

MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY
DEPARTMENT OF HYGIENE AND ECOLOGY No. 2

Methodical Materials
on the Course Unit
"Occupational Safety in the Field of Medicine"
For 2nd-year students
On specialty 222 "Medicine"

Student _____

Faculty _____

Group _____

Kharkiv - 2018

Approved by the Academic Council of Kharkiv National Medical University.

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"Occupational safety in the field of medicine": Methodical materials for 2nd year students on specialty - 222

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Plagiarism is the most difficult part of academic dishonesty for students' understanding [1].

Plagiarism – problems concerning unjustified behaviour of individuals as to illegal using objects of intellectual property [2], that is why copying and distribution of a part or the whole issue in any form is possible only with the authors' permission

1. lib.chdu.edu.ua/pdf/naukpraci/pedagogika/2002/20-7-3.pdf

2. <http://journals.uran.ua/index.php/2225-6407/article/view/16031>

The form of students' knowledge assessment. The form of final knowledge control is credit. The final control of assimilation of the discipline is carried out upon completion during the last lesson on the discipline.

The mark on the discipline is defined as the sum of marks of the current educational activity (in points), which are given at each lesson for the corresponding topic and the number of points for the individual tasks performed by the student. In order to account the discipline, the student must fulfill the requirements of the curriculum and receive a score of not less than 60% of the maximum amount for the current activity (for a 200-point scale - not less than 120 points).

Independent work of students, which is envisaged in the topic along with the classroom work, is evaluated during the current control of the topic at the corresponding lesson.

When assessing student's mastering of each topic and during final lesson, the student is given a mark according to the national 4-point scale.

The final mark for current progress is defined as an average arithmetical of national marks for each lesson, expressed in round numbers to 2 points after comma and recalculated in multi-point scale.

Recounting of an average mark for current activity in multi-point scale.

Recounting of an average mark for current activity in multi-point scale (for disciplines, which are finished with a credit)

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	200	4.22-4,23	169	3.45-3,46	138
4.97-4,99	199	4.19-4,21	168	3.42-3,44	137
4.95-4,96	198	4.17-4,18	167	3.4-3,41	136
4.92-4,94	197	4.14-4,16	166	3.37-3,39	135
4.9-4,91	196	4.12-4,13	165	3.35-3,36	134
4.87-4,89	195	4.09-4,11	164	3.32-3,34	133
4.85-4,86	194	4.07-4,08	163	3.3-3,31	132
4.82-4,84	193	4.04-4,06	162	3.27-3,29	131
4.8-4,81	192	4.02-4,03	161	3.25-3,26	130
4.77-4,79	191	3.99-4,01	160	3.22-3,24	129
4.75-4,76	190	3.97-3,98	159	3.2-3,21	128
4.72-4,74	189	3.94-3,96	158	3.17-3,19	127
4.7-4,71	188	3.92-3,93	157	3.15-3,16	126
4.67-4,69	187	3.89-3,91	156	3.12-3,14	125
4.65-4,66	186	3.87-3,88	155	3.1-3,11	124
4.62-4,64	185	3.84-3,86	154	3.07-3,09	123
4.6-4,61	184	3.82-3,83	153	3.05-3,06	122
4.57-4,59	183	3.79-3,81	152	3.02-3,04	121
4.54-4,56	182	3.77-3,78	151	3-3,01	120
4.52-4,53	181	3.74-3,76	150	Under 3	Not enough
4.5-4,51	180	3.72-3,73	149		
4.47-4,49	179	3.7-3,71	148		
4.45-4,46	178	3.67-3,69	147		
4.42-4,44	177	3.65-3,66	146		
4.4-4,41	176	3.62-3,64	145		
4.37-4,39	175	3.6-3,61	144		
4.35-4,36	174	3.57-3,59	143		
4.32-4,34	173	3.55-3,56	142		
4.3-4,31	172	3.52-3,54	141		
4,27-4,29	171	3.5-3,51	140		
4.24-4,26	170	3.47-3,49	139		

Credit. Number of topics of practical lessons does not stipulate a separate lesson for taking credit.

The results of taking credit are assessed by 2-point traditional scale: "passed", "failed".

To study the educational discipline, 90 hours are given, 3.0 ECTS credits.

Basic requirements of safety measures
« The Instruction on Safety of Life Activity»
For employees and students who work and study at the University
(approved by order of the Rector of KhNMU No. 412, 2008)

1. Instructing on safety of life activity is conducted by the teacher of the group before the beginning of the academic year.
2. Classes with students and post-graduates students are conducted on the basis of the internal regulations of the University and its rector's orders.
3. Very often accidents are caused by students' violations of the established rules of behaviour and regulations. In this connection, one should:
 - be attentive when moving on the territory of the University;
 - study the location of the premises and their exits;
 - keep to the right at oncoming movement;
 - not run on the territory of the University;
 - not stand and go under any cargo which moves, as well as in places of possible fall of various subjects;
 - in class, be attentive, not engaged in unauthorized activities and not distract his/her associates.

It is FORBIDDEN for students of the University:

- to switch on and off (except for emergencies) machines and mechanisms, whose operating was not charged by the head of works;
- to taste and smell chemical substances;
- to lean or climb out of the windows of premises;

It is necessary to maintain cleanliness and carry out requirements of personal hygiene on the territory of the University, in its laboratories, lecture halls, sanitary and personal service premises.

CONTENT

Basic requirements of safety measures

Section 1: General issues of occupational safety.

Subject 1: Legal and organizational fundamentals of occupational safety.

Subject 2: Organization of occupational safety in medical establishments and higher medical schools.

Subject 3: Occupational hygiene and physiology, importance for creation of safe labour conditions.

Section 2: Features of labour conditions in the field of medicine

Subject 4: Occupational hazards in execution of functional duties by medical workers.

Subject 5: Hygienic characteristic of labour conditions and state of health of medical workers.

Subject 6: Accidents and damages in medical-preventive establishments, their investigation and registration.

Section 3: Special issues of occupational safety in the field of medicine.

Subject 7: Hygiene and occupational safety in medical establishments.

Subject 8: Occupational safety in some structural units of medica-preventive establishments and higher medical schools.

Subject 9. Dangerous infectious diseases in the work of medical specialists.

Subject 10: Fundamentals of industrial safety of medical workers.

Theoretical questions

Practical skills

Recommended literature

Section 1.
General issues of occupational safety

Subject No. 1. Legal and organizational fundamentals of occupational safety

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. Mastering the skills of working with normative and legal documentation is an indispensable element of safety in the professional activity of a doctor.

Learning objective:

To master the skills of working with the State system of normative and technical documents (NTD), to study the structure of normative documents taking into account the legal inter-subordination of the Constitution, the Laws, State Standards of Ukraine, including the Occupational Safety Standards System (OSSS), regulatory acts on occupational safety, State Sanitary Norms and Rules, Building Norms and Rules (BN&R), orders and methodical instructions in the field of occupational safety in accordance with the current legislation and normative-legal acts.

As a result of studying the subject, the student should:

Know:

1. The structure of the NTD system in Ukraine.
2. General principles of legal mutual subordination of four levels of NTD.
3. Values of building norms and industrial microclimate in the field of occupational safety.

Be able to:

1. Select the necessary NTD when solving a specific life situation.
2. Assess the existence of legal action of NTD in Ukraine.
3. Use State Standards and other normative documents when solving the set tasks, to draw conclusions on the results of these tasks.

Questions for self-training:

1. NTD and their classification.
2. The Constitution of Ukraine, its importance in the formation of the NTD system.
3. Reasons and characteristics of legal responsibility in accordance with the current system of NTD of Ukraine.
4. State standards of Ukraine, their importance in the NTD system.
5. Building Norms and Rules, their significance in the system of NTD of Ukraine.
6. Sanitary Norms and Rules in the system of NTD of Ukraine.
7. Normative and legal acts on occupational safety in the system of NTD of Ukraine.
8. Orders in the system of NTD of Ukraine.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Occupational Safety	
NTD	
State Standard	
Sanitary Norms and Rules	

Class work - at the lesson, the student gets acquainted with the structure and purpose of various types of normative and technical documentation of Ukraine.

Solve situational tasks.

Task No. 1.

At the international level, specialized establishments are occupied with problems of occupational safety. List them.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No. 2.

Name the main acts of legislation concerning problems of occupational safety.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No. 3.

Name kinds of responsibility for non-observance of legislation on occupational safety and point out, according to what normative document.

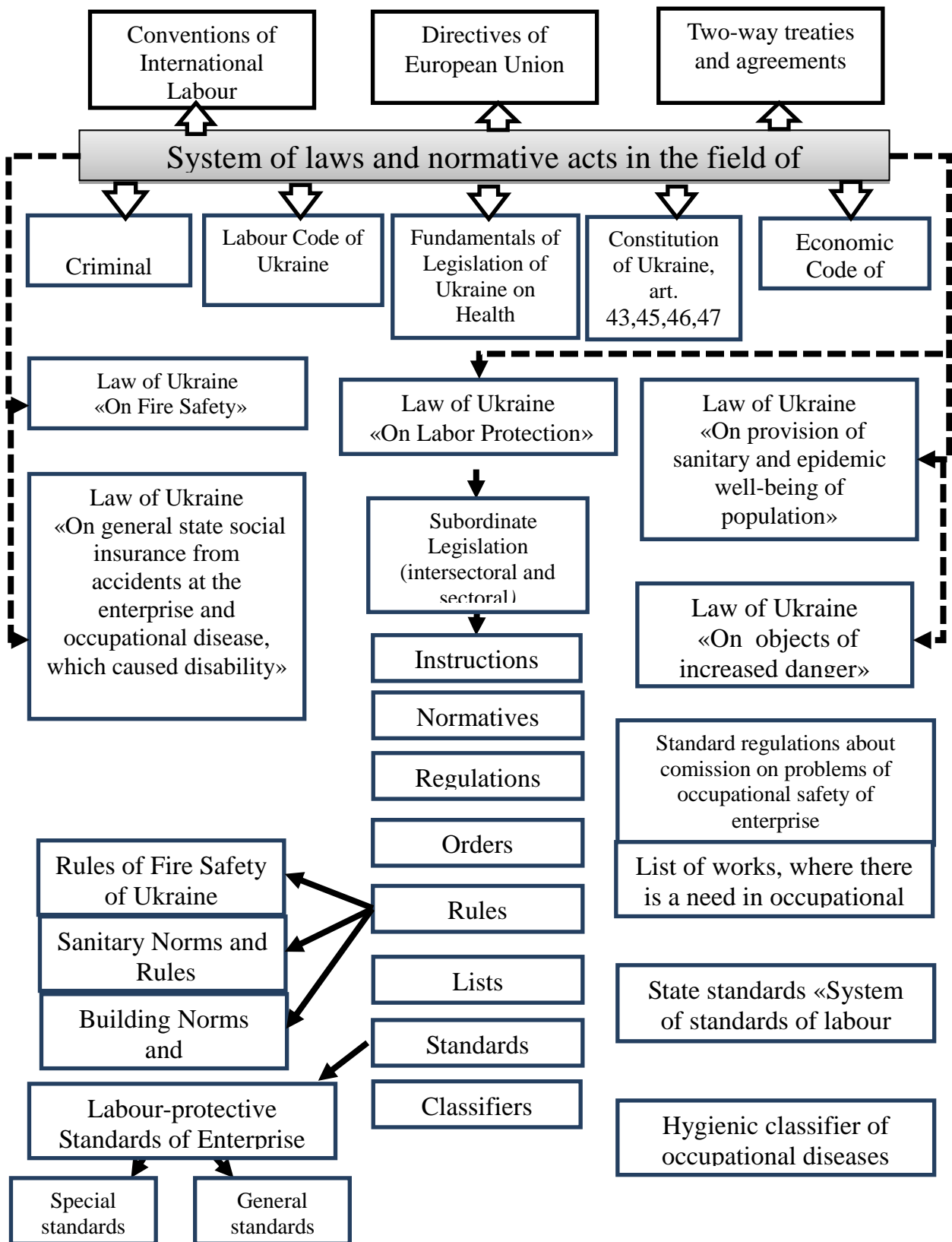
Task No. 4.

What kinds of instructions are carried out at the workplace? According to what normative document?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Initial and final test control - tests of the open base.

Graphologic structure of system of normative acts in the field of occupational safety



Recommended literature

Basic:

1. Охорона праці в медичній галузі: Навч.-метод. посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр.Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
2. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
3. Гігієна праці: Підручник / Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П. Яворовського. – К.: ВСВ “Медицина”, 2011. – 904 с.
4. Охорона праці у фармацевтичній галузі: Навчальний посібник / О.В.Жуковіна, О.І.Зайцев, О.І.Жуковін, Г.А.Грецька. - К.: Медицина, 2009. – 432 с.
5. Охорона праці в медицині і фармації/ В.М.Мороз, І.В.Сергета,Н.М.Фещук, М.П.Олійник. – Вінниця: Нова книга, 2005. – 544 с.
6. Закон України «Про охорону праці».
7. ДСТУ 2293-99 «Охорона праці. Терміни та визначення основних понять.»

Additional:

1. Constitution of Ukraine dated June 28, 1996 - К. 1996.
1. Конституція України від 28 червня 1996 р. – К. 1996.
2. Основи Законодавства України про охорону здоров'я від 19 листопада 1992 року // Відомості Верховної Ради України. – 1993. - № 4. - С. 19.
3. Кодекс законів про працю України. Закон № 322-VIII від 10.12.71.
4. Закон України «Про забезпечення санітарного та епідемічного благополуччя населення» від 24 лютого 1994 року // Відомості Верховної Ради України. – 1994. – № 27. – С. 217.

Teacher's signature _____

Section 1.

General issues of occupational safety

Subject No. 2. Organization of occupational safety in medical establishments and higher medical schools.

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. A decisive part in formation and development of man belongs to labor, which can have a significant influence on the human health state under certain unfavorable conditions, lead to damages, accidents, occupational diseases. According to world statistics, 80% of accidents are related to the human factor, therefore, the primary tasks are to organize the training of the population on the fundamentals of occupational safety and safety, the realization of necessity to ensure harmless and safe labor by everyone, the formation of important benchmarks for the priority of life and health of people in comparison with importance of the results of production activities. The quality and effectiveness of health care workers' activity depend in many respects on the conditions of their work and health.

Learning objective:

Forming students' skills and competences to ensure effective management of occupational safety and improvement of working conditions, taking into account scientific and technological progress and international experience, as well as realization of the indissoluble unity of successful professional activity with mandatory observance of all labor safety requirements in the field of medicine.

As a result of studying the subject, the student should:

Know:

1. Structure, basic functions and tasks of occupational safety management at medical establishments.
2. Rights and duties of workers of the occupational safety service.
3. The main tasks and rights of the commission on occupational safety at medical establishments.
4. Principles of organization, types of training and testing of knowledge on occupational safety issues.

Be able to:

1. Draw up a plan of measures for occupational safety for the establishment.

2. To keep records and analysis of occupational safety values.
3. Draw up a plan for localization and elimination of emergencies and accidents.

Questions for self-training:

1. Order of the Ministry of Health of Ukraine No. 268 dated 30.09.1994 "On the Service of Occupational Safety of Ministry of Health."
2. Planning of measures for occupational safety.
3. Acts on occupational safety, which are currently in force at medical-preventive establishments, their composition and structure. Instructions for occupational safety.
4. Sectoral programs to improve safety, occupational hygiene and working environment.
5. The rooms of industrial safety and occupational safety, the main tasks and directions of work.
6. Identification, assessment and decrease of risks of hazardous events, quality management and safety culture.
7. Occupational safety service of a medical-preventive establishment, its structure, number, main tasks and functions.
8. Instructions on occupational safety.
9. Stimulation of occupational safety.
10. Socio-economic effect of occupational safety of medical workers.
11. The Order of the Ministry of Education and Science of Ukraine No. 563 dated 01.08.2001 "About approval of the Regulations on the organization of work on occupational safety of participants of teaching and educational process in the establishments and educational institutions".

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Legislation on Occupational Safety	
Capacity for work	
Safe labour conditions	
Permanent workplace	

Class work - during the lesson, the student gets acquainted with the structure and main functions of the occupational safety service at medical-preventive establishments.

Solve situational tasks:

Task No. 1.

Second-year students are referred to an excursion to a pharmaceutical enterprise. Which kind of instruction on problems of occupational safety should be used for them before the excursion?

Task No. 2

Point out the main tasks of occupational safety service at the enterprise (according to what normative document):

Task No. 3.

What Law of Ukraine regulates relationships between the employer and worker on problems of labour safety during work?

Initial and final test control – tests of the open base.

Recommended literature

Basic:

1. Охорона праці в медичній галузі: Навч.-метод. посібник для мед. ВНЗ IV р.а.- 2-ге вид., випр.. Рекомендовано МОН/ Яворський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
2. Гігієна праці: Підручник / Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П. Яворовського. – К.: ВСВ “Медицина”, 2011. – 904 с.
3. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
4. ДСТУ – ОHSAS18001-2006 “Системи управління безпекою та гігієною праці. Вимоги”.
5. НПАОП 0.00-4.35-04 »Типове положення про службу охорони праці»
6. НПАОП 0.00-4.09-93 »Типове положення про комісії з питань охорони праці підприємства»
7. НПАОП 0.00-4.12-05 »Типове положення про порядок проведення навчання з питань охорони праці»

Additional:

1. The Constitution of Ukraine dated June 28, 1996 - К. 1996.
2. The Fundamentals of Legislation of Ukraine on the protection of health dated November 19, 1992 // News of the Verkhovna Rada of Ukraine. - 1993. - No. 4. - P. 19.

Teacher's signature _____

Section 1.

General issues of occupational safety

Subject No. 3: Occupational hygiene and physiology, importance for creation of safe labour conditions.

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. Occupational hygiene as a science studies the influence of the labor process and the working environment on the body of a working person. Labor physiology is a section of occupational hygiene, which studies the physiological characteristics of the human body in the process of labor activity. The results of a comprehensive study of the work process and changes in the physiological state of the body are the foundation for working out preventive measures in order to preserve the workers' health in future and maintain the capacity for work at a high level.

Learning objective: to get acquainted with and have an idea of the types of labor activity, harmful and dangerous production factors, the influence of work and the working environment on the physiological state of the organism, differences in fatigue and overfatigue, measures to prevent the development of fatigue and overfatigue, work out a rational regimen of work and rest.

As a result of studying the topic, the student should:

Know:

1. Types of labor, their physiological and hygienic characteristics. Physical labor, criteria for assessing its weight. Mental labor, criteria for assessing its intensity. Physiological changes in the worker's body during physical and mental work, their differences.
2. Human capacity for work, the dynamics and reasons for its change during the working day and the working week.
3. The physiological essence of fatigue, existing theories and a modern understanding of the mechanism of its occurrence.
4. Methods of studying the functional state of the body during mental and physical labor. The technique of working out rational regimes of work and rest.

Be able to:

1. Assess the weight and intensity of labor in accordance with the current legislation of Ukraine for the purpose of working out preventive measures.

2. Assess the levels of physiological changes in the body in physical and mental work for the purpose of subsequent working out rational regimes of work and rest.
3. Interpret the principles of the sanitary and labor legislation of Ukraine in the field of occupational hygiene and use them in further practical activities.

Questions for self-training:

1. Occupational hygiene and physiology - definitions, goals, objectives, research methods.
2. Classification of dangerous and harmful production factors.
3. The main physiological characteristics of physical and mental labor. Physiological changes that occur in the organs and systems of the body during labor activity.
4. Human capacity for work, its dynamics and causes of change during the working day.
5. The physiological essence of fatigue, existing theories and modern understanding of the mechanism of its occurrence.
6. Ways to prevent the development of fatigue. The technique of working out rational regimes of work and rest.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Physical labor	
Mental labor	
Labor weight	
Labor intensity	
Fatigue	
Overfatigue	
Labor monotony	
Rational regimen of work and rest	

Class work - solve the situational task:

Situational task No. 1.

During a planned medical examination, a 42-year-old surgeon of the department of general surgery complained of fatigue, reduced capacity for work, periodic pains in his heart, and sleep disturbance. According to the labor regimen study, it was revealed that the doctor, in addition to planned operations, conducts emergency surgical interventions, about 9 per week. The doctor has 1 daily duty per week, after which he remains at work until the end of the working day. He did not use his annual leave for 2 years. On weekends and holidays, about 1-2 times a month, he takes part in duties of the Ministry of Emergency Situations.

Can the revealed changes in the doctor's health state be connected with conditions and nature of his work? What factors of intensity and weight of labor can lead to the development of the mentioned symptoms? What methods of hygienic examination should be used in this case? What measures of the work and rest regimen improvement should be implemented?

Task No. 1

Point out the main tasks of occupational hygiene as a science.

Task No. 2.

Write down the degrees of labor weight.

1) _____
2) _____
3) _____
4) _____

Task No. 3.

Write down the stages of capacity for work.

Initial and final test control - tests of the open base.

Recommended literature

Basic:

1. Гігієна праці: Підручник /Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського.- К.: ВСВ "Медицина", 2011.- С. 26-110

Additional:

1. The Constitution of Ukraine dated June 28, 1996 - К. 1996.
2. The Labor Code of Ukraine. Law No. 322-VIII dated 10.12.71.
3. The Law of Ukraine "About labor protection" dated 14.10.92.
1. Постанова Кабінету Міністрів України № 442 від 1.08.1992 "Про Порядок проведення атестації робочих місць за умовами праці".
2. "Гігієнічна класифікація праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу", затверджена наказом МОЗ України № 248 від 08.04.2014.

Teacher's signature _____

Section 2.

Features of labour conditions in the field of medicine

Subject No. 4: Occupational hazards in execution of functional duties by medical workers

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The current level and structure of medical workers' morbidity is caused, in many respects, by some characteristic features of this professional group due to the action of physical or biological factors, toxic-chemical, allergic etiology, overstrain of separate organs and systems, nosocomial infections.

Learning objective:

1. To get acquainted with harmful and dangerous factors of the working environment at medical-preventive establishments.
2. To interpret the hygienic standards of physical, chemical, microbiological and other factors at the work places of medical workers.

As a result of studying the subject, the student should:

Know:

1. Classification of harmful and dangerous factors.
2. Classification of labor of medical workers.
3. Features of the action of harmful and dangerous production factors on the health of doctors of different specialties.

Be able to:

Use the requirements of legislative and regulatory documents for the introduction of methods and means of occupational safety of workers in the field of medicine.

Questions for self-training:

1. Industrial environment. Classification of harmful and dangerous factors.
2. Requirements to the microclimate of medical-preventive establishments.
3. Noise, its physical characteristics, the nature of the action on the body and preventive measures.
4. Vibrational illness, its manifestations and prevention.
5. Ultrasound and infrasound.
6. Decreased and increased atmospheric pressure.
7. Electromagnetic fields, their influence on the human body and measures on prevention of their negative effect.
8. Laser radiation, its use in medicine.
9. Main classes and types of industrial poisons.
10. Biological factors of the industrial environment.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Labour conditions	
Harmful production factor	
Dangerous production factor	
Kinds of harmful production factors	1. 2. 3. 4.
MPC (maximum permissible concentration)	

Class work - solve the situational task:

Situational task No. 1.

When examining the labor conditions of an anaesthetist, substances with a highly directional mechanism of toxic action are revealed in the air of the working area, the concentrations of which were 1.5 times over MPC, as well as pathogenic microorganisms, the causative agents of infectious diseases. Establish a class of labor conditions in accordance with "Hygienic Classification of Labor":

Task No. 1.

Point out a normative document used for hygienic classification of labor conditions and write down the classes of labor conditions.

Task No. 2.

List the factors, which can influence the workers during their duties fulfillment.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No.3.

What normative document is used for certification of the workplaces? How often?

Task No. 4.

By the degree of danger, harmful and poisonous substances are divided into:

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Initial and final test control - tests of the open base.

Recommended literature

Basic:

1. Охорона праці в медичній галузі: Навч.-метод.посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
2. Гігієна та екологія / за ред. В.Г. Бардова / Вінниця: Нова книга, 2006. – С. 485 – 492.
3. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.

Additional:

1. Law of Ukraine “About Labor Protection”
2. Наказ МОЗ України від 06.04.2014 №248 «Про затвердження гігієнічної класифікації праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу».
3. Закон України «Про захист населення від інфекційних хвороб» від 6 квітня 2000 року №1645-III // Голос України. – 2000. – 16 травня.
4. ГОСТ ССБТ 12.1.005-88. «Общие санитарно-гигиенические требования к воздуху рабочей зоны».
5. ДСН 3.3.6.042-99 Державні санітарні норми мікроклімату виробничих приміщень.
6. ДСН 3.3.6.037-99 Державні санітарні норми виробничого шуму, ультразвуку та інфразвуку.
7. ДСН 3.3.6.039-99 Державні санітарні норми виробничої загальної та локальної вібрації.
8. ДБН В.2.5-28-2006 Природне та штучне освітлення.
9. НРБУ – 97 Норми радіаційної безпеки України.

Teacher's signature _____

Section 2.

Features of labour conditions in the field of medicine

Subject No. 5. Hygienic characteristic of labour conditions and state of health of medical workers.

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The work of medical workers in modern conditions belongs to one of the most complex, intensive and responsible activities. Separate professional groups of medical workers in their daily activities have their own specific working conditions that can cause morbidity, including occupational, lead to the development of fatigue and overfatigue, loss of capacity for work. In order to prevent the negative influence of working conditions on health and capacity for work, it is necessary to observe safety regulations.

Learning objective:

1. To master the classification of harmful and dangerous production factors.
2. To get acquainted with the peculiarities of working conditions and the health state of doctors of different specialties.
3. To get acquainted with the main methods and criteria for sanitary-hygienic assessment of working conditions of medical workers.
4. To learn the classes of working conditions by indices of weight, intensity, harmfulness and danger of work.
5. To learn the notion about the certification of work places on working conditions.

As a result of studying the topic, the student should:

Know:

1. Harmful and dangerous production factors accompanying the work of medical workers and the peculiarities of their influence on the health of doctors of different specialties.
2. The main provisions of the order of the Ministry of Health of Ukraine "On the approval of the hygienic classification of labor by indices of harmfulness and hazard factors of the working environment, the weight and intensity of the labor process."
3. Personal protective equipment of doctors of different specialties.

Be able to:

1. Apply the requirements of legislative and normative documents for the introduction of methods of occupational safety of workers in the field of medicine.
2. Reveal harmful and dangerous factors at the workplace of doctors of different specialties and give their hygienic assessment.

Questions for self-training:

1. To get acquainted with the legislative and normative documents on labor protection of medical workers.
2. To learn the order of the Ministry of Health of Ukraine "About the approval of the hygienic classification of labor by indices of harmfulness and danger of factors of the working environment, weight and intensity of the labor process."

Tasks for self-training:

At home, the student should:

-prepare answers to theoretical questions:

1. The production environment. Classification of harmful and dangerous factors.
2. Hygienic features of working conditions and health state of doctors of different specialties.
3. The concept of weight, intensity, harmfulness and danger of work.
4. Purpose, main tasks and content of the certification of workplaces on working conditions.
5. Measures to prevent occupational and occupation-stipulated diseases of health care workers.

- define the following concepts:

Term	Definition
Certification of the workplace	
Occupational disease	
Personal protective equipment	

Class work - solve the situational task:

Situational task.

Give a comprehensive hygienic assessment of the labor conditions of the medical worker in accordance with the card of labor conditions obtained during the certification of his workplace.

During the chronometry observation of the working day of a surgeon at the surgical department of a multi-profile hospital in the cold period of the year, it was established that the working day consists of two main activities, namely: work in the operating room and examination of patients. Operational work takes 40-65% of the official working time. During operative interventions and examination of patients, the working posture is forced, standing in a tilted position up to 30° during 63% of the time of shift. The slopes of the trunk over 30°, 117 times per shift. Hands are forward and are in the hanging position (without support). Length of concentration is 85% of the shift duration. Breaks for rest and food intake are often absent, work in the night shift - 3 times a month. Night duty occurs immediately after the day's duty. After the night duty, the doctor remains in the department to continue his work. The noise level in the operating room is 73 dBA. During operations, the excess of the MPC of substances for inhalation anesthesia (II class of danger) was found to be 2.6 times in the air of the working area and the microorganisms of the 3-4th class of danger were found. The air temperature in the operating room is 26° C, air velocity is 0.2 m / s, the relative humidity was 64%. Category of visual works by SN&R II-479. "Natural and artificial illumination" - high-precision.

Task No. 1.

Name all parameters of microclimate.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No. 2

What requirements are made to rational illumination?

Task No. 3.

List the kinds of radiation, which medical workers can contact:

Specialty	Kind of radiation	Organs and systems
Doctor of ultrasound diagnostics		
Ophthalmologist		
Radiologist		
Traumatologist		
Physiotherapist, rehabilitologist		
Dermatovenereologist (specialist in skin and venereal diseases), cosmetologist		

Task No. 3.

List the kinds of protection used for medical workers, give their complete characteristic.

- 1) _____

- 2) _____

Task No. 4.

Give a complete characteristic of the term “static electricity” and name the main causes of occurrence of static electricity. _____

Initial and final test control - tests of the open base.

Recommended literature

Basic:

1. Гігієна праці: Підручник /Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського.- К.: ВСВ “Медицина”, 2011.- 904 с.
2. Охорона праці в медичній галузі: Навч.-метод.посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
3. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
4. Тарасюк В. С. Охорона праці в лікувально-профілактичних закладах. Безпека життєдіяльності: підручник / В. С. Тарасюк, Г. Б. Кучанська, - 2-е вид., переробл. та допов. – К, 2013. – С.126-231.
5. Гігієнічна класифікація праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу. ГН 3.3.5-3.3.8; 6.6.1-083-2001 р.

Additional:

1. Law of Ukraine "On Labor Protection "
2. Постанова Кабінету Міністрів України №442 від 01.08.92 «Про порядок проведення атестації робочих місць за умовами праці».
3. GSTU - ONSAS18001-2006 "The system of management of safety occupational hygiene. Requirements ".

Teacher's signature _____

Section 2.

Features of labour conditions in the field of medicine

Subject No. 6. Accidents and damages in medical-preventive establishments, their investigation and registration

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The intensive development of science and technology, the achievements of which are used in medical practice, lead to constant risk for workers and are associated with acute occupational diseases, poisonings, burns, electric shock, injuries as a result of accidents, fires, exposure to infected blood, sputum, etc. The future doctor should be able to assess and adjust his own working conditions, and in damages and accidents - provide first aid to the injured people and inform the heads of the departments.

Learning objective

1. Forming future specialists' knowledge, skills and competencies in the investigation of damages and accidents at medical establishments and organization of measures for prevention of accidents, injuries and occupational diseases.
2. Acquaintance with the main provisions of Law of Ukraine No. 36 dated 01.07.93 and changes introduced in accordance with Law "On Collective Agreements" dated 16.10.2012.

As a result of studying the subject, the student should:

Know:

1. The list of the main damages and accidents that may arise at medical-preventive establishments, the procedure for their investigation and registration.
2. Samples of documents that should be necessarily filled in the investigation of damages, occupational diseases and accidents at medical-preventive establishments (Act on the accident at work in the form of FN-1, Expedited report about presentation of an injured person with reference to an accident at work, Act of Investigation of the damage (accident) that occurred according to F-N-5; notification of the consequences of an accident related to production, Notification of occupational disease (poisoning), Form P-3, Act of Investigation of occupational disease (poisoning), form P-4).

Be able to:

1. Carry out investigation of damages and accidents, use appropriate regulatory and instructive documentation.
2. To recommend and implement measures to prevent damages and accidents, diseases and poisonings, assess their effectiveness.
3. Correctly draw up the necessary documents for the investigation of accidents, occupational diseases and poisonings.

Questions for self-training

1. Measures for prevention of accidents, occupational diseases, damages, injuries among medical workers.
2. Collective and labor agreement as a reflection of the legislation on occupational safety.
3. Social Insurance Fund for Industrial Accidents and Occupational Diseases.
4. Requirements for personal protective equipment and work clothes for medical workers.
5. General safety requirements for technologic equipment and processes at medical-preventive establishments. Safety when operating equipment under pressure and cryogenic equipment.
6. Electrical safety. Conditions under which a person can have electrical shock.
7. Fire prevention in the design and maintaining medical-preventive establishments and medical equipment.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Accident	
Catastrophe	
Critical objects (systems)	
Work-related accident (production accident)	
Non-production accident	

Class work - solve the situational tasks:

Situational task No. 1.

The regional hospital, on request, took an ambulance at its disposal. During the delivery of patients, an accident happened, as a result of which only a doctor of the regional hospital suffered. Is this a work-related accident? What organization should investigate this case? By what form should the statement of investigation of this case be made?

Situational task No. 2.

A hospital attendant of the psychiatric hospital received the brain concussion while taking care of an aggressive mentally ill patient. Is this case considered an accident? The order of the registration of this case. Is the case under investigation and what form is used to draw up a statement in case of investigation?

Situational task No. 3.

The medical sister Polishchuk Iryna Ivanivna, born 27.04.1985, applied to the traumatology department of the communal health care establishment "Kharkiv City Clinical Hospital No. 26" (head doctor Tereschenko O.T.), living at the address: Kharkiv, 23 August str, b.15, fl.7. The patient complains of pain and swelling in the joint of the right leg that appeared on 15.11.2017 after falling in the therapeutic department of the KPPD "Kharkiv City Clinic No. 10", located in Kharkiv., Metro builders st, 5, where she works. Make an emergency message by the form. At what time and at what address should you send an urgent message?

Task No. 1

If the accident is defined by the commission as work-related, the statement should be drawn up by the form and in number: _____

Task No. 2

Who and in what period of time establishes a commission for investigation of the accident occurred with a worker of a medical establishment? _____

Task No. 3

During what period of time does the commission on investigation of the accident carry out the investigation? During what period of time is special investigation of accidents carried out?

Task No. 4

The commission on investigation of the accident consists of:

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Initial and final test control - open base tests

Recommended literature

Basic:

1. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
2. Гігієнічна класифікація праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу. ГН 3.3.5-3.3.8; 6.6.1-083-2001 р.

Additional:

1. Law of Ukraine "On Labor Protection "
2. Постанова Кабінету Міністрів України №1232 від 30.11.11 «Деякі питання розслідування та обліку нещасних випадків, професійних захворювань і аварій на виробництві»
3. Постанова Кабінету Міністрів України №270 від 22.03.2001 «Про затвердження Порядку розслідування та обліку нещасних випадків невиробничого характеру»

4. Постанова Кабінету Міністрів України №1662 від 08.11.11 «Про затвердження Переліку професійних захворювань».
5. Закон України «Про пожежну безпеку».
6. ГОСТ 12.1.004-91 ССБТ «Пожарная безопасность. Общие требования»
7. ГОСТ 12.1.030-81 ССБТ «Электробезопасность. Защитное заземление, зануление».

Teacher's signature _____

Section 3.
Special issues of occupational safety in the field of medicine
Subject No. 7. Occupational hygiene and safety in medical establishments

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. Hygiene and occupational safety at medical establishments are related to the fact that medical personnel are affected by physical, chemical, biological, social and architectural-and-planning factors, which are the cause of occupational and occupation-dependent diseases of medical personnel, including infectious ones.

Learning objective

1. To strengthen students' knowledge of hygienic requirements for the location, planning and sanitary-antiepidemic regimen of medical-preventive establishments on the basis of studying normative documents.
2. To get acquainted with the main hazards of the working environment and professional injuries, and diseases of medical workers, safety requirements during their work.
3. To get acquainted with the influence of industrial hazards on the organism of working doctors, their legislative, organizational, preventive, epidemic and technical measures for occupational safety and prevention of occupational diseases.

As a result of studying the topic, the student should:

Know:

1. Sanitary and hygienic requirements for planning, maintaining and sanitary-antiepidemic regimen of medical-preventive establishments and dental offices.
2. The fundamentals of the legislation of Ukraine in the field of occupational hygiene and safety.
3. Classification and characteristics of occupational hazards.
4. Measures to reduce the adverse influence of harmful factors of the industrial microclimate on doctors of different specialties.

Be able to:

1. Reveal and assess the location and zoning of the territory of medical-preventive establishments by construction drawings of the situational and general plans, designed taking into account the objects located around the ground area and the "wind rose".
2. Determine and assess, according to plans and sections of buildings, compliance with hygiene standards for the area, cubic capacity, and sanitary accomplishment of medical offices.
3. Reveal the main factors of the working environment and the labor process, which can adversely affect workers, reveal and assess the features of its influence on the body.
4. Substantiate and introduce improving sanitary-hygienic and sanitary-antiepidemic measures of safe working conditions.

Questions for self-training:

1. Hygienic importance of the internal planning of buildings of medical establishments and dental offices for ensuring occupational hygiene and safety.
2. Personal hygiene of patients and medical personnel in the health care system and provision of favorable working conditions and prevention of nosocomial infections and occupational diseases.
3. Articles of the Constitution of Ukraine on occupational safety.
4. Sanitary legislation in the field of occupational safety. The Labor Code, its main components.

5. "Hygienic classification of labor by indices of harmfulness and danger of factors of the working environment, the weight and intensity of the labor process," approved by Order of Ministry of Health of Ukraine No. 248 dated 08/04/2014.
6. Physical production hazards, their classification, importance in occupational pathology.
7. Chemical production hazards, their classification, importance in occupational pathology.
8. Biological production hazards, their classification, importance in occupational pathology.
9. Psychophysiological production hazards, their classification, importance in occupational pathology.
10. Methods and means of prevention of occupational pathology and occupational safety at work.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
General plan of the project	
" Wind rose "	
Microclimate	
Room of psychological unloading	
Scientific organization of labor (industrial engineering)	
Personal protective equipment	

Class work - solve the situational tasks:

Situational task No. 1.

When determining the microclimate parameters in winter, in the dentist's office, it is revealed that the air temperature is 17 °C, the relative air humidity is 75%, and the air velocity is 0.5 m/s. In the air sample, mercury vapors and mercury amalgams exceed the maximum allowable concentrations by 1.5 times. At the same time, the CO₂ concentration is 0.15%, the oxidability is 10 mg O₂ /m³, the microbial number is 4500 CFU /m³, hemolytic streptococcus is 70 CFU/m³ (CFU – colony-forming unit). Assess the labor conditions, work out measures to prevent the harmful effects of revealed factors in accordance with conclusion.

Optimal parameters of microclimate, MPC of mercury vapor and indices of cleanliness of premises in MPE

Value	Normative value for cold and transition season	Conclusion
Air temperature, °C	20 – 22	
Relative air humidity, %	45 – 30	
Speed of air movement, m/s	Up to 0.2	
Maximum single concentration of mercury vapor, mg/m ³	Up to 0.01	
CO ₂ concentration, %	Up to 0.07	
Oxidability, mg O ₂ /m ³	Up to 4	
Total microbial count, CFU /m ³	Up to 2000	
Hemolytic Streptococcus, CFU /m ³	Up to 10	

Conclusion:

Situational task No. 2.

In the office of the dentist-therapist, there are four armchairs, which are placed in two rows parallel to the light-bearing wall. Each workplace has a universal dental unit.

Assess the appropriateness of seats, the adequacy of equipment.

Optimal values of microclimate at workplaces of industrial premises (State Sanitary Norms for microclimate of industrial premises 3.3.6.042-99)

Period of the year	Category of works by level of energy expenditure, Wt	Air temperature, ° C	Relative humidity of air, %	Air velocity, m/s
Cold period of the year	Light Ia (up to 139)	22-24	60-40	0.1
	Light Ib (140-174)	21-23	60-40	0.1
	Average weight IIa (175-232)	19-21	60-40	0.2
	Average weight IIb (233-290)	17-19	60-40	0.2
	Heavy III (over 290)	16-18	60-40	0.3
Warm period of the year	Light Ia (up to 139)	23-25	60-40	0.1
	Light Ib (140-174)	22-24	60-40	0.2
	Average weight IIa (175-232)	21-23	60-40	0.3
	Average weight IIb (233-290)	20-22	60-40	0.3
	Heavy III (over 290)	18-20	60-40	0.4

Initial and final test control - tests of the open base

Recommended literature

Basic:

1. Охорона праці в медичній галузі: Навч.-метод. посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр. Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
2. Профілактична медицина. Загальна гігієна з основами екології. Підручник / Даценко І.І., Габолич Р.Д. – К.: Здоров'я, 2004. – С. 493 – 511.
3. Комунальна гігієна / Гончарук Є.Г., Бардов В.Г., Гаркавий С.І., Яворовський О.П. – К.: Здоров'я, 2003. – С. 615 – 657.
4. Гігієна праці: Підручник / Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського. – К.: ВСВ “Медицина”, 2011. – 904 с.
5. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
6. Тарасюк В. С. Охорона праці в лікувально-профілактичних закладах. Безпека життєдіяльності: підручник / В. С. Тарасюк, Г. Б. Кучанська, - 2-е вид., переробл. та допов. – К, 2013. – С.126-231.
7. Гігієнічна класифікація праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу. ГН 3.3.5-3.3.8; 6.6.1-083-2001 р.

Additional:

1. The Constitution of Ukraine dated June 28, 1996 - К. 1996.
2. Основи Законодавства України про охорону здоров'я від 19 листопада 1992 року // Відомості Верховної Ради України. – 1993. – № 4. – С. 19.
3. Закон України "Про забезпечення санітарного та епідемічного благополуччя" від 24 лютого 1994 року // Відомості Верховної Ради України. – 1994. – № 27. – С. 217.
4. Закон України «Про захист населення від інфекційних хвороб», від 6 квітня 2000 року // Голос України. – 2000. – 16 травня.
5. ГОСТ ССБТ 12.1.005-88. «Общие санитарно-гигиенические требования к воздуху рабочей зоны».
6. ДСН 3.3.6.037-99. Державні санітарні норми мікроклімату виробничих приміщень.
7. ДСН 3.3.6.037-99. Державні санітарні норми виробничого шуму, ультразвуку та інфразвуку.
8. Державні санітарні норми загальної та локальної вібрації.
9. ДБН В.2.2-10-01 “Проектування закладів охорони здоров'я”.
10. ДБН В.2.5 – 28 – 2006 «Інженерне обладнання будинків і споруд. Природне та штучне освітлення».

Teacher's signature _____

Section 3.
Special issues of occupational safety in the field of medicine
Subject No. 8. Occupational safety in some structural units of medical-preventive establishments and higher medical schools

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The Ministry of Health of Ukraine, in coordination with the State Committee for Occupational Safety and Health, has developed and approved regulatory documents on occupational safety in the field of medicine. For introduction of safety and industrial sanitation issues into the legal field of Ukraine, the rules of construction, maintenance and safety precautions in the separate structural units of medical-preventive establishments operate in the system of health care establishments. Compliance with these rules is mandatory to ensure the proper conditions for patients' stay and the work of medical personnel, to prevent the negative influence of unfavorable factors of the working environment on the health of medical workers.

Learning objective: Forming a conscious understanding among students of the role and importance of creating appropriate sanitary and hygienic conditions for the effective and adequate functioning of hospitals, since this determines the high level of efficiency of the treatment process and safe working conditions of medical personnel.

As a result of studying the subject, the student should:

Know:

1. Basic normative documents regulating the issues of labor protection in separate structural subdivisions of medical-preventive establishments.
2. Occupational safety in higher medical schools.
3. Basic normative documents regulating the issues of labor protection of women, minors, senior citizens and persons with disabilities.
4. Main regulations of Order of Ministry of Health of Ukraine No. 246 dated 21.05.2007 "On approval of Procedure for carrying out medical examinations of workers of some categories".

Be able to:

1. Reveal harmful and dangerous factors of the working environment at the workplace of health care workers and give their hygienic assessment.
2. Assess the organization of the workplace, furniture, medical equipment at medical-preventive establishments.
3. Forecast the possibility of the occurrence of occupational, occupation-dependent diseases.
4. Substantiate and work out a plan of measures to improve the working conditions of medical workers and control of their efficiency.
5. Realize control of observance of the rules of personal hygiene and the use of personal protective equipment.

Questions for self-training:

1. General provisions of the occupational safety management system at medical-preventive establishments.
2. Occupational safety of medical personnel in the operating unit.
3. List of premises of the dental service and occupational safety in dental clinics, dental orthopedic laboratories.
4. Occupational safety of the staff of infectious establishments.
5. Occupational safety of medical personnel of physiotherapeutic departments (rooms).
6. Rules of building and maintenance of premises of pathoanatomical departments and morgues, occupational safety of the personnel.
7. Rules of occupational safety in psycho-neurological and psychiatric hospitals.
8. Fundamentals of the organization of occupational safety for personnel in the pharmaceutical industry.
9. Occupational safety at higher medical institutions.

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Forced position of the body	
Preliminary medical examination	
Scheduled medical examination	
Medical equipment	
Protective equipment	

Class work - solve the situational task:

Situational task

During the scheduled medical examination, it was revealed that a phthisiatrician has pathological changes in his lungs. The last fluorography was conducted one year ago. Your actions.

Task No. 1

List the norms of working hours for a doctor of ultrasound diagnostics

Task No. 2

According to what normative document should medical staff undergo the medical examination? How often?

Task No. 3

The location and interconnection of the premises of operation unit, peculiarities of the work of the personnel are determined by the requirements of asepsis. The division of the operation unit into zones with different operating modes. List and describe each zone

Task No. 4

Before starting an anesthetic, you need to check the staff for electrostatic charge. What steps should the operating brigade do?

Task No. 5

Point out sanitary-hygienic requirements for equipment and maintenance of ultrasound diagnostics room

Recommended literature

Basic:

1. Тарасюк В. С. Охорона праці в лікувально-профілактичних закладах. Безпека життєдіяльності: підручник / В. С. Тарасюк, Г. Б. Кучанська, - 2-е вид., переробл. та допов. – К, 2013. – С.126-231.
2. Гігієна праці: Підручник /Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського.- К.: ВСВ “Медицина”, 2011.- С.810-854.

3. Охорона праці в медичній галузі: Навч.-метод.посібник для мед.ВНЗ ІV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.

Additional:

1. Law of Ukraine "About provision of sanitary and epidemic well-being of population" dated 24.02.1994
2. Закон України «Про захист населення від інфекційних хвороб», від 6 квітня 2000 року // Голос України. – 2000. – 16 травня.
3. ГОСТ ССБТ 12.1.005-88. «Общие санитарно-гигиенические требования к воздуху рабочей зоны».
4. ДСН 3.3.6.042-99 Державні санітарні норми мікроклімату виробничих приміщень.
5. ДСН 3.3.6.037-99 Державні санітарні норми виробничого шуму, ультразвуку та інфразвуку.
6. ДСН 3.3.6.039-99 Державні санітарні норми виробничої загальної та локальної вібрації.
7. ДБН В.2.5-28-2006 Природне та штучне освітлення.
8. НРБУ – 97 Норми радіаційної безпеки України.
9. Наказ МОЗ №268 від 30.09.94“Про службу охорони праці системи Міністерства охорони здоров’я”.
10. Наказ МОН України № 563 від 01.08.2001 “Про затвердження Положення про організацію роботи з охорони праці учасників навчально-виховного процесу в установах і навчальних закладах”.
11. Наказ МОЗ України №246 від 21.05.2007 року “Про затвердження Порядку проведення медичних оглядів працівників певних категорій”.
12. «Граничні норми підіймання і переміщення важких речей жінками», затвержені наказом МОЗ України від 10.12.1993 №241.
13. «Перелік важких робіт і робіт з шкідливими і небезпечними умовами праці, на яких забороняється застосування праці неповнолітніх», затверджений наказом МОЗ України від 31.03.1994 №46.
14. «Граничні норми підіймання і переміщення важких речей неповнолітніми», затвержені наказом МОЗ України від 22.03.1996 №59.
15. Наказ МОЗ України «Про затвердження норм робочого часу для працівників закладів та установ охорони здоров’я» від 25 травня 2006 р. № 319

Teacher's signature _____

Section 3.
Special issues of occupational safety in the field of medicine
Subject No. 9. Dangerous infectious diseases
in the work of medical specialists.

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The labor conditions of medical workers are characterized by the presence of a complex of unfavorable production factors. Among medical workers, occupational tuberculosis is widespread, and, in most cases, the causative agent of tuberculosis is resistant to anti-tuberculosis drugs. When working with blood and its components, there is a significant risk of infection of health care workers with infectious diseases such as hepatitis B and C, HIV infection.

Learning objective:

1. To study the hygienic requirements for the location, planning and sanitary-antiepidemic regimen of health care establishments on the basis of the study of normative documents.
2. To get acquainted with potentially dangerous infectious diseases and possible ways of getting biological material into the body of medical workers, with safety requirements during their work.
3. To get acquainted with legislative, organizational, preventive, antiepidemic and technical measures for the prevention of infectious diseases in the work of medical personnel.

As a result of studying the subject, the student should:

Know:

1. Sanitary and hygienic requirements to planning, regimen and sanitary and antiepidemic regimens of health care establishments.
2. Requirements of legislative and regulatory acts on the protection of health care workers with respect to dangerous infectious diseases. Legal and social protection of HIV patients.

3. Biological harmful and dangerous factors of the working environment and their influence on the health state of medical workers.
4. The concept of "industrial accident" and expedited report to the AIDS Center / Institute of Infectious Diseases. HIV and AIDS in the practice of a doctor. Possible ways of getting biological material from an HIV-infected person into the body of a medical worker.
5. Hygienic features of working conditions and health state of doctors of different specialties (surgical, therapeutic, dental, etc.).
6. Safety requirements during the operation of the main medical equipment.
7. Requirements to personal protective equipment and work wear for medical personnel.

Be able to:

1. Reveal potentially hazardous biological factors in the work environment that may adversely affect the workers.
2. Use personal protective equipment to prevent the entry of biological material from the patient into the health worker's body.
3. Organize measures to counteract the spread of infectious diseases in conditions of health care establishments.
4. Conduct emergency post-exposure prophylaxis of HIV infection and viral hepatitis.
5. Substantiate and introduce improving sanitary-hygienic and sanitary-antiepidemic measures to create safe working conditions.

Questions for self-training:

1. Hygienic importance of the internal planning of buildings of health care establishments for ensuring occupational hygiene and safety.
2. Personal hygiene of patients and medical personnel in the system of health protection and provision of favorable working conditions and prevention of nosocomial infections and occupational diseases.
3. Biological production harmful factors, their classification, importance in occupational pathology.
4. Provisions of Law of Ukraine "On counteraction of spreading of diseases, caused by human immunodeficiency virus (HIV), and legal and social protection of people, who live with HIV" No. 1972-XII dated 12.12.1991 (edited 05.12.2012).
5. Order of Ministry of Health of Ukraine No. 955 dated 05.11.2013. "The procedure for conducting postexposure prophylaxis of HIV-infection in workers when fulfilling professional duties."
6. Order No. 148 dated 17.03.2015 "On approval of Order for confirmation of connection of infection by HIV with fulfilling of duties by workers."
7. Decree of Cabinet of Ministers of Ukraine No. 637 "On approval of the State social program of prophylaxis, diagnostics and treatment of viral hepatitis for the period up to 2016" dated April 30, 2013

Tasks for self-training:

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
HIV infection	
AIDS	
Multidrug-resistant tuberculosis	
Hepatitis B	
Hepatitis C	
Nosocomial infections	

Class work - solve the situational tasks:

Situational task No. 1.

A doctor of the clinical diagnostic laboratory, after drawing blood from a patient, was accidentally injured by an injection needle, which caused bleeding from his finger. The doctor squeezed the blood from the wound, washed it, and then continued to draw blood from other patients for 3 hours. After the shift, the doctor went home.

Is there a risk of infection with HIV and hepatitis B and C (in % for each infectious disease) in this case? Point out the rules and time for responding to a production accident and the volume of measures for the prevention of HIV infection, hepatitis B and C.

Situational task No. 2.

A dentist of the polyclinic examines patients during working shifts. However, not every person who comes to a planned consultation or treatment, is sent by the doctor to fluorography. The dentist wears clean overalls, uses gloves, a mask and goggles when working with patients, which he usually wears at the beginning of his working shift.

The medical table with the necessary set of tools for work is necessarily disinfected before the beginning of each working day and before each patient. Tips, air pistols, suction hoses, lamps, spittoons, taps and sinks are treated with deodorizing agents after each patient. The walls, floors, doors and cabinets of the room are washed every day. After work, all tools and trays are cleaned with detergent in the sink, and then they are soaked in a special disinfecting solution "Sterilium". After that, sterile storage of instruments is provided until they are used by the dentist. Before the beginning of treatment, each patient has oral rinsing.

Name the most dangerous violations of the sanitary-epidemiological regimen in this office.

Task No. 1

Specify the first-aid procedure for the employee in case of contact with the source of potential HIV infection associated with the performance of professional duties.

1) In case of needle or sharp object injury:

2) In case of ingress of hazardous biological fluid on intact skin:

3) In case of ingress of hazardous biological fluid into the eyes:

4) In case of ingress of hazardous biological fluid on the mucous membrane of the oral cavity:

Task No. 2

A patient with a positive result for hepatitis C virus is being prepared for surgery. List the actions of the operating team when working with the patient.

Initial and final test control - tests of the open base

Recommended literature

Basic:

1. Тарасюк В. С. Охорона праці в лікувально-профілактичних закладах. Безпека життєдіяльності: підручник / В. С. Тарасюк, Г. Б. Кучанська, - 2-е вид., переробл. та допов. – К, 2013. – С.126-231.
2. Гігієна праці: Підручник /Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського.- К.: ВСВ “Медицина”, 2011.- С.810-854.
3. Охорона праці в медичній галузі: Навч.-метод.посібник для мед.ВНЗ ІV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
4. Профілактична медицина. Загальна гігієна з основами екології. Підручник / Даценко І.І., Габович Р.Д. – К.:

Здоров'я, 2004. – С. 493 – 511.

5. Комунальна гігієна / Гончарук Є.Г., Бардов В.Г., Гаркавий С.І., Яворовський О.П. – К.: Здоров'я, 2003. – С. 615 – 657.

Additional:

- 1.«Гігієнічна класифікація праці за показниками шкідливості та небезпечності факторів виробничого середовища, важкості та напруженості трудового процесу», затверджена наказом МОЗ України №248 від 08.04.2014.
2. Закон України «Про протидію поширенню хвороб, зумовлених вірусом імунодефіциту людини (ВІЛ), та правовий і соціальний захист людей, які живуть з ВІЛ».
3. Закон України "Про забезпечення санітарного та епідемічного благополуччя" від 24 лютого 1994 року // Відомості Верховної Ради України. – 1994. – № 27. – С. 217.
4. Закон України «Про захист населення від інфекційних хвороб», від 6 квітня 2000 року // Голос України. – 2000. – 16 травня.
5. Наказ МОЗ України № 955 від 05.11.2013 р. «Порядок проведення екстреної постконтактної профілактики ВІЛ-інфекції у працівників при виконанні професійних обов'язків».
6. Наказ МОЗ України № 148 від 17.03.2015 р. «Про затвердження Порядку підтвердження зв'язку зараження ВІЛ-інфекцією з виконанням працівників своїх обов'язків».
7. Наказ МОЗ України №729 від 18.07.2016
8. Наказ МОЗ України №585 від 10.07.2013 р. «Порядок організації медичної допомоги хворим на ВІЛ-інфекцію/СНІД».
9. Наказ МОЗ України від 18.08.2010 № 684 «Про затвердження Стандарту інфекційного контролю за туберкульозом в лікувально-профілактичних закладах, місцях довгострокового перебування людей та проживання хворих на туберкульоз».
10. Наказ МОЗ України від 21.06.2016 №613 «Про затвердження та впровадження медико-технологічних документів зі стандартизації медичної допомоги при вірусному гепатиті В».
11. ДСанПіН «Санітарно-протиепідемічні вимоги до закладів охорони здоров'я, що надають первинну медичну (медико-санітарну) допомогу», затверджені наказом МОЗ України від 02.04.2013 №259.
12. ДСанПіН «Гігієнічні вимоги до розміщення, облаштування, обладнання та експлуатації перинатальних центрів», затверджені наказом МОЗ України від 26.01.2012 №55.
13. Державні санітарні правила ДСП 9.9.5.080-2002 «Правила влаштування і безпеки роботи в лабораторіях (відділах, відділеннях) мікробіологічного профілю».

Teacher's signature _____

Section 3.

Special issues of occupational safety in the field of medicine

Subject No. 10. Fundamentals of industrial safety of medical workers.

Date " ____ " _____ 20__;

Name, year, group _____

Urgency and motivational characteristics. The industrial safety of medical workers is a guarantee of preserving the health of the doctor and patient, a prerequisite for prevention of accidents, damages and injuries.

Learning objective

1. To form the students' knowledge on the safety requirements of technological equipment and technological processes of medical-preventive establishments.
2. To get acquainted with the concept of electrical safety and the safety requirements for the operation of electrical equipment at medical-preventive establishments.
3. To study the fundamentals of fire safety, basic means and measures to ensure fire safety of the establishment.

As a result of studying the subject, the student should:

Know:

1. General safety requirements for technological equipment.
2. The requirements for electrical safety and the operation of electrical equipment.
3. General requirements of fire safety for objects of protection for various purposes at different stages of the technological cycle.

4. NTD currently in use, connected with the requirements of fire safety, electrical safety and operation of electrical equipment for various purposes.

Be able to:

1. Determine the main factors of the working environment and the labor process, which can adversely affect workers, reveal and assess the signs of its influence on the body.
2. Substantiate and implement improving sanitary-hygienic measures for safe working conditions.

Questions for self-training

1. Electrical safety. Classification of the room by the degree of danger of electric shock. Conditions of electric shock. Safe operation of electrical installations: electrical protective equipment and measures.
2. State Fire Supervision. Fire prevention in the design and maintenance of medical-preventive establishments and medical equipment.
3. Indicators of explosive and fire hazard properties of materials and substances. Categories of premises by explosion hazard. Classification of explosive and fire hazardous premises and areas. Fire resistance of building structures and materials.
4. Main means and measures to ensure fire safety of the establishmen. Fire alarm. Fire-fighting equipment.
5. Personnel actions in case of fire. Safe evacuation of personnel. Ensuring and monitoring of fire safety at work sites. Learning the rules of fire safety of workers of medical-preventive establishments.
6. Types of instruction. The order of instructions for employees. Instructions on safety for students and medical workers.
7. Safety requirements for the operation of the basic medical equipment.

Tasks for self-training

At home, the student should prepare answers to theoretical questions and define the following concepts:

Term	Definition
Fire safety system	
Electrical Safety	
Traumatism	

Class work - solve the situational task and record its solution.

Situational task No. 1

There was a fire in the ward for an unidentified cause: curtains, bedding, clothes for the patient from this ward fired. How should duty medical staff work?

Situational task No. 2

What should the doctor-bacteriologist do in case of affection of laboratory assistant by electric current?

Situational task No. 3

In one of the offices of the district polyclinic a fire arose due to a short circuit of electric current. At this time, there were 12 patients and 12 employees in 8 rooms and the living room. The polyclinic is located at the first floor of a residential building. The family doctor first drew attention to the fire.

What are the main measures to be taken by the family doctor, and, in the future, the head of polyclinic in this case?

Task No. 1

The successful extinguishing of fires is possible due to the correct choice of type of fire extinguisher. Give the classification of fire extinguishers by the principle of the device, and also point out, in which cases each type of fire extinguisher is used.

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No. 2

Depending on the type of affection, electric strokes are divided into four degrees:

- 1) _____
- 2) _____
- 3) _____
- 4) _____

Task No.3

According to the degree of danger of human lesion by electric current, industrial premises are divided into three categories. List them and describe each category

Initial and final test control - Tests of open base

Recommended literature

Basic:

1. Гігієна праці: Підручник / Ю.І. Кундієв, О.П. Яворовський, А.М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського. – К.: ВСВ “Медицина”, 2011. – 904 с.
2. Гігієна та охорона праці медичних працівників. Навчальний посібник / За ред. В.Ф. Москаленка, О.П. Яворовського. – К.: «Медицина», 2009. – 176 с.
3. Тарасюк В. С. Охорона праці в лікувально-профілактичних закладах. Безпека життєдіяльності: підручник / В. С. Тарасюк, Г. Б. Кучанська, - 2-е вид., переробл. та допов. – К, 2013. – С.126-231.
4. Охорона праці в медичній галузі: Навч.-метод.посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворовський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
5. ГОСТ 12.1.004-91 ССБТ “Пожарная безопасность. Общие требования”.
6. ГОСТ 12.1.030-81 ССБТ “Электробезопасность. Защитное заземление, зануление”.

Additional:

1. Закон України “Про страхові тарифи на загальнообов’язкове державне соціальне страхування від нещасного випадку на виробництві та професійного захворювання, які спричинили втрату працездатності”.
2. Основи законодавства України про охорону здоров’я.
3. Закон України “Про пожежну безпеку”.
4. Закон України “Про об’єкти підвищеної небезпеки”.
5. Постанова Кабінету Міністрів України “Порядок розслідування та ведення обліку нещасних випадків, професійних захворювань і аварій на виробництві” № 1232 від 30 листопада 2011 року.
6. Наказ МОЗ України № 268 від 30.09.94 “Про службу охорони праці системи Міністерства охорони здоров’я України”.
7. Наказ Держнаглядохоронпраці України № 15 від 26.01.05 “Типове положення про порядок проведення навчання і перевірки знань з питань охорони праці”.
8. Наказ Держнаглядохоронпраці України № 15 від 26.01.05 “Перелік робіт з підвищеною небезпекою”.
9. ДБН В 2.2-10-01 “Проектування закладів охорони здоров’я”.
10. ГОСТ 12.1.010-76 ССБТ “Взрывоопасность. Общие требования”.
11. ГОСТ 12.1.044-89 ССБТ “Пожаровзрывоопасность веществ и материалов”.

Teacher's signature _____

List of questions to credit in discipline "Occupational safety in the field of medicine"

Theoretical questions

Content module 1. General issues of occupational safety.

1. Basic terms and definitions in the field of occupational safety: occupational safety, working conditions, harmful production factor, hazardous production factor, safe working conditions, workplace, safety, etc.
2. Subjects and objects of occupational safety.
3. The current state of occupational safety in Ukraine and abroad.
4. General issues of occupational safety in medicine.
5. The legal basis for occupational safety (the Constitution of Ukraine, the Labor Code, the Law of Ukraine "About occupational safety").
6. Normative and legal acts on occupational safety: definition, basic requirements and characteristics. Structure of regulatory and legal acts on occupational safety. Register of regulatory and legal acts on occupational safety.
7. National standards of Ukraine on occupational safety. Occupational safety standards system (OSSS). Sanitary, construction norms, other national documents on occupational safety.
8. Acts on occupational safety, operating in the organization, their composition and structure. Instructions for occupational safety. Development and approval of occupational safety legislation in force in the organization.
9. Responsibility of officials and employees for violation of legislation on occupational safety.
10. Social partnership as a principle of legislative and regulatory framework for occupational safety. Social dialogue in the European Union.
11. International standards of social responsibility. Standard SA 8000 "Social responsibility". International Standard ISO 26000 "Guidelines for Social Responsibility".
12. Legislative basis of the EU on occupational safety issues. EU Occupational Safety and Health Directives. Framework Directive 89/391 / EU "On the introduction of measures to improve the safety and health of workers."
13. Elements of the OSH management system, international standard OHSAS 18001: 2007.
14. Labor standards of the International Labor Organization. ILO Conventions and Recommendations. ILO core conventions on occupational safety and health.
15. International cooperation in the field of occupational safety. The main areas of cooperation. United Nations. World Health Organization. International Atomic Energy Agency. The International Labour Organization. European Union. Commonwealth of Independent States.
16. Occupational safety as an obligatory component of social responsibility.
17. State management of occupational safety, state supervision and public control over occupational safety in Ukraine. The bodies of state supervision of occupational safety, their basic powers and rights. Public control over compliance with occupational safety legislation.
18. The State Service of Ukraine for Labor, its structure and functions.
19. A risk-based approach in assessing the potential and real danger of the harmful effects of environmental factors on human health.
20. Identification, assessment and decrease of risks of hazardous events, quality management and the formation of safety culture.
21. Collective and labor contracts as a reflection of legislation on occupational safety. Law of Ukraine "On the collective agreements" and its content. The Order of the Ministry of Labor and Social Policy of Ukraine "About the approval of the form of the labour contract between workers and a physical person". Conclusion of the labour contract, taking into account the specifics of types of work and features of functional duties. Regulation of occupational safety issues in a collective agreement. Employment by contract.
22. Responsibility of officials and employees for violations of legislation in the field of occupational safety.
23. Sectoral programs to improve the state of safety, occupational hygiene and work environment. Regulations on the organization of the OSH management system in the industry. The Order of the Ministry of Health of Ukraine No. 268 dated 30.09.94 "About the Service of Occupational Safety of the Ministry of Health."
24. Structure, main functions and tasks of OSH management at medical establishments. Service of occupational safety of medical-preventive establishment (MPE), its structure, number, main tasks and functions. Rights and duties of employees of the occupational safety service.
25. Commission on occupational safety at medical establishments, basic tasks and rights. Rooms of industrial safety and occupational safety, basic tasks and directions of work.
26. Planning of measures for occupational safety. Revealing, assessment and reduction of risks of hazardous events, quality management and safety culture. Registration and analysis of occupational safety indicators. Plans for localization and elimination of emergency situations and accidents.
27. Principles of organization, types of training and testing of knowledge on occupational safety issues. Instructions on occupational safety issues, their types. Stimulation of occupational safety.
28. Socio-economic effect of occupational safety of medical workers.
29. The Order of the Ministry of Education and Science of Ukraine No. 563 dated 01.08.2001 "About approval of the Regulations on the organization of work in order to protect the labor of participants of educational process at establishments and educational institutions."
30. Occupational hygiene and physiology - definitions, goals, objectives, research methods.

31. Classification of hazardous and harmful production factors.
32. The main physiological characteristics of physical and mental labor. Physiological changes that occur in the organs and systems of the body when performing labor.
33. Human capacity for work, the dynamics and reasons for its change throughout the working day and week.
34. Physiological essence of fatigue, existing theories and modern understanding of the mechanism of its occurrence.
35. Ways to prevent the development of fatigue. The technique of working out rational regimens of work and rest.

Content module 2.

Features of labour conditions in the field of medicine

1. Classification of labor of medical workers.
2. Psychophysiological harmful and dangerous factors of the working environment and their influence on the health of medical personnel.
3. Physical harmful and dangerous factors of the working environment and their influence on the health state of medical workers.
4. Chemical harmful and dangerous factors of the working environment and their influence on the health state of medical workers.
5. Biological harmful and dangerous factors of the working environment and their influence on the health state of medical workers.
6. Hygienic features of working conditions and health state of doctors of different specialties (surgical, therapeutic, dental, etc.).
7. Features of occupational and production-dependent morbidity of medical workers.
8. Basic methods and criteria for sanitary and hygienic assessment of working conditions of medical workers. Concepts of weight, intensity, harm and danger of work.
9. Technique for assessing the work of medical workers on the criteria "Hygienic classification of labor by indices of harmfulness and danger of factors of the working environment, the weight and intensity of the labor process," approved by order of the Ministry of Health of Ukraine No. 248 dated 08/04/2014.
10. Certification of workplaces by working conditions. Purpose, main tasks and content of certification. Organization of work and procedures for attestation of workplaces. Chart of working conditions.
11. The main content of the Decrees of the Cabinet of Ministers of Ukraine No. 1232 dated 30.11.2011. "Some issues of the investigation and registration of accidents, occupational diseases and damages at industries", No. 270 dated 22.03.01. "About approval of the order of investigation and registration of damages of non-industrial character "and No. 1662 dated 08.22.2000" About the approval of the list of occupational diseases ".
12. Technique of investigation and registration of accidents at work.
13. Technique of investigation and registration of accidents of non-productive nature.
14. Traumatism, acute and chronic occupational diseases and poisonings in the field of medicine.
15. Measures to prevent accidents, injuries and occupational diseases of health care workers.
16. Social Insurance Fund for Industrial Accidents and Occupational Diseases. Law of Ukraine "About mandatory State social insurance from accidents at work and occupational disease, which caused loss of capacity for work." Compensation of harm to the victim at work.

Content module 3.

Special issues of occupational safety in the field of medicine.

1. Hygienic requirements for the design and construction of medical-preventive establishments.
2. Safety requirements during the operation of the main medical equipment.
3. Measures to reduce the physical and neuropsychic overstrain of medical workers. Scientific organization of labor at medical-preventive establishments. Rational organization of the workplace and furniture. The main ways to prevent the development of fatigue.
4. Measures to reduce the adverse effect of physical factors on the body of medical workers. Requirements for the microclimate.
5. Measures to reduce the adverse effects of noise, vibration, ultrasound.
6. Requirements for the production illumination of workplaces of medical personnel.
7. Requirements for ultraviolet radiation, electromagnetic fields of radio frequencies and laser radiation at workplaces of medical personnel.
8. Requirements for video terminals and personal computers.
9. Requirements for ionizing radiation in the work of medical and pharmaceutical personnel.
10. Measures to reduce the adverse effects of chemical factors on the body of health care workers. Ways of preventing air pollution in the work area by harmful chemicals.
11. Measures to prevent the harmful effects of biological factors. Sanitary-hygienic and anti-epidemic regimens of the hospital. Prevention of nosocomial infections as a component of occupational safety in medicine.
12. Hygienic and health education.
13. Requirements for personal protective equipment and work clothes for medical personnel.

14. Organization of air exchange in the premises of MPE, ventilation.
15. Occupational safety of medical personnel in certain structural subdivisions of MPE (operating unit, radiodiagnostic units, physiotherapy rooms, pathoanatomical departments, morgues, etc.), the main regulatory documents that regulate these issues.
16. Fundamentals of the organization of occupational safety of personnel in the pharmaceutical industry.
17. Standards of working time for the personnel of establishments and organizations of health protection.
18. Occupational safety in higher medical educational establishments.
19. Guarantees of employees' rights to occupational safety, benefits and compensation for hard and harmful working conditions. Responsibilities of personnel to comply with the requirements of regulatory and legal acts on occupational safety.
20. Occupational safety for women, minors, people of older age groups and persons with disabilities, the main regulatory documents that regulate these issues.
21. Medical examinations of health care workers. The main provisions of Order of the Ministry of Health of Ukraine No. 246 dated May 21, 2007 "On approval of the Order of medical examinations of the workers of certain categories".
22. Prevention of nosocomial infections as a component of health protection.
23. The concept of dangerous infectious diseases.
24. HIV and AIDS in the practice of a doctor. Possible ways of getting biological material from HIV-infected persons into the body of medical personnel. The concept of a "production accident" and an emergency appeal to the AIDS Center / Institute for Infectious Diseases.
25. The main provisions of Law of Ukraine "On the counteraction of spreading of diseases, caused with human immunodeficiency virus (HIV), legal and social protection of people, who live with HIV" and Law of Ukraine "On the approval of the general State target social program of counteraction to HIV-infection / AIDS for 2014 -2018 "No. 1708-VII dated October, 20, 2014.
26. The main provisions of the Orders of the Ministry of Health of Ukraine No. 955 dated 05.11.2013. "The procedure for carrying out the post-contact prophylaxis of HIV-infection in workers when fulfilling professional duties," No. 148 dated March 17, 2015 "About approval of the Order of confirmation of connection HIV-infection when fulfilling professional duties by workers", No. 955 dated 05.11.2013" About approval of normative legal acts of protection from contagion with HIV-infection when fulfilling professional duties "and others.
27. Viral hepatitis, their potential danger to health care workers. Prevention of infection with hepatitis viruses and immunoprophylaxis in contact with biological materials of patients with hepatitis.
28. Decree of the Cabinet of Ministers of Ukraine No. 637 dated April 29, 1313 "On approval of the state target and social program of prevention, diagnostics and treatment of chronic hepatitis for the period until 2016."
29. Tuberculosis and its prevalence in Ukraine and in the world. Potential occupational hazards for health care workers.
30. Measures to prevent the infection of health care workers with tuberculosis. Laws of Ukraine "About counteraction of tuberculosis infection", "About confirmation of general State target social program of counteraction to tuberculosis infection for 2012 - 2016".
31. Colors, safety signs and signal markings.
32. General safety requirements for technological equipment and processes at MPE. Safety during the operation of pressure systems and cryogenic equipment.
33. Electrical safety. Classification of premises by the degree of danger of electric shock.
34. Conditions of electric shock. Safe operation of electrical installations: electrical protective equipment and measures.
35. Fundamentals of fire safety. State Fire Supervision. Fire prevention in the design and maintenance of MPE and operation of medical equipment.
36. Indicators of explosive and fire hazard properties of materials and substances. Categories of premises for explosion and fire hazard. Classification of explosive and fire hazardous premises and areas. Refractoriness of building structures and materials.
37. The main means and measures to ensure fire safety of the establishment. Fire alarm. Fire-fighting equipment.
38. Personnel actions in the case of a fire. Ensuring the safe evacuation of personnel. Providing and monitoring the state of fire safety at production establishment. Training in the fire safety of MPE workers.

Practical skills

1. Apply the requirements of legislative and regulatory documents for the introduction of methods and means of the occupational safety system working at medical establishments.
2. Apply the basic forms of organization and management of occupational safety of medical workers.
3. Reveal harmful and dangerous factors of the working environment at the workplace of medical workers and give their hygienic assessment.
4. Assess the organization of the workplace, furniture, medical equipment at MPE.
5. Forecast the possibility of occurrence of occupational, occupation-dependent diseases, accidents, emergency situations.
6. Carry out attestation of workplaces according to working conditions by indicators of weight, intensity, harmfulness and danger of the production process.

7. Substantiate and work out a plan of measures to improve the working conditions of medical workers and monitor their effectiveness.
8. Monitor compliance with the rules of personal hygiene and the use of personal protective equipment for medical workers.
9. Carry out the investigation and registration of accidents, acute and chronic occupational diseases, cases of injuries in the field of medicine.
10. Organize fire and electrical safety measures.
11. Work out safety guidelines for health care workers.
12. Carry out training and examination of knowledge on occupational safety.

List of literature

Basic literature:

1. Охорона праці в медичній галузі: Навч.-метод. посібник для мед.ВНЗ IV р.а.- 2-ге вид., випр..Рекомендовано МОН/ Яворський О.П., Веремей М.І., Зенкіна В.І. та ін.- К., 2017. – 208 с.
2. Безпека життєдіяльності, основи охорони праці: навч.-метод. посіб. / О. П. Яворовський, В. М. Шевцова, В. І. Зенкіна та ін.; за заг. ред.. О. П. Яворовського. – К.: ВСВ «Медицина», 2015. – 288 с.
3. Безпека життєдіяльності, основи охорони праці: навч.-метод. посіб. / упор.: О. П. Яворовський, В. М. Шевцова, Г. А. Шкурко та ін.- Черкаси: видавець Чабаненко Ю. А., 2012. – 232 с.
4. Гігієна праці: Підручник / Ю. І. Кундієв, О. П. Яворовський, А. М. Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю. І. Кундієва, чл-кор. НАМН України проф. О. П. Яворовського. – К.: ВСВ «Медицина», 2011. – 904 с.

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2. Гігієна та охорона праці медичних працівників. Навчальний посібник/За ред. В. Ф. Москаленка, О. П. Яворовського. – К.: «Медицина», 2009. – 176 с.
3. Конституция Украины. Основной закон от 28.06.1996.
4. Кодекс законов о труде Украины. Закон № 322-VIII от 10.12.71.
5. Закон Украины «Про охорону праці» от 24.02.94.
6. Закон Украины «Про забезпечення санітарного та епідемічного благополуччя населення» № 4004-XII от 24.02.94.
7. Закон Украины «Про колективні договори та угоди» № 1874 от 24.12.95.
8. Закон Украины «Про страхові тарифи на загальнообов'язкове державне соціальне страхування від нещасного випадку на виробництві та професійні захворювання, які спричинили втрату працездатності» № 1423 от 13.09.2000.
9. Закон Украины «Про адміністративні порушення» № 8074 – 10 от 07.12.84.
10. Основы законодательства Украины про охрану здоровья № 2802 – XII от 19.11.92.
11. Закон Украины «Про захист людини від впливу іонізуючих випромінювань» № 15/98-ВР от 14.01.1998.
12. Кодекс гражданской защиты Украины № 5403-VI от 02.10.2012.
13. Закон Украины «Про об'єкти підвищеної небезпеки» № 2245-III от 18.01.2001.
14. Закон Украины «Про затвердження Загальнодержавної цільової соціальної програми протидії ВІЛ-інфекції/СНІДу на 2014-2018 роки» № 1708-VII от 20.10.2014.
15. Закон Украины «Про протидію поширенню хвороб, зумовлених вірусом імунодефіциту людини (ВІЛ), та правовий і соціальний захист людей, які живуть з ВІЛ» № 1972-XII от 12.12.91.
16. Закон Украины «Про протидію захворюванню на туберкульоз» № 2586-III от 05.07.2001.
17. Постановление КМУ «Порядок розслідування та ведення обліку нещасних випадків, професійних захворювань і аварій на виробництві» № 1232 от 30.11.2011.
18. Постановление КМУ № 1662 от 08.11.2000 «Про затвердження переліку професійних захворювань».
19. Постановление КМУ № 442 от 01.08.92 «Про Порядок проведення атестації робочих місць за умовами праці»
20. Постановление КМУ № 559 от 23.05.01 «Про затвердження переліку професій, виробництв та організацій, працівники яких підлягають обов'язковим профілактичним медичним оглядам, порядку проведення цих оглядів та видачі особистих медичних книжок».
21. Постановление КМУ № 637 от 29.04.13 «Про затвердження Державної цільової соціальної програми профілактики, діагностики та лікування вірусних гепатитів на період до 2016 р.».
22. Постановление КМУ № 955 от 05.11.2013 «Про затвердження нормативно-правових актів щодо захисту від зараження ВІЛ-інфекцією з виконанням працівником своїх професійних обов'язків».
23. Постановление КМУ № 148 от 17.03.2015 «Про затвердження Порядку підтвердження зв'язку зараження ВІЛ-інфекцією з виконанням працівником своїх професійних обов'язків».

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25. Приказ МОЗ України № 133 от 25.03.03 «Про затвердження Переліку спеціалізованих лікувально-профілактичних закладів, які мають право встановлювати остаточний діагноз щодо професійних захворювань».
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29. Приказ МОЗ України № 276 от 10.12.93 «Граничні норми піднімання і переміщення важких речей жінками».
30. Приказ МОЗ України № 46 от 31.03.94 «Перелік важких робіт з шкідливими або небезпечними умовами праці, на яких забороняється використання праці неповнолітніх».
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32. Приказ МОЗ України № 955 от 05.11.13 «Порядок проведення екстреної пост контактної профілактики ВІЛ-інфекції у працівників при виконанні професійних обов'язків».
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34. «Гигиеническая классификация труда по показателям вредности факторов производственной среды, тяжести и напряженности трудового процесса», утверждения приказом МОЗ Украины № 248 от 08.04.14.
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38. ГСН 3.3.6.042-99 «Санітарні норми мікроклімату виробничих приміщень?».
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71. НПАОП 85.11-1.06-70 (НПАОП 85.11-1.06-70) “Правила обладнання, експлуатації та техніки безпеки фізіотерапевтичних відділень (кабінетів)”.
72. НПАОП 85.14-1.08-79 (НПАОП 85.14-1.08-79) “Правила з охорони праці працівників дезінфекційної справи та з утримання дезінфекційних станцій, дезінфекційних відділів, відділень профілактичної дезінфекції санітарно-епідеміологічних станцій, окремих дезінфекційних установок”.
73. НПАОП 85.14-1.09-81 (НПАОП 85.14-1.09-81) “Правила устройства, техники безопасности, производственной санитарии, противоэпидемического режима и личной гигиены при работе в лабораториях (отделениях, отделах) санитарно-эпидемиологических учреждений системы Министерства здравоохранения СССР”.
74. НАОП 9.1.50-1.10-84 (НПАОП 85.11-1.10-84) “Правила з техніки безпеки при експлуатації виробів медичної техніки в установах охорони здоров'я. Загальні вимоги”.
75. НАОП 9.1.50-1.12-83 (СанПиН 2956а-83) (НПАОП 85.13-1.12-83) “Санитарные правила устройства, оборудования, эксплуатации амбулаторно-поликлинических учреждений стоматологического профиля, охраны труда и личной гигиены персонала”.
76. НАОП 9.1.50-1.13-59 (НПАОП 85.11-1.13-59) “Правила обладнання і експлуатації інфекційних установ (інфекційних відділень, палат), а також охорони праці персоналу цих установ”.
77. НАОП 9.1.50-1.15-69 “Санітарні правила проектування, обладнання, експлуатації та утримання виробничих і лабораторних приміщень, які призначені для проведення робіт з ртуттю, її сполуками та приладами”.
78. НАОП 9.1.50-2.01-70 (ОСТ 42-21-11-81) “Кабінети і відділення променевої терапії. Вимоги безпеки”.
79. НАОП 9.1.50-2.02-3 (ОСТ 42-21-15-83) “Кабінети рентгенодіагностичні. Вимоги безпеки”.
80. НАОП 9.1.50-2.08-86 (ОСТ 42-21-16-86) “Відділення, кабінети фізіотерапії. Загальні вимоги безпеки”.
81. НАОП 9.1.50-3.01-88 (НПАОП 85.0-3.01-88) “Галузеві норми безплатної видачі спецодягу, спецвзуття та інших засобів індивідуального захисту, а також норм санітарного одягу і санітарного взуття працівникам установ, підприємств і організацій системи охорони здоров'я”.
82. НАОП 9.1.50-5.01-88 “Типова інструкція з охорони праці при проведенні робіт з лазерними апаратами”.
83. НАОП 9.1.50-5.02-88 “Типова інструкція з охорони праці для персоналу операційних блоків”.
84. НАОП 9.1.50-5.04-85 “Типова інструкція з техніки безпеки і виробничої санітарії для персоналу радіодіагностичних підрозділів лікувально-профілактичних установ”.
85. НАОП 9.1.50-5.05-84 “Типова інструкція з техніки безпеки і виробничої санітарії для персоналу рентгенодіагностичних кабінетів лікувально-профілактичних установ системи міністерства охорони здоров'я СРСР”.
86. НАОП 9.1.50-5.07-85 “Типова інструкція з техніки безпеки при обслуговуванні і ремонті будинків та споруд”.
87. НАОП 9.1.50-5.08-85 “Типова інструкція з техніки безпеки при роботі в стерилізаційних установках”.
88. НАОП 9.1.50-6.03-88 (ГМВ 42-21-26-88) “Галузеві методичні вказівки. Відділення гіпербаричної оксигенації. Правила експлуатації і ремонту”.
89. НАОП 9.1.50-6.04-91 “Методичні рекомендації щодо поліпшення умов праці медичних працівників, які зайняті ультразвуковою діагностикою”.

90. НПАОП 0.00-1.28-10 “Правила охорони праці під час експлуатації електронно-обчислювальних машин”.
91. Гігієна праці: Підручник /Ю.І.Кундієв, О.П.Яворовський, А.М.Шевченко та ін.; за ред. акад. НАН України, НАМН України, проф. Ю.І. Кундієва, чл-кор. НАМН України проф. О.П.Яворовського.- К.: ВСВ “Медицина”, 2011.- 904с.
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95. Косарев В.В. Профессиональные заболевания медицинских работников: Монография.- Самара: ГП “Перспектива”, 1998.- 200 с.
96. Гигиена и охрана труда медицинских работников /В.И. Свидовый, Е.Е. Палишкина - СПб.: Издательство СПб ГМА им. И.И.Мечникова, 2006. - 90 с.
97. Конвенции МОП по гигиене и охране труда.

Information resources:

1. Official Internet-representation of President of Ukraine. <http://www.president.gov.ua/>.
2. Verkhovna Rada of Ukraine. <http://www.rada.gov.ua/>.
3. Cabinet of Ministers of Ukraine. <http://www.kmu.gov.ua/>.
4. Ministry of Health of Ukraine. <http://moz.gov.ua/ua/portal/>.
5. Ministry of education and science of Ukraine. <http://www.mon.gov.ua/>.
6. Ministry of ecology and natural resources of Ukraine. <http://www.menr.gov.ua/>.
7. State service of Ukraine of emergencies. <http://www.dsns.gov.ua/>.
8. State service of Ukraine of labor issues. <http://www.dsp.gov.ua/>.
9. World Health Organization. <http://www.who.int/en/>.
10. International Labor Office. <http://www.ilo.org/global/>.