A student is considered to have mastered the subject by mastering all practical skills.

6. Methodological instructions for the organization of course work

Coursework in science is not planned in the model curriculum.

7. Instructions for organizing laboratory work

Science laboratory work is not planned in the sample curriculum.

IX. STUDENTS' KNOWLEDGE ASSESSMENT AND CONTROL CRITERIA.

Students' learning and knowledge is monitored by a five-point system during daily practice sessions, intermediate and final inspections.

1.“ Traumatology and orthopedics. Current evaluation criteria of practical training in children's traumatology and orthopedics (CC).

Assessment of students' knowledge of science, since it is a clinical department, will consist of assessment of theoretical and practical knowledge.

4- table

Grade	Mastery (%) and points	The student's level of knowledge
Excellent «5»	90 — 100	The subject knows the clinical anatomy, physiology, and morphology of the nervous system, can make a topical diagnosis of disorders of the examined system. He knows the practical skills of the training topic. The situational problem in the topic correctly solves the test questions.
Good «4»	70 — 89,9	The subject knows the clinical anatomy, physiology, and morphology of the nervous system, can make a topical diagnosis of disorders of the examined system. He knows the practical skills of the training topic. The situational problem in the topic allows for slight errors when solving the test questions.
Satisfactory «3»	60 — 69,9	He knows the anatomy, clinical anatomy, physiology, and morphology of the nervous system in the subject, he knows superficially the disorders of the examined system. Topic cannot make a diagnosis. Makes mistakes when performing practical skills on the subject of training. The situational problem in the topic allows for gross errors when solving the test questions.
not satisfied «2»	0 — 59,9	The student has not mastered the science program, does not understand the essence of the subject of neuroscience and does not have an idea about the subject of the science

Transferring the assessment from a 5-point scale to a 100-point scale

SCHEDULE

5 Rating scale	100-point scale	5-point scale	100-point scale	5-point scale	100-point scale
5,00 — 4,96	100	4,30 — 4,26	86	3,60 — 3,56	72
4,95 — 4,91	99	4,25 — 4,21	85	3,55 — 3,51	71
4,90 — 4,86	98	4,20 — 4,16	84	3,50 — 3,46	70
4,85 — 4,81	97	4,15 — 4,11	83	3,45 — 3,41	69
4,80 — 4,76	96	4,10 — 4,06	82	3,40 — 3,36	68
4,75 — 4,71	95	4,05 — 4,01	81	3,35 — 3,31	67
4,70 — 4,66	94	4,00 — 3,96	80	3,30 — 3,26	66
4,65 — 4,61	93	3,95 — 3,91	79	3,25 — 3,21	65
4,60 — 4,56	92	3,90 — 3,86	78	3,20 — 3,16	64
4,55 — 4,51	91	3,85 — 3,81	77	3,15 — 3,11	63
4,50 — 4,46	90	3,80 — 3,76	76	3,10 — 3,06	62
4,45 — 4,41	89	3,75 — 3,71	75	3,05 — 3,01	61
4,40 — 4,36	88	3,70 — 3,66	74	3,00	60
4,35 — 4,31	87	3,65 — 3,61	73	**less than 3.0**	**Less than 60**

2. Traumatology and orthopedics. Children's traumatology and orthopedics

type of control and assessment criteria

"Traumatology and orthopedics. Children's traumatology and orthopaedics 4th-year medical faculty students submit intermediate control (written) during the cycle, final control at the end of the cycle in OSKE+Test forms.
Conducting intermediate and final types of control, as well as evaluating students' knowledge is carried out by a commission organized by the head of the relevant department.

The composition of the commission is formed from professors and teachers of relevant subjects and experts in the field.

IX. Basic and additional educational literature and information sources

Main literature:

Х.А.Мусалатова, Г.С.Юмашева. Травматология и ортопедия. Учебник для студентов медицинских ВУЗов.– Ташкент. Медицина. 2005 г.

1. Jalilov L.M. Bolalar travmatologiyasi. Darslik. - Toshkent."IQTISOD-MOLIYA" 2002 y.

Additional literature:

1. Г.М.Кавалерский, А.В.Гаркави. Травматология и ортопедия. Учебник. - Москва. Издательский центр «Академия». 2013 г.
2. А.В. Каплан. Повреждения костей и суставов. Монография– Москва «Книга по Требованию». 2012 г.
3. Н.В.Корнилов, Грязнухин Э.Г. Травматология и ортопедия. Руководство в 4 томах. Санкт-Петербург. Издательство «Гиппократ». 2008 г.
4. А.А.Герасимов. Руководство к практическим занятиям по травматологии-ортопедии. Екатеринбург. ГОУ ВПО УГМА Росздрава, 2008 г.
5. Г.П.Котельников, С.П Миронов. Травматология. Национальное руководство. Москва. ГЭОТАР-Медиа, 2008 г.
6. К.Букуп. Клиническое исследование костей, суставов и мышц. – Москва. Медицинская литература, 2007 г.
7. Г.П.Котельников, С.П Миронов. Травматология и ортопедия. Учебник. Москва. ГЭОТАР-Медиа. 2006 г.
8. Анкин Л.Н. Анкин НЛ. Практическая травматология. Европейские стандарты диагностики и лечения. Москва. Книга плюс. 2002 г.
9. Г.Д.Никитин, А.В.Рак, С.А.Линник. Хирургические лечение остеомиелита. – Монография. Москва. Медицина, 2000 г.
10. А.А.Пушков. Сочетанная травма. Учебник. Ростов-на-Дону: Издательство «Феникс», 1998 г.
11. А.Ф. Краснов., В.М.Аршин. Травматология. Справочник. Ростов-на-Дону: Издательство «Феникс», 1998 г.
12. А.И. Ашкенази Хирургия кистевого сустава. – Руководство. Москва. Издательство «Медицина», 1990 г.
13. Волков М.В. Болезни костей у детей. – Монография. Москва. Медицина, 1985 г.
14. И.А.Мовшович Оперативная ортопедия. – Руководство для врачей. Москва. Медицина. 1983 г.
15. Г.Д.Никитин, Э.Г.Грязнухин. Множественные и сочетанные переломы костей. – Монография. Ленинград. Медицина. 1983 г.
16. А.Ф. Краснов, В.Ф.Мирошниченко. Амбулаторная травматология. Учебное пособие. Куйбышев. КГМИ. 1983 г.

17.В.В.Лебедев, В.П.Охотский, Н.Н.Каншин. Неотложная помощь при сочетанных травматических повреждениях. – Руководство. Москва. Медицина. 1980 г.

Websites:

1. www: travma.ru,
2. www.histol chuvashia.com.; donhist. fromru.com.; medmir.ru;
3. www.molbiol.ru;
4. www.pediatrica.ru; sdo.psu.edu.ru; histology narod.ru;
5. http://medic.med.uth.tmc.edu/Lecture/Main/Griff5.htm;
6. http://library.ttatf.uz
7. https://t.me/TTATF_elektron_kutubxonasi