

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ СЕМЕНА КУЗНЕЦЯ

ЗАТВЕРДЖЕНО

на засіданні кафедри
готельного і ресторанного бізнесу
Протокол №1 від 31.08.2023 р.

ПОГОДЖЕНО

Проректор з навчально-методичної роботи



Каріна НЕМАШКАЛО

БЕЗПЕКА ЖИТТЄДІЯЛЬНОСТІ ТА ОХОРОНА ПРАЦІ

робоча програма тренінг-курсу

Галузь знань усі
Спеціальність усі
Освітній рівень перший (бакалаврський)
Освітня програма усі

Статус дисципліни обов'язкова
Мова викладання, навчання та оцінювання англійська

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Завідувач кафедри
готельного і ресторанного
бізнесу

Оксана ДАВИДОВА

Харків
2023

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS

APPROVED

at the department meeting
hotel and restaurant business
Minutes №1, 31.08.2023



APPROVED
Vice-rector for educational and methodical work
Carina NEMASHKALO

LIFE SAFETY AND LABOUR PROTECTION

syllabus of training course

Field of knowledge **all**
Specialty **all**
Educational level **first (bachelor)**
Educational program **all**

Type of discipline **compulsory**
Language of teaching, training and evaluation **english**

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INTRODUCTION

The reverse side of scientific, technical, social, and economic progress is the increased risk of occurrence and negative impact on human life and the environment. That is why improving safety is one of the most urgent tasks today. It is impossible to create absolute security. However, minimising the danger likelihood is a feasible but difficult task because it requires people to rethink and re-evaluate the experience and knowledge of modern science, in other words, a radical change in the human worldview. New knowledge branches are to achieve this goal. They combine diverse current and past human experiences. One example of such a complex combination of knowledge is the training course “Life Safety and Labour Protection”. The training course basis is an analysis and solution of human safety issues. Its content includes such elements as a comprehensive study and classification of hazards, which may affect humans, the sources of their occurrence, and measures aimed at their prevention and elimination. The scientific basis of the training course consists of the results of modern research in physiology and psychology, ergonomics, ecology, etc., which provides systematic knowledge that the student receives.

The training course aims to study the general patterns of occurrence and development of dangers, analyse the nature and consequences of the impact of hazards on human health, and format necessary skills and abilities to prevent and eliminate risks.

The training course tasks: identification of optimal parameters of human activity; study of the conditions of the hazards formation; forecasting the occurrence of the danger; determination of methods of prevention and reduction of the negative consequences of the hazards’ impact on people.

The training course subject is human life activity.

The results of training and competence formed by the training course are defined in Table 1.

Table 1

Competence and results of studying training course

Learning outcomes	Competences that must be mastered by a student of higher education
The ability to implement one’s rights and responsibilities as a member of society; to be aware of the values of a democratic society and the need for its sustainable development; the rule of law, and rights and freedoms of a person and a citizen of Ukraine.	To know one’s rights and responsibilities as a member of society, to be aware of the values of civil society, the rule of law, and the rights and freedoms of a person and a citizen in Ukraine.

The ability to preserve and multiply moral, cultural, and scientific values; to multiply the achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and culture and in the development of society and technology; to use different types and forms of motor activity for active recreation and leading a healthy lifestyle.	To preserve moral, cultural, and scientific values; to multiply society's achievements of; to use various types and forms of physical activity to lead a healthy lifestyle.
The ability to act socially responsible and consciously.	Demonstrate the ability to act socially responsible and conscious on the basis of ethical considerations (motives), respect for diversity and interculturality.

THE TRAINING COURSE PROGRAM

A training course content

Content module 1. Life safety and labour protection

Theme 1. Basic concepts and principles of life safety and labour protection.

1.1. Purpose, object and subject of the training course.

The aim, object and subject of the training course. Training course content and structure. Connection of training course with other disciplines. Basic concepts – life, activity, environment, safety, danger, labour protection etc. Safety of human, society and nation. Safety culture is an element of culture, which realises the protective function of humanity.

1.2. Taxonomy, identification and quantification of dangers.

1.3. Classifications of dangers.

Classification of dangers depending on the consequences of the influence of injurious factors on a human, classification of dangers depending on the origin, classification of dangers depending on the damage done, classification of dangers depending on the localisation, classification of dangers depending on the character of influence on a human.

Theme 2. Legal and organisational bases of life safety and labour protection.

2.1. The current life safety and labour protection conditions in Ukraine and abroad.

Analysis of life safety and labour protection in Ukraine and abroad. International and Ukrainian life safety and labour protection programs: implementation and results.

2.2. A life safety legislation in Ukraine.

The legislative and regulatory documents of Ukraine on life safety. Their brief description.

2.3. Structural and functional scheme of life safety management.

Structural and functional scheme of life safety management in Ukraine. Legislation norms, by-laws, standards and technical conditions, and technical and administrative regulations define life safety regulation principles and mechanisms. Monitoring is a form of control over the life safety system functioning. The activity of state and local executive authorities on ensuring life safety.

2.4. Legislation of Ukraine on labour protection.

Constitutional principles of labour protection in Ukraine. Law of Ukraine “On labour protection”. Principles of Ukrainian state policy on labour protection. Workers’ rights warranty on labour protection, benefits and compensation for difficult and harmful working conditions. Labour protection of women, minors and the disabled. Normative-legal acts on labour protection: definition, structure and register. Responsibilities of employees for compliance with labour protection regulations. National standards of Ukraine on labour protection. Sanitary, building norms, and other documents on labour protection.

2.5. Occupational safety financing.

Basic principles and sources of financing. Labour protection tools that cost implementation and acquisition are included in gross expenditures.

2.6. The labour protection management system in Ukraine.

Competence and powers of labour protection management. The National Council for Safe Living of the Population. State supervision bodies over labour protection, and their rights. Public control over compliance with labour protection legislation.

2.7. Structure, functions and tasks of labour protection management in the organisation.

Labour protection service of the enterprise. Status and subordination. The tasks, and functions of the labour protection service. Structure and number of employees in labour protection services. Rights and responsibilities of labour protection employees.

2.8. Responsibility of officials and employees for violations of life safety and labour protection legislation.

Theme 3. Physiological and psychological criteria of human safety.

3.1. Physiological systems of the human body.

The organism’s subsystems and systems. Their characteristics and role in the organism. The organism’s protective properties.

3.2. Analyser characteristics.

The analysers’ role in the organism. Absolute and differential sensation thresholds. Weber-Fechner law. Analysers classification.

3.3. Reflex, reflex arc.

The significance of reflexes. Conditioned and unconditioned reflexes, features of their work.

3.4. Human health is a necessary condition for human safety.

Valeology is the science of human health. Characteristics of individual and social

health. Basic mechanisms for maintaining human health. Factors affecting human health.

3.5. Mental processes and properties.

Psyche. Mental processes: thinking, memory, attention, etc. Mental properties: temperament, character, abilities, will, etc. The role of mental processes and properties in human safety. Person psychological reliability; its role in ensuring safety.

3.6. The organism state classification and characteristics.

The concept of “the organism state”; the organism state classification. Analysis of the most common bad organism conditions: fatigue, stress, monotony. Their impact on human safety. Possible ways to solve the problem of bad organism conditions.

Theme 4. Physiology and occupational health.

4.1 The technogenic environment and technogenic dangers.

The technogenic environment characteristic. Dangerous technogenic factors classification.

4.2. Work area air.

Working area micro-climate. Rationing and control of micro-climate parameters. Methods of micro-climate parameters normalisation. Air condition control. Ways to prevent air pollution of the work area. The organisation of indoor air exchange, air balance. Natural ventilation and its types. Artificial (mechanical) ventilation systems, their choice and design.

4.3. Indoor lighting.

Natural, artificial, combined lighting. Primary requirements for indoor lighting. Lighting rationing. Artificial light sources classifications.

4.4. Vibration.

Vibration classification. Hygienic vibrations rationing. Methods of vibration parameters control. Ways of collective and individual protection against vibration.

4.5. Noise.

Noise classification. Noise normalisation. Noise control. Ways of collective and individual protection against noise. Sources and parameters of infrasonic and ultrasonic vibrations. Rationing and control of infrasonic and ultrasonic vibrations. Ways of protection against ultrasound and infrasonic.

4.6. Electromagnetic fields and radiation.

Classification of electromagnetic fields of radio-frequency radiation. Rationing of electromagnetic fields and radiation of the radio frequency range. Methods of control of electromagnetic fields and radiation of radio frequency range. Protection against electromagnetic fields and radiation of the radio frequency range. Classification of the optical range radiation. Features of infra-red, visible and ultraviolet radiations, their rationing and control methods. Ways of protection against infra-red, visible and ultraviolet radiations. Ionizing radiation sources, classification and features of their use. Ways of protection from ionizing radiation.

4.7. Electric current.

Electrical injuries. Factors influencing the consequences of electric shock. Classification of premises according to the degree of electric shock danger. Conditions of electric shock. Safe operation of electrical installations: electrical protective equipment and measures.

4.8. Adverse impact of technogenic dangers on humans.

Assessing factors affecting humans: micro-climate, lighting, noise, vibration, electromagnetic fields and radiation.

4.9. Requirements for the planning and placement of work premises.

Classes of the enterprise's harmfulness according to sanitary norms. Energy and water supply, sewerage, and transport communications at the enterprise, organization or institution. Occupational safety requirements for the location of office equipment and workplace organisation.

4.10. Fire safety.

Premises categories for explosion and fire risk. Classification of explosive and flammable premises and areas. Fire alarms and their types. Fire extinguishers and their classification. Study of fire safety issues by employees.

Theme 5. Workplace safety.

5.1. Industrial injuries, occupational diseases, industrial accidents.

5.2. Ways to prevent injuries and occupational diseases.

5.3. Principles of safe workplace organising.

Ergonomics is the science of creating safe working conditions. The workplace concept. Assessing workplace organisation. The work and rest modes. Adverse consequences of incorrect work and rest modes for workers.

5.4. The ways to improve workers' safety at the workplace.

Professional selection and career guidance as ways for ensuring the worker's safety. Types of professional selection: medical, social, educational, and psychophysiological. Human resources assessment.

Theme 6. Natural dangers and their impact on humans.

6.1. The natural environment characteristic.

The natural environment characteristic. Human activity eco-characteristics. Dangerous natural factors classification. Their effect on humans.

6.2. Natural dangers. Their classification. Adverse impact on humans.

The adverse impact of dangerous meteorological phenomena on humans. The adverse impact of dangerous topological phenomena on humans. The adverse impact of dangerous tectonic phenomena on humans. The adverse impact of dangerous cosmic phenomena on humans. Characteristic of dangerous pathogenic microorganisms: protozoa, fungi, viruses, rickettsia, bacteria. Pandemics, epidemics, mass poisonings. Characteristics of diseases (cholera, anthrax, plague, etc.). Infectious diseases of animals and plants.

6.3. Adverse anthropogenic impact on the natural environment.

Anthropogenic dangers. Their characteristics. Consequences of their impact on humans and the natural environment.

Theme 7. Social dangers and their impact on humans.

7.1 The social environment characteristics. Social dangers.

The social environment characteristics. Dangerous social factors. Social factors affecting human health. Bad habits, social diseases and their prevention. Alcoholism and drug addictions. Rising crime as a risk factor. Concepts and varieties of the crowd. Human behaviour in the crowd. Factors increasing a person's likelihood of being at risk.

7.2. Humanity's global problems.

Ecological crisis, resource crisis, peaceful coexistence, environmental protection, fuel and energy, raw materials, food supply, demographic situation, information security, elimination of dangerous diseases. Socio-political conflicts and the use of weapons and means of mass destruction. Terrorism types. Classification of objects for protection against terrorist acts. Anti-terrorism criteria for assessing vulnerability and increasing the resilience of high-risk facilities.

7.3. Information technologies and human safety.

The impact of the information factor on human health and public safety.

Theme 8. Risk. Risk analysis. Risk management.

8.1. A systematic approach to life safety and labour protection.

Life safety axioms. The axiom of absolute safety and the axiom of potential danger. Their comparison and role in creating safe living conditions.

8.2. Risk analysis.

Definitions of "risk analysis" and "risk". Classifications of risks based on the scale of distribution, depending on expediency, according to the acceptability degree, and other characteristics. Risk assessment, obtaining quantitative danger characteristics, examples of calculations. The concept of acceptable risk, its meaning for creating safe living conditions in society.

8.3. Risk assessment methods.

Approaches to risk determination. Engineering method: qualitative stage (characteristics of all possible dangers), quantitative stage (selection of the most probable dangers, development of effective measures to eliminate them by building "fault tree"). Model method: construction of models of danger occurrence and development, analysis of possible negative consequences of its realisation for the person. Expert method: professional analysis of danger occurrence risk. Sociological method: conducting a population quiz, statistical data processing, and identifying the most significant dangers.

8.4. Risk management.

Definition of "risk management". Safety management by comparing the costs and benefits of risk reduction. Development of risk strategy to reduce the probability of

risk realisation and minimise possible adverse consequences. Choice of methods and tools to manage identified risk.

The list of practices according to the training course is in Table 2.

Table 2

The list of practices

Theme and/or task	Content
Theme 1. Practice 1	Basic concepts of life safety and labour protection and labour protection
Theme 2. Practice 2	Legal and organisational bases of life safety and labour protection
Theme 3. Practice 3	Health and mechanisms supporting it
Theme 3. Practice 4	Organism's energy homeostasis types
Theme 3. Practice 5	Mental processes and properties
Theme 3. Practice 6	Fatigue and stress
Theme 4. Practice 7	Physiology and occupational health
Theme 5. Practice 8	Workplace safety
Theme 5. Practice 9	Professional consultation and selection. Human resources
Theme 6. Practice 10	Natural dangers and their impact on humans
Theme 7. Practice 11	Social dangers and their impact on humans
Theme 8. Practice 12	Risk analysis. Risk assessment. Risk management

The self-study list for the training course is in Table 3.

Table 3

Self-study list

Theme and/or task	Content
Theme 1-8	Literary search and overview
Theme 1-8	Preparing for tests

The hours for practices and self-study are in the work plan of the training course (technological map).

TEACHING METHODS

During teaching a training course to get specific learning outcomes and activate the educational process, it is used following learning methods:

Visual (presentations (Theme 1-8)).

Practical (discussions (Theme 1,5,6,8)), work in small groups (Theme 2-4,7)).

ESTIMATING FORMS AND METHODS

The university uses a 100-point accumulative system of student learning outcomes estimation.

Current control is carried out during practices. Its purpose is to check the level of students' preparedness for specific work tasks. Current control is evaluated depending on the scored points: the maximum number of points is 100; the minimum is 60.

The final control includes the semester control and certification.

Semester control is a credit.

The final grade on the training course is the sum of points received for current control.

During the teaching of the training course, the following control measures are used:

Current control: competence-oriented task (60 points), tests (40 points).

Semester control: a credit.

More detailed information about the evaluation system is in the work plan of the training course (technological map).

RECOMMENDED LITERATURE

Base literature

1. Грибан В. Г. Охорона праці : навч. посіб. / В. Г. Грибан, О. В. Негодченко. – Київ : Центр навчальної літератури, 2019. – 280 с.

2. Запорожець О. Безпека життєдіяльності : навч. посіб. / О. Запорожець. – Київ : Центр навчальної літератури, 2019. – 448 с.

3. Протасенко О. Ф. Роль людського чинника в управлінні виробничою безпекою / О. Ф. Протасенко, Г. В. Мигаль // Вісник Національного технічного університету "ХПІ". Серія: Нові рішення в сучасних технологіях. – Харків: НТУ "ХПІ". 2020. № 1 (3). С. 60-65. <http://surl.li/lfqjl>

4. Ivashura A. A. Green infrastructure as a component of sustainable development / A. Ivashura, O. Protasenko // Proceedings book. – Editura Universitară Danubius, 2023. – P. 58-68. <http://surl.li/lfrhl>

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Additional literature

6. Висловух А. Безпека харчування як основа безпечної життєдіяльності людини. : навч. посіб. / А. Висловух. – Київ : Центр навчальної літератури, 2019. – 252 с.

7. Міхеєнко О. І. Валеологія. Основи індивідуального здоров'я людини : навч. посіб. / О. І. Міхеєнко. – Суми : Університетська книга, 2019. – 448 с.

8. Protasenko O. Ergonomics 4.0: digitalization problems and overcoming them / O. Protasenko, G. Mygal // Municipal economy of cities. – Kharkiv : KhNUMG im. O.M. Beketova. – 2023. – Vol. 3. – № 177. – P. 182-188. <http://surl.li/lfrps>

Internet resources

9. Life Safety and Labour Protection (speciality 6.292.010), assoc. prof. Olga Protasenko [Електрон. ресурс] : Сайт ПНС ХНЕУ ім. С. Кузнеця. – Режим доступу : <https://pns.hneu.edu.ua/course/view.php?id=9923>.

10. Тренінг-курс “Основи охорони праці” [Електрон. ресурс] : практикум для студентів усіх спеціальностей першого (бакалаврського) рівня / уклад. Ю. В. Буц, О. Ф. Протасенко, О. М. Борисенко, В. Л. Безсонний. – Харків : ХНЕУ ім. С. Кузнеця, 2020. – 112 с. – Режим доступу : <http://surl.li/lnrzm>

11. Тренінг-курс “Безпека життєдіяльності” [Електрон. ресурс] : практикум для студентів усіх спеціальностей першого (бакалаврського) рівня / уклад. О. Ф. Протасенко, Є. О. Михайлова. – Харків : ХНЕУ ім. С. Кузнеця, 2021. – 126 с. – Режим доступу : <http://surl.li/lnsdy>