

MINISTRY OF HIGHER AND SECONDARY SPECIAL EDUCATION OF
THE REPUBLIC OF UZBEKISTAN MINISTRY OF HEALTH CARE OF THE
REPUBLIC OF UZBEKISTAN
TEMIZ BRANCH OF TASHKENT MEDICAL ACADEMY

DEPARTMENT OF OTOLARYNGOLOGY, OPHTHALMOLOGY
ONCOLOGY AND MEDICAL RADIOLOGY



WORKING STUDY MODULE PROGRAM OF THE SCIENCE OF
MEDICAL RADIOLOGY

3- COURSE

Field of knowledge: 500000 - Health and social care

Field of education: 510000 - Health care

Areas of education: 5510100 – General medicine

Termez 2022

The working curriculum of the module was prepared on the basis of the "Medical radiology" module program approved by the order of the Ministry of Health of the Republic of Uzbekistan No. 121 of June 4, 2021 (Appendix 1 of the order).

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The working module program of medical radiology was reviewed at the department of "Ophthalmology, otolaryngology, oncology and medical radiology" and recommended to the branch council.

(Declaration No. 20 08)

The working module program of medical radiology was discussed and approved by the branch council.

(Declaration No. 30 08)

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The relevance of the educational module and its role in higher education.

The module program was created based on the State Education Standard of the Republic of Uzbekistan and the qualification requirements of the undergraduate education. On the basis of this program, applying modern pedagogical technologies to the teaching process, teaching the student from theoretical knowledge to basic practical skills in phantoms, and independently diagnosing patients while combining the acquired skills with clinical practice through modern medical technologies and creates grounds for acceptance. At the end of the program's goals and objectives, the student will become a general practitioner with mature, competitive, independent clinical thinking skills by clinically combining the knowledge and practical skills acquired in the horizontal and vertical integration processes. This module covers medical biology and genetics, biophysics, medical and biological chemistry, human anatomy, physiology, histology and immunology, microbiology and parasitology, internal medicine, allergology, clinical immunology, phthisiology, clinical pharmacology, surgical diseases and emergency medicine. help is based on the acquired knowledge from neurosurgery.

The medical radiology module is included in the category of clinical sciences, and it is taught to 3-4 year students in all medical undergraduate education courses. This program covers the physical basis of medical radiology methods, radiobiology, the principles of imaging in various radiological methods, the role of radiodiagnosis methods in the examination of various organs and systems, the basics and algorithm of radiological diagnosis, the history and development of radiodiagnosis, and its prospects. In the case of general practitioners, radiodiagnosis provides the basis for the correct selection of methods, comparison of results with clinical and other examinations, determination of radiological signs of diseases and correct expression.

1.1. The purpose and tasks of the educational module

Purpose of the module - to teach a general practitioner (bachelor) the theoretical and practical basis of radiodiagnosis methods, including information on indications and contraindications for radiological methods, sonography, computer tomography, magnetic resonance tomography and radionuclide methods.

Functions of the module:

- to give an understanding of light diagnosis and therapy;
- determining indications and contraindications for examination and treatment with light;
- to know the advantages and disadvantages of each light method;
- correct and optimal selection of light methods;
- to be able to see widespread locomotor system, lungs, heart and blood vessels, digestive organs, nerves, endocrine pathological syndromes using light methods;
- promotion of a healthy lifestyle;
 - study the basics of medical image analysis.

2.3 To the knowledge, skills and qualifications of students by module requirements

At the end of the 6th semester:

Student:

- organization of preventive fluorographic and other public examinations in different population groups;
- filling out a patient's referral to a radiologist or light therapist;
- proper preparation of the patient for examination or treatment;
- determine the size and sequence of radiological examinations together with the radiologist (taking into account the informativeness, harmfulness, cost and availability of the methods);
- to independently have an idea of the type of examinations (images), projections, analysis of the main anatomical structures in X-ray, angiogram, computer, magnetic resonance tomogram, sonogram and scintigram;
- musculoskeletal system;
- determination of indications for examination of respiratory organs, cardiovascular, digestive, endocrine systems by light methods;
- making a referral for light diagnosis;
- must know and be able to use the examination method, projection and the examined anatomical area;
- identification of the main anatomical structures (structures and landmarks) in the images of the lungs, heart, gastrointestinal tract, musculoskeletal system, liver and biliary tract, kidney and urinary tract, endocrine and nervous system;
- should be able to identify and use the main light syndromes in diseases of the chest, abdominal cavity, retroperitoneal area, pelvis, nervous and locomotor system;

List of competencies (name, code) acquired during the module:

- UK 1. To have the ability to think abstractly, analyze and synthesize phenomena;
- UK 2. The ability to use the foundations of philosophical knowledge to form a worldview;
- UK 3. Ability to act in non-standard situations, readiness to take social and moral responsibility for the decisions made;
- UK 4. Willingness to self-development, understanding, study, use of creativity
- UK 5. Willingness to use first aid techniques and protective methods in emergency situations;
- UKK 1. Information, bibliographic sources,
- readiness to solve the basic requirements of biomedical terminology, information and communication technologies and information security;
- UKK 2. Willingness to communicate orally and in writing in Russian and foreign languages to solve problems in professional activity;
- UKK 3. Preparation for maintaining medical documents;

- UKK 4. In solving professional problems. readiness to use drugs and their combinations for medical purposes;

- UKK 5. Willingness to organize primary medical care for patients and provide primary medical and sanitary care;

- UKK 6. Readiness to use the medical devices provided for providing medical care.

The main part

Module structure

3.1. Module loading and types of educational work

Semester	Total load size	Lecture (hours)	Practical training (hours)	Laboratory training (hours)	Clinical training practice (hours)	Independent education (hour)	Type and form of control	Credits the number
6	108	10	24	4	32	38	Control type: ON Form: written	3
Total:								3

3.2. Lectures

№	Topics of lectures	Size of hours	Competencies code that must be acquired
6-semester			
1.	Light diagnostic methods (x-ray, MSCT). Radiological examination methods (roentgenography, roentgenoscopy, fluorography, digital roentgenography, simple tomography).	2	UK (1-6), UKK (1-5)
2.	Light diagnostic methods (UZD, MRI).	2	UK (1-6), UKK (1-5)
3.	Light diagnosis of diseases of the musculoskeletal system. Diseases of the musculoskeletal system (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography), their advantages and disadvantages, indications.	2	UK (1-6), UKK (1-5)
4.	Radiodiagnosis of lung and chest cavity diseases. Examination of diseases of the lungs and chest cavity	2	UK (1-6), UKK (1-5)

	with light methods (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography), their advantages and disadvantages, indications. Light anatomy of lung and thoracic cavity. X-ray syndromes of lung diseases.		
5.	Radiodiagnosis of diseases of the lung and chest cavity is spherical darkening syndrome (parasitic cysts, tuberculoma, peripheral lung cancer, bronchial adenoma, hamartoma, spherical pneumonia, metastases, extrapulmonary structures).	2	UK (1-6), UKK (1-5)
Total:		10	

Organization of lecture classes (form, type, equipment, etc.)

It is held for the flow of academic groups in auditoriums equipped with multimedia devices.

2.1. Topics of practical training in the module, general instructions and recommendations for organization:

Organization of practical (laboratory) training

№	Topics of practical training	Size of hours		Practical skills that must be acquired (number in the list)	Required competencies (code)	Educational methodological support
		Practical training	Laboratory training			
6-semester						
1	History of light diagnosis methods.	4		№1	UK (1-5), UKK (1-6)	
2	Advantages and disadvantages of light diagnostic methods. Laboratory work: Methodology of X-ray film screening	2	2	№1	UK (1-5), UKK (1-6)	Roentgenogram, negetoscope, UTT apparatus
3	Advantages and disadvantages of radiological examination methods. Laboratory work: Methodology of X-ray film screening	2	2	№1	UK (1-5), UKK (1-6)	Roentgenogram, negetoscope, UTT apparatus

4	Advantages and disadvantages of UTT inspection methods.	4		№1	UK (1-5), UKK (1-6)	UTT device
5	Advantages and disadvantages of computer tomography examination methods.	4		№1	UK (1-5), UKK (1-6)	CT film, negetoscope
6	Advantages and disadvantages of magnetic resonance imaging methods.	6		№1	UK (1-5), UKK (1-6)	MRI film
7	Methods of diagnosis of musculoskeletal system diseases (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography).	6		№2	UK (1-5), UKK (1-6)	X-ray, negetoscope
8	Advantages and disadvantages of methods of diagnosis of diseases of the musculoskeletal system, indications (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography).	6		№2	UK (1-5), UKK (1-6)	X-ray, negetoscope,
9	Methods of light examination of diseases of the lung and chest cavity (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography).	6		№3	UK (1-5), UKK (1-6)	X-ray, negetoscope,
10	Methods of examination of diseases of the lung and chest cavity with light (x-ray, radionuclide scintigraphy, sonography, CT, MRI, angiography), their advantages and disadvantages, indications.	6		№3	UK (1-5), UKK (1-6)	X-ray, negetoscope
11	Examination tactics in polytrauma, thoracic cavity, small pelvis trauma	6		№1	UK (1-5), UKK (1-6)	X-ray, negetoscope
12	Examination tactics in polytrauma, thoracic cavity, small pelvis trauma	4				X-ray, negetoscope

2.1.1. Module training consists of 50% theoretical (lecture and practical training) and 50% practical part (educational clinical practice). The theoretical and practical part of the practical training will be held in parallel.

2.1.2. General instructions and recommendations for organizing practical training:

Practical training is given by one teacher to one academic group in an auditorium equipped with multimedia devices.

The following didactic principles are followed during practical training:

- To clearly determine the purpose of practical training;
- Getting students used to the possibilities of deepening knowledge on the innovative pedagogical activity of the teacher;
- Provide the student with the opportunity to obtain the result independently;
- Preparing the student from a theoretical and methodological point of view, etc.

Practical skills and competencies acquired during the training of the module:

During the module, students will be able to make an outpatient diagnosis and treatment plan, carry out rehabilitation measures, divide into dispensary and preventive groups, distinguish and sort the methods of light diagnosis used in emergency care. Must have the skills to evaluate screening, triage critical patients and provide emergency care.

List of practical skills acquired during the module:

During the educational (clinical) practice, students are expected to master the following practical skills.

3.4. Practical skills

№	Name of practical skills	Necessary supplies (equipment) for performing practical skills
1	Analysis of the results obtained in light inspection methods.	X-ray film, negetoscope
2	Compilation of an algorithm for examination of diseases of the bone and joint system based on the results of light examination methods (data in the history of the disease).	X-ray film, negetoscope
3	Compilation of an algorithm for the examination of respiratory system diseases based on the results of radiological examination methods (information in the history of the disease).	X-ray film, negetoscope

Algorithm for step-by-step implementation of practical skills (in the case of covering the algorithm of large-scale practical skills, this work program can be presented in the

form of an appendix)

4. Independent education and independent work

4.1. Subjects of independent education

No	Subjects of independent education	Size of hours	Competencies
2-semester			
1	Physical and technical basis of light therapy.	4	UK (1-5), UKK (1-6)
2	Effect of ionizing rays on biological tissues.	6	UK (1-5), UKK (1-6)
3	Dosimetric assessment of the energy of absorbed rays. Distribution of different rays in the human body.	6	UK (1-5), UKK (1-6)
4	Light therapy methods. Radiation therapy technique. Biological basis of light therapy.	6	UK (1-5), UKK (1-6)
5	Biological effect of ionizing rays.	6	UK (1-5), UKK (1-6)
6	Light therapy of tumors and other diseases.	6	UK (1-5), UKK (1-6)
7	Effect of ionizing rays on cells.	4	UK (1-5), UKK (1-6)
Total		38	

1.1. Recommended forms of independent work:

Independent work recommended for the medical radiology module is carried out in different ways in the module system:

- preparation of information (abstract) on a given topic;
- work and give lectures on special or scientific literature (monographs, articles) on sections or topics of the module;
- preparation of scientific articles, conference abstracts;
- solving situational problems oriented to situational and clinical problems;
- case solving (on the basis of real clinical situations and clinical situations);
- development and completion of graphic organization;
- creating and solving crosswords;
- preparation of presentations and videos, as well as extensive use in independent work, etc.

General instructions and recommendations for organizing independent education and independent work:

Independent work on the medical radiology module is conducted in the auditorium and outside the auditorium.

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 books of practical skills acquisition;

- on the basis of the list approved in the clinical duty organized outside the auditorium in the clinics of medical higher education institutions and clinical training bases

carrying out and conducting curation of standardized patients (patients) under the supervision of the doctor-pedagogue on duty, writing analysis of drug treatment and reflecting it in duty notebooks;

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

- participation in curation of patients with the treating or duty doctor;

- promoting a healthy lifestyle among the population, conducting conversations and lectures about the principles of feeding children depending on their age and health;

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

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

- working and lecturing on special or scientific literature (monographs, articles) on sections or topics of the module;

- solving situational problems oriented to situational and clinical problems;

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

- making models, making crossword puzzles, making organizers, etc.

General instructions and recommendations for the organization of educational (clinical) practice during the module:

Clinical practice of students in the "Medical radiology" module makes up 50% of the educational process. In practical training, the process of teaching practical skills is planned in detail and includes several stages:

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

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

2. The second stage is to demonstrate practical skills and practice many times. In order to implement this stage, step by step algorithm of practical skills is demonstrated by the pedagogue and through video films, special attention is paid to the correct execution of the step by step based on the algorithm. Students learn practical skills independently, but under the supervision of a teacher, practicing many times on dummies, simulators, phantoms and mannequins. At the beginning, all stages

are allowed to be slaved in the patient after being able to perform them completely and correctly in the case of generalization (imitation training).

In order to implement the second stage, a step-by-step algorithm and video film of practical skills developed by the department, a teaching-methodical guide, 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 controls and, if necessary, corrects the mistakes in the students' work. In this process, the student's actions can be videotaped, shown to himself, and critically discussed. The student explains to the teacher and other students what his mistake is and then repeats the procedure. Interactivity is manifested in the fact that other students take part in acting as experts and evaluating the correct mastery of practical skills by the student being taught. It is desirable to bring practical skills up to the level of automatism.

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

For the implementation of the third stage, educational and methodical manuals, photos, situational problems and test sets, cases, clinical protocols, diagnostic and treatment standards, educational medical 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 should be sure that the student can correctly and completely apply the knowledge and acquired skills to patients, in various situations, 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, he is evaluated when he defends the medical documents and medical history.

At the end of the training, the teacher confirms that each student has mastered practical skills. In situations where the student is unable to master the practical skills, it is recommended to independently master them outside of the training and hand them over to the pedagogue. The student is considered to have mastered the module if he has mastered all practical skills.

Course work on the medical radiology module is not planned.

Types of monitoring and evaluation of students' knowledge by module criteria

Information about the types of control and assessment criteria for the medical radiology module will be announced to students in the first session of the module.

The following types of control are carried out in order to ensure that the level of mastery of the students in the module is in accordance with the State educational standards:

- current control (JN);
- intermediate control (ON);
- final control (YAN)

The student earns 6.5 credits allocated to the module during JN.

CURRENT CONTROL (CC)

In the current supervision, it is envisaged to determine and evaluate the level of acquisition of knowledge, practical skills and competencies of the student on module topics. In the medical radiology module, JN oral, teaching-control tests, working with handouts, situational problems, studying information on working with dummies and phantoms, performing practical skills step by step, working with patients, writing a clinical audit, homework assignments and other such forms can be lost.

In the assessment, the student's level of knowledge, mastering of practical training materials, the level of activity of participation in the discussion of theoretical material and interactive methods of education, as well as the level of mastering of practical knowledge and skills, acquisition of competencies (that is, theoretical, analytical and practical approaches) are taken into account.

All students must be evaluated in each session. The maximum score is 100, the passing score is 55.

In the current supervision, students' knowledge based on the educational model is carried out in the following stages: theoretical and practical part (50:50).

The 6.5 credits allocated for current supervision are distributed by semesters as follows:

- 6th semester - 3.0 credits
- Current supervision - 3.0 credits;
- Intermediate control - 0 (mandatory)
- 7th semester - 3.5 credits
- Current supervision - 3.5 credits;
- Final control - 0 (mandatory to pass)

After collecting the specified credits in 6 semesters, the student submits a test task at the end of the semester and passes to the next semester only if he passes the passing (qualifying) score. At the end of the semester, the student is included in the final control (examination) after collecting the specified credits.

A student who scored less than the qualifying (passing) score in the current control and could not participate in the control due to valid reasons is given a period until the next type of control, until the last current control test (YAN) to resubmit.

The student rating for the module is determined as follows:

Ball	ECTS	Definition of ECTS		Grade	Description
86-100	A	"excellent" - excellent result with minimal errors	<p>to have systematic, complete and deep knowledge of all sections of the module program, to be able to justify it with the necessary evidence;</p> <p>use terminology (including scientific, foreign language) clearly and appropriately, express answers to questions logically and stylistically literately;</p> <p>identify problematic questions, justify their views in scientific and practical language;</p> <p>to know the basic concepts of the module and to be able to effectively apply it in solving scientific and practical problems in a short time;</p> <p>able to demonstrate the ability to solve problems independently and creatively in non-standard situations;</p> <p>able to fully perform practical skills independently (in terms of quality and set quantity) and fully acquire competencies;</p> <p>short, grounded and rational solution of practical issues;</p> <p>complete and in-depth mastering of the main and additional literature recommended in the module program;</p> <p>to understand the essence of the theories, concepts and directions of the module, give them a critical assessment and be able to apply the scientific achievements of other modules;</p> <p>to creatively and independently participate in theoretical and practical classes throughout the semester, to be active in group</p>	5	excellent

			discussions, must have a high level of culture in performing tasks;		
81-85	B	"very good" is an above-average result, with some errors	<p>to have systematic, complete and deep knowledge of all sections of the module program, to be able to justify it with the necessary evidence;</p> <p>use terminology (including scientific, foreign language) clearly and appropriately, express answers to questions logically and stylistically literately;</p> <p>able to independently eliminate the ambiguities that arise when proving one's opinion or explaining other theoretical material;</p> <p>to know the basic concepts of the module, to set scientific and professional tasks in a short period of time and use it effectively in solving them;</p> <p>able to independently solve problems in standard situations within the curriculum;</p> <p>able to fully perform practical skills independently (in terms of quality and set quantity) and fully acquire competencies;</p> <p>demonstrate good knowledge of normative and legal documents in practical training, be able to apply this knowledge correctly (but not always rationally) in new situations, unable to adequately formalize the results of the work performed;</p> <p>mastering the basic literature recommended in the module program;</p> <p>be able to understand the essence of theories, concepts and trends in the studied module and give them a critical assessment;</p>	4	good

			creative throughout the semester in theoretical and practical classes and should participate independently, be active in group discussions, have a very good level of culture in performing tasks;		
71-80	C	"good" is an average result, with significant errors	<p>to have systematic, complete and deep knowledge of all sections of the module program, to be able to justify it with the necessary evidence, but with some shortcomings;</p> <p>use terminology (including scientific, foreign language) clearly and appropriately, express answers to questions logically and stylistically literately;</p> <p>able to independently eliminate the ambiguities that arise when proving one's opinion or explaining other theoretical material;</p> <p>to know the basic concepts of the module, to set scientific and professional tasks in a short period of time and use it effectively in solving them;</p> <p>able to independently solve problems in standard situations within the curriculum;</p> <p>able to independently perform practical skills (in terms of quality and set quantity) and acquire competencies, but with some shortcomings;</p> <p>demonstrate good knowledge of normative and legal documents in practical training, be able to apply this knowledge correctly (but not always rationally) in new situations, unable to adequately formalize the results of the work performed;</p> <p>mastering the basic literature</p>		

			<p>recommended in the module program;</p> <p>according to the studied module can understand the essence of theories, concepts and directions and give them a critical assessment;</p> <p>should participate creatively and independently in theoretical and practical classes throughout the semester, be active in group discussions, and have a good level of performance in tasks;</p>		
60-70	D	"satisfactory" - poor result, with gross defects	<p>to have sufficient knowledge within the framework of state educational standards (requirements);</p> <p>use terminology, correctly explain answers to questions, but make some mistakes;</p> <p>demonstrate a basic understanding of the module when struggling to respond or demonstrate some specific skills;</p> <p>able to perform practical skills (in terms of quality and set quantity) independently but completely with mistakes;</p> <p>acquisition of competencies independently, but with errors;</p> <p>to have partial knowledge of the general concepts of the module and be able to apply it in solving standard (model) situations;</p> <p>being able to solve standard situations with the help of a pedagogue;</p> <p>understand the essence of the main theories, concepts and directions of the studied module, and be able to evaluate them;</p> <p>in theoretical and practical training under the guidance of a pedagogue must participate, have a sufficient level of culture in</p>	3	Satisfactory

			performing tasks;		
55-59	E	"medium" is equal to the minimum result	<p>to have a satisfactory amount of knowledge within the framework of state educational standards (requirements);</p> <p>use terminology, explain answers to questions correctly, but make some gross mistakes;</p> <p>demonstrate a basic understanding of the module when struggling and making mistakes when answering or demonstrating some specific skills;</p> <p>able to perform practical skills (in terms of quality and set quantity) not independently and completely with errors;</p> <p>acquisition of competencies not independently and with errors;</p> <p>to have partial knowledge of the general concepts of the module and be able to apply it in solving standard (model) situations;</p> <p>being able to solve standard situations with the help of a pedagogue;</p> <p>understand the essence of the main theories, concepts and directions of the studied module, and be able to evaluate them;</p> <p>it is necessary to participate in theoretical and practical training under the guidance of a pedagogue employee, to have a sufficient level of culture in performing tasks;</p>		
31-54	FX	"unsatisfied" - additional independent learning is required to obtain the minimum level of knowledge	<p>if he has only some fragmentary knowledge within the framework of state educational standards (requirements);</p> <p>cannot use scientific terms or makes serious logical errors in answering;</p> <p>passively participate in theoretical and practical training and have a</p>	2	not satisfied

			low culture of performing tasks if he has a degree; if he does not have practical skills and competencies, if he cannot correct his mistakes even with the help of the recommendations of the pedagogical staff.		
0-30	F	"absolutely unsatisfactor y" – must be completely re-mastered	if he has only some fragmentary knowledge within the framework of state educational standards (requirements); fails to use terms or makes serious and gross logical errors when answering or does not answer at all; if he passively participates in theoretical and practical training and has a low level of culture of performing tasks or does not perform them at all; if he does not have practical skills and competencies, if he cannot correct his mistakes even with the help of the recommendations of the pedagogical staff.		

INTERMEDIATE CONTROL (IC)

In IC, the student's level of mastery of knowledge and practical skills is evaluated by the section or part of the module that includes several topics.

IC module is held once a semester. Parties that have accumulated relevant credits for JN are included in IC. IC is conducted in oral, written or test (OSKE) forms by the decision of the department meeting. A student who does not get a qualifying score (55 points) in IC is not allowed to take the test (FC).

The process of conducting the interim control is periodically studied with the participation of the commission formed by the head of the department, and in case of violation of the procedures of conducting it, the results of the interim control are canceled and the intermediate control is re-conducted.

FINAL CONTROL (FC)

A student who has collected all the credits allocated to CC will be admitted to YAN. In the test, the student's knowledge, skills and abilities are evaluated within the general content of the module. After the end of the training sessions on this module, the test is in 2 stages: 1st form - in the form of OSCE in the department; Form 2 - conducted

at the test center. A student who failed to collect 55 qualifying points in YAN is considered to have failed YAN and not mastered the module, even if he has collected full credit in JN).

By order of the rector of the educational institution, with the participation of the commission formed under the leadership of the internal control and monitoring department, the process of conducting the YAN is periodically studied, and in cases where the procedures for conducting it are violated, the results of the FC are canceled and the YAN is conducted again.

Students who cannot pass YAN due to illness are allowed to pass it within two weeks after starting their studies based on the order of the dean of the faculty.

At the end of the semester, the student who fails the FC is considered to be in academic debt.

After the end of the semester, students with academic debts are given a period of one month to re-approve. A student who fails to master the module during this period will be excluded from the ranks of students by order of the rector in accordance with the established procedure according to the recommendation of the dean of the faculty.

If the student is dissatisfied with the results of the control, he can apply to the dean of the faculty within one day of the announcement of the results of the control type for the module. In this case, the faculty

according to the dean's presentation, by order of the rector, an appeal commission will be established with a composition of not less than 3 (three) members.

The appeals commission will consider the applications of the students and give its conclusion on the same day.

The dean of the faculty, the head of the department, the educational department, and the internal control and monitoring department control the evaluation and formalization within the established requirements.

Basic and additional educational literature and information sources

1.1. Main literature:

2. Илясов Т.Н. Клиник радиология асослари. Дарслик. -Тошкент. Ибн- Сино. 2002 й.

1.1. Additional literature:

1. David A. Leslie. Imaging for Students. Fourth edition. Textbook. - Australia. Hooder Arnold. 2012 y.

2. Илясов Т.Н. Лучевая диагностика. Учебник. - Ташкент. Ибн Сино.1995 г.

3. Петерсон Х. Общее руководство по радиологии. Учебник. - Москва. Никомед Мондрук. 1995 г.

4. Рейнберг С.А. Рентгенодиагностика заболеваний костей и суставов. Учебник. - Москва. Медитсина. 1994 г.

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Websites:

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SYLLABUS FROM THE "MEDICAL RADIOLOGY" MODULE

Syllabus from the module "Medical Radiology"				
The full name of the module	Medical radiology			
Module code: 3.24	Credit size: total - 6,5 credit From this: <i>6-semester - 3,0 credit</i> CC -3,0 credit; IC- 0 (mandatory) <i>6- semester - 3,5 credit</i> Cc - 3,5 credit; FC - 0 (mandatory)	Module Transition period: 6-7 semesters	ECTS value:	
Course of Study	5510100 - «General medicine»	3-4 stage bachelors		
Module duration	24 kun			
Amount of study hours:	Total:	234		
	Also:	Total	3-course	4- course
	lecture	18	10	8
	practical training	48	24	48
	clinical training practice	72	32	40
	laboratory training	6	4	2
	independent education	90	38	52
Status of the training module	Block of clinical modules			
OTM name, address	Termiz Branch of Tashkent Medical Academy, 64 I. Karimov St., Termiz city			
Department name	Otolaryngology, ophthalmology, oncology and medical radiology			
Information about	Ismailova M.X Xoshimova N.SH	905210500 998394174		

the teachers of this course	Oaxxorov Sh.I. Xudovorov I.B Shavmardanov I.A Borotov N.M. Menglivev B Abrayqulov I.	977101788 912332788 917311231 972449455 903770003
Time and place of training		
Content of the module	The medical radiology module is considered as a module for prevention, diagnosis, treatment and rehabilitation of diseases in rural family polyclinics and family polyclinics.	
Tasks of the module	<p>give an understanding of the diagnosis and therapy of light; describing indications and contraindications for examination and treatment with light; know the advantages and disadvantages of each light method; - correct and optimal selection of light methods; be able to see widespread locomotor system, lungs, heart and blood vessels, digestive organs, nerves, endocrine pathological syndromes using light methods; - promotion of a healthy lifestyle; - study the basics of medical image analysis.</p>	
Requirements for students' knowledge, skills and qualifications for the module	<p>At the end of the 6th semester: Student:</p> <ul style="list-style-type: none"> - organization of preventive fluorographic and other public examinations in different population groups; - filling out a patient's referral to a radiologist or light therapist; - proper preparation of the patient for examination or treatment; - determining the size and sequence of radiological examinations together with the radiologist (taking into account the informativeness, harmfulness, cost and availability of the methods); - to independently have an idea about the type of examinations (images), projections, identification of the main anatomical structures in X-ray, angiogram, computer, magnetic resonance tomogram, sonogram and scintigram - musculoskeletal system; - determination of indications for examination of respiratory organs, cardiovascular, digestive, excretory, endocrine systems by light methods; - making a referral for light diagnosis; - should know and be able to use the method of examination, projection and determination of the examined anatomical area; - identification of the main anatomical structures (structures and landmarks) in the images of the lungs, heart, gastrointestinal tract, musculoskeletal system, liver and bile ducts, kidney and urinary ducts, endocrine and nervous system; - main light syndromes in diseases of the chest, abdominal 	

	<p>cavity, retroperitoneal area, pelvis, nervous and locomotor system must know how to identify and be able to use them;</p> <p>At the end of the 7th semester:</p> <ul style="list-style-type: none"> - identification of main beam syndrome and symptoms in common diseases of the musculoskeletal system, chest organs, heart, blood vessels, gastrointestinal tract, liver, kidney, nervous and endocrine systems; - accurate assessment of structural and functional changes in various common diseases with the help of the advice of a radiologist or the radiology protocol; - drawing up a radiation treatment plan together with a radiation therapy doctor; - to have an idea about the correct expression of the clinical condition of the patient and the results of radiation therapy under the advice of a radiation diagnosis doctor - identification of the main anatomical structures (structures and landmarks) in the images of the lungs, heart, gastrointestinal tract, musculoskeletal system, liver and bile ducts, kidney and urinary ducts, endocrine and nervous system; - should know and be able to identify the main light syndromes in diseases of the chest, abdominal cavity, retroperitoneal area, pelvis, nervous and locomotor system; <ul style="list-style-type: none"> <input type="checkbox"/> analysis of the results obtained in beam inspection methods; <input type="checkbox"/> creation of an algorithm for examination of diseases of the skeletal system based on the results of radiological examination methods (information in the history of the disease); <input type="checkbox"/> drawing up an algorithm for examination of respiratory system diseases based on the results of radiological examination methods (information in the history of the disease); <input type="checkbox"/> creating an algorithm for the examination of diseases of the cardiovascular system (information in the history of the disease) based on the results of light examination methods; <input type="checkbox"/> creation of an algorithm for examination of diseases of the digestive system based on the results of radiological examination methods (information in the history of the disease); <input type="checkbox"/> must have practical skills (including clinical practical skills) to create an informative algorithm for organs and systems according to examination methods.
Teaching methods	Lecture, practical training, clinical practice, laboratory training
Supply	video films, multimedia and educational computer programs, new technologies in teaching methods, theoretical knowledge on topics are used; independent work of undergraduates, individual and group presentations, preparation of homework assignments, writing abstracts, tests, situational problems, etc.

Learning outcomes: Upon completion of the module, the student will be able to:

1. Determination of indications for examination of the musculoskeletal system, respiratory organs, cardiovascular, digestive, excretory, endocrine systems by light methods;
2. Issuing a referral for light diagnosis;
3. Examination method, projection and identification of the examined anatomical area;
4. Identification of the main anatomical structures (structures and landmarks) in the images of the lungs, heart, gastrointestinal tract, musculoskeletal system, liver and biliary tract, kidney and urinary tract, endocrine and nervous system;
5. To determine the main light syndromes in diseases of the chest, abdominal cavity, retroperitoneal area, pelvis, nervous and musculoskeletal system. Upon completion of the module, the student will be able to:
 1. Analysis of the results obtained in light inspection methods;
 2. Compilation of the examination algorithm based on the results of x-ray examination methods (information in the history of the disease) for diseases of the skeletal system;
 3. Compilation of an algorithm for the examination of respiratory system diseases based on the results of light examination methods (information in the history of the disease);
 4. Compilation of an algorithm for the examination of diseases of the cardiovascular system (information in the history of the disease) based on the results of radiological examination methods;
 5. Compilation of an algorithm for examination of diseases of the digestive system based on the results of x-ray examination methods (information in the history of the disease);
 6. Compilation of informative algorithm for bodies and systems according to inspection methods