

EUROPEAN MEDICAL UNIVERSITY

“APPROVED”

Vice-rector of EMU,
MD, PhD, DrMedSc, Professor

_____Herman TITOV

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SYLLABUS OF THE EDUCATIONAL DISCIPLINE

"HYGIENE AND ECOLOGY"

Cycle of Higher Education:	second cycle of higher education (Master's degree)
Field of Study:	22 «Healthcare»
Specialty	221 Dentistry
Educational qualification	Master of Dentistry
Professional qualification	doctor
Educational program of EPP	EPP «Dentistry» 2023
Department	Department of Fundamental Disciplines
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Compiler of the syllabus	Candidate of Medical Sciences, Associate Professor Olena ANTONOVA

Dnipro

2024

1. Status and structure of the discipline

Discipline status	Mandatory
Discipline code in EPP/place of discipline in EPP	EC 11, professional training discipline
Course/semester	2 -3 course (4-5 semester)
Course volume (total number of hours/ number of ECTS credits)	90 hours / 3 ECTS credits
Number of Chapter :	1
Number of content sections	3
Distribution by types of training and hours of study	Lectures 18 hours Practical classes 36 hours Independent work 36 hours
Language of instruction	English
Form of education	Full-time
Type of final control	Differential credit

2. Description of the discipline

Brief course summary, relevance.

Hygiene and Ecology – The subject of study of the academic discipline is: hygiene – a branch of medical knowledge, the science of preserving and strengthening public and individual health through preventive measures; ecology – a complex integral science that studies the state of the environment and the patterns of its impact on humans in particular and society in general, as well as the features of the environmental feedback in response to human activity.

Prerequisites: Hygiene and Ecology as an academic discipline is based on the knowledge acquired by students in the following disciplines: philosophy, computer science, ethics. medical biology, human anatomy, normal physiology, medical and biological physics, microbiology, virology, immunology and epidemiology, general chemistry and biochemistry, pathological physiology, life safety, internal diseases, radiation medicine, bioethics, fundamentals of labor protection and is integrated with these disciplines.

The purpose of the course and its significance for professional activity: The purpose of teaching the academic discipline "Hygiene and Ecology" is to study the theoretical foundations of preventive medicine as a science, which is the basis of the preventive component of the professional worldview of a specialist in the direction of training "Dentistry", mastering by students the necessary knowledge, skills, actions, target tasks, skills that meet the ultimate goals of studying the discipline in accordance with the "Standard of Higher Education" in the specialty "221 Dentistry".

Postrequisites: Propaedeutics of internal medicine, Internal medicine, Surgery, Social medicine, public health and the basics of evidence-based medicine, Prevention of dental diseases, Therapeutic dentistry, Surgical dentistry, Orthopedic dentistry, Orthodontics, Obstetrics, Pediatric therapeutic dentistry, Pediatric surgical dentistry, Emergency and urgent medical care, General medical training.

3. The main tasks of the discipline " Hygiene and Ecology" are:

- interpretation of the basic laws of hygienic science and general patterns of connection of health with the factors and conditions of the living environment;
- analysis and assessment of the impact of environmental factors on the general and dental health of the population;
- mastering the methods of hygienic assessment of environmental factors and their impact on public health;
- substantiation of hygienic measures for the prevention of dental diseases in accordance with the current legislation of Ukraine;
- use of positive properties of environmental factors for primary, secondary, tertiary prevention of common diseases and diseases of the dental system;
- making knowledge about the negative factors of the environment, determining their relationship with the state of dental health;
- use of knowledge for the development of preventive measures, including dental orientation;
- ability to plan hygienic measures to prevent the spread of common and dental diseases, to assess their effectiveness;
- substantiation of hygienic measures for observance of a healthy way of life, personal hygiene, occupational hygiene, medical and protective mode of dental institutions, to plan their introduction into health care practice;
- mastery of the basics of ethics, deontology, bioethics, the use of methods of psychohygiene and psychoprophylaxis in communication with patients and staff of medical institutions.

4. Competences and learning outcomes

Competencies

General competencies (GC): GC 1-3, GC 6, GC 7, GC 9, GC 12, GC 13, GC 15

GC 1	Ability to abstract thinking, analysis and synthesis.
GC 2	Knowledge and understanding of the subject area and understanding of the multilevel nature of professional activity.
GC 3	Ability to apply knowledge in practical activities.
GC 6	Ability to use information and communication technologies in the professional field.
GC 7	Ability to search, process and analyze scientific information from various sources.
GC 9	Ability to identify, pose and solve problems.
GC 12	Desire to preserve the environment.
GC 13	Ability to act socially responsible and conscious
GC 15	Ability to preserve and multiply moral, cultural, scientific values and achievements in the general system of knowledge about nature and society; use various types and forms of leading a healthy lifestyle in everyday and professional life.

Special (professional, subject) competencies (SC): SC 2, SC 4, SC 6, SC 13, SC 14, SC 15

SC 2	Ability to interpret the results of laboratory and instrumental studies.
SC 4	Ability to plan and carry out measures to prevent diseases of organs and tissues of the oral cavity and maxillofacial region.
SC 6	Ability to determine a rational regime of work, rest, diet in patients in the treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

SC 13	Ability to assess the impact of the environment on the health of the population (individual, family, population).
SC 14	Ability to maintain regulatory medical documentation.
SC 15	.Processing of state, social and medical information.

Program learning outcomes (PLO): PLO 9, PLO 12, PLO 15, PLO 17, PLO 20.

PLO 9	By making a reasoned decision, determine the nature of the work regime, rest and necessary diet in the treatment of dental diseases (according to list 2) on the basis of a compiled medical history, preliminary or final clinical diagnosis, clarified lifestyle and nutrition.
PLO 12	Organize medical evacuation measures among the population, military personnel, in conditions of an emergency, including martial law, during the expanded stages of medical evacuation, taking into account the existing system of medical evacuation support.
PLO 15	Assess the impact of the environment on the health of the population in a medical institution according to standard methods and fundamental laws of traditional medicine.
PLO 17	Adhere to a healthy lifestyle, use self-regulation and self-control techniques using modern and traditional methods.
PLO 20	Organize the necessary level of individual safety (one's own and those cared for) in the event of typical dangerous situations in the individual field of activity.

5. Content of the academic discipline

Topics of the lectures

№ topics	Name of the topics	Number of hours
1	Scientific foundations of hygiene and ecology; content, purpose and objectives.	2
2	Hygienic significance of solar radiation, atmospheric air and climatic and weather conditions.	2
3	Water hygiene and water supply. The impact of drinking water quality on the general and dental health of the population.	2
4	Nutrition and public health. Fundamentals of rational nutrition. The impact of nutrition on the general and dental health of the population.	2
5	Hygiene of medical and preventive institutions. Including the dental profile and labor protection of medical personnel.	2
6	Radiation pollution of the environment and the basics of anti-radiation protection of medical workers and patients in medical and preventive institutions.	2
7	Hygiene of medical and preventive institutions of the dental profile.	2
8	Hospital-acquired infections, including in dental institutions and their prevention.	2
9	Healthy lifestyle and personal hygiene	2

Total	18
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Topics of the practical lessons

№ topics	Name of the topics	Number of hours
Chapter 1: "Hygiene and Ecology"		
Content section 1		
1	Introductory lesson. Methods of hygienic research. Organization of preventive and current sanitary supervision.	4
2	Methodology for determining and hygienic assessment of natural and artificial lighting of premises.	4
3	Microclimate and its hygienic significance. Methodology for determining and hygienic assessment of temperature, humidity and air velocity.	4
Content section 2		
4	Methodology of hygienic assessment of drinking water. Endemic fluorosis and caries as a hygienic problem, their prevention.	4
5	Physiological and hygienic significance of basic nutrients of the diet. Assessment of the adequacy of nutrition according to the menu-layout.	4
6	Hygienic characteristics of harmful and dangerous factors of the production environment, their impact on the human body, preventive measures.	4
Content section 3		
7	Hygienic requirements for the selection of land and the location of hospitals, including dental hospitals	2
8	Hygienic requirements for the planning, equipment and operation of the main departments of hospitals, including dental hospitals and offices.	4
9	Hygienic principles of a healthy lifestyle and personal hygiene. Methodology for the hygienic assessment of oral care products.	4
10	Occupational hygiene of a dentist and dental technician.	2
Total		36

Topics for independent work

№ topics	Name of the topics	Number of hours
Content section 1.		
1	Assessment of the impact of individual nutrition on general and dental diseases.	6

2	Methodology for hygienic assessment of climatic and weather conditions and their impact on human health.	6
3	Nutritional prevention of major dental diseases.	6
Content section 2.		
4	Hygienic problems of nutrition in conditions of polluted environment and harmful industries.	6
Content section 3.		
5	Prevention of nosocomial infections in medical and preventive institutions of the dental profile. Hygienic aspects of radiation pollution of the environment.	6
6	Prevention of nosocomial infections in medical and preventive institutions of the dental profile. Hygienic aspects of radiation pollution of the environment.	6
Total		36

6. Teaching methods

Traditional teaching methods are used in teaching the Content Module: verbal methods; visual; practical. Methods of educational and cognitive activity: explanatory-illustrative method, reproductive method, method of problem statement, partial-search or heuristic method, research method.

Methods of stimulation and motivation of educational and cognitive activity: methods of stimulation and motivation of training, methods of control and self-control as methods of training.

Methods of control of stimulation and motivation of educational and cognitive activity of students, as methods of training (control by the teacher, self-control, mutual control, self-correction, mutual correction, correction and integrated methods).

7. Forms of control

Current control is carried out during the study of a specific topic to determine the level of formation of a particular skill or ability, the quality of learning a certain portion of educational material by observing the educational and cognitive activities of students in the classroom, oral questioning, testing, written control of knowledge and skills through written work (written answers to questions, essays, solving situational problems), discussions, role-playing games on the topic of the lesson and test control using a set of standardized tasks.

Final control of academic performance

Forms of control and assessment systems carried out in accordance with the requirements of the discipline program and the Regulation "About the organization of educational process in higher educational institutions" (Order of the Ministry of Education and Science of Ukraine, June 2, 1993 №161), Temporary Regulations on the organization of the educational process in the credit-module system of training, approved by order of the Ministry of Education and Science of Ukraine, January 23, 2004 №48 and Temporary Instruction on assessment of students' educational activity on implementation of credit-modular system of organization of educational process (letter of the Ministry of Education and Science of Ukraine, 16.06.2005 №08.01-22 /

1258) and Recommended changes to the Temporary instruction on assessment of educational activity (letter of the Ministry of Health of Ukraine, 21.01.2008 №08.01-22/65).

The grade in the discipline is defined as the sum of grades of current educational activities (in points), which are displayed at each lesson on the relevant topic and the number of points for the performance of individual tasks by the student.

Independent work of students, which is provided in the topic along with classroom work, is assessed during the current control of the topic in the relevant lesson.

Points for individual tasks are awarded to the student only if they are successfully completed and defended. The number of points awarded for different types of individual tasks depends on their volume and significance, but is not more than 10 points. They are added to the amount of points earned by students for their current academic activities.

Evaluation criteria

Knowledge assessment is carried out according to regulation on control measures in EMU_(regulation of EMU).

Current control	According to the four-point system of traditional grades: 5 "Excellent", 4 "Good", 3 "Satisfactory", 2 Unsatisfactory"
Control of practical skills	According to the four-point system of traditional grades
Differential pass	Based on a 200-point scale (the sum of points for the current academic activity of the student, the result of passing the differential control and for successful completion of an individual task, if any) Credited: 120 to 200 points Not credited: less than 120 points (see Rating scale)
Final control for the discipline	The final control of students' academic performance is carried out after completing the study of the discipline and is implemented in the form of an exam.
Discipline assessment:	The score on the discipline is determined based on the results of assessment of current activities and is expressed using a fourpoint scale: ("Excellent", "Good", "Satisfactory", "Unsatisfactory"), multi-point scale and ECTS. The assessment in the discipline consists of an assessment of the current academic performance and the result of passing the exam (in points), which is set when evaluating theoretical knowledge and practical skills in accordance with the list defined by the discipline program. The number of points that the applicant scored for current academic.

	performance in the discipline is defined as the arithmetic mean of the number of points that the applicant received during the study of the discipline (practical, seminar, laboratory classes, etc.). The resulting value of the average traditional rating is converted to points according to the scale of conversion of traditional ratings to rating points. The maximum number of points is 200.
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Matching grades on a 200-point scale, a 4-point (traditional) scale, and ECTS scale

On a 200-point scale	Rating on a 4-point scale
180–200	Excellent
140–179	Good
120–139	Satisfactory
0–119	Unsatisfactory

On a 200-point scale	ECTS evaluation
192–200	A
172–191	B
148–171	C
128–147	D
120–127	E
0–119	F

Discipline/course policy

The student has the right to receive high-quality educational services, access to up-to-date scientific and educational information, qualified advice during the study of the discipline and mastering practical skills. The policy of the department in the provision of Educational Services is student-centred, based on the regulatory documents of the Ministry of Education and the Ministry of Health of Ukraine, the Charter of the EMU and the procedure for providing educational services regulated by the regulation on the organisation of the educational process in the EMU and the principles of academic integrity.

Compliance with the EMU schedule, safety precautions in the classroom

Requirements for preparing for seminar classes

Students should arrive at classes on time, without being late. A student who is more than 10 minutes late for classes is not allowed in and must work it out in accordance with the established procedure. During practical classes, the student must wear a work uniform (medical gown, cap). Students who do not have a work uniform are not allowed to attend classes. The student must follow the safety rules during practical classes and while staying in the Department's premises. When discussing theoretical issues, students should demonstrate

tolerance, politeness and respect for their colleagues and the teacher; when performing practical tasks, the workplace should be kept in order and cleaned after completing practical work.

Use of mobile phones and other electronic devices. The use of mobile phones and other electronic devices in the classroom is not allowed, only during Distance Learning, provided that it is technically necessary.

Academic integrity. When studying the discipline, the student should be guided by the following regulations: on academic integrity of EMU (regulation of EMU). In case of violation of the regulations of academic integrity during the current and final controls, the student receives a grade of "2" and must work it out to the teacher in accordance with the established procedure.

Regulation on control measures in EMU (regulation of EMU).

Skipping classes. Missed classes should be worked out in accordance with the procedure established in the regulations on control measures in the EMU (regulation of EMU) during the time determined by the work schedule (Department of fundamental disciplines) to the teacher on duty. To work out a missed lesson the student must pass a test and answer in writing or verbally the question on the topic of the lesson.

Procedure for admission to the final control in the discipline is given in the regulations on control measures and regulations on the organisation of the educational process in the EMU (regulation of EMU) and regulations on control measures in the EMU (regulation of EMU). Students who do not have missed not worked out practical classes and lectures and have received an average traditional grade of at least "3" are allowed to participate in the final control.

Additional individual points. Points are awarded subject to the mandatory participation of the head, head teacher and teacher. These points are encouraging and are added once to the total score of the current academic performance and the result of passing the comprehensive exam. Their total number for one student should not exceed 10, and the final amount of points for an academic discipline should not exceed 200 points.

Individual tasks include:

- 1) writing essays and creating multimedia presentations with reports at meetings of the student scientific group of the department – 3 points;
- 2) participation in the creation of tables, graphological structure, posters on the topics of practical classes – 2 points;
- 3) participation in the student competition in the discipline at the First Stage – 1 point;
- 4) participation/prize-winner of the All-Ukrainian student competition in the discipline - 7/10 points;
- 5) author or co-author of abstracts/article – 2/5 points;
- 6) author or co-author of an oral/information stand report at a scientific conference – 6/3 points;
- 7) author of a student scientific paper accepted for participation or awarded by a diploma of I-III degree in the All – Ukrainian competition of student scientific papers at Stage II - 8 (participation) or 10 (diploma) points.

Resolving conflict issues. If there are misunderstandings and complaints against the teacher due to quality of educational services provided, knowledge assessment, and other conflict situations, the student must first report his/her claims to the teacher. If the conflict issue is not resolved, the student has the right to submit an appeal to the head of the department in accordance with the regulations on consideration of applications from applicants for higher education in EMU (regulation of EMU), Regulations on consideration of applications, complaints, and proposals of students in EMU (regulation of EMU), Regulations on meeting the requirements of the organization

of the educational process (regulation of EMU), Regulation on the appeal of the results of the final control of knowledge of applicants for higher education in EMU (regulation of EMU), Regulations on safe educational environment in EMU (regulation of EMU).

Policy in the context of distance learning. The procedure for distance learning is regulated by regulation of EMU. The main training platforms for conducting training sessions are Microsoft Teams, Zoom. The procedure for conducting practical classes and lectures, working out and consultations during Distance Learning is published on the Department's Web page (Department of fundamental disciplines) Feedback from the teacher is provided directly during the lesson and/or consultation, and is also possible via email (in case of force majeure) during working hours.

Training resources

Educational and methodological support of the discipline is published on the website of the Department (Department of fundamental disciplines). Consultations are held according to the consultation schedule.

Schedule and distribution of groups by teachers are published on the Department's Web page (Department of fundamental disciplines).

7. Methodical support (educational content)

1. Educational and professional program "Medicine"
2. The program of the discipline
3. Methodical guidelines for lectures (for teachers)
4. Methodical guidelines for practical classes (for teachers)
5. Methodical instructions for practical classes (for students)
6. Multimedia equipment of the lecture course
7. Visual aids, technical teaching aids, etc.
8. Sets of situational tasks
9. Sets of test tasks for practical classes
10. Methodical materials for self-study works of students

8. Recommended literature

Basic

1. Bardov V.G., Sergeta I.V. General human hygiene and ecology (Textbook). - Vinnytsia: Nova Kniga, 2002. 216 p.
2. Datsenko I.I., Gabovich R.D. Preventive medicine. General hygiene with the basics of ecology. - 2nd edition. - K.: Zdorovie, 2004. 788 p.
3. Fundamentals of ecology: a textbook for students of higher educational institutions / V.G. Bardov, V.I. Fedorenko, E.M. Biletskaya et al. / Ed. V.G. Bardova, V.G. Fedorenko. - Vinnytsia: Nova Kniga, 2013. 424 p.
4. Hygiene and Ecology. Edited by Professor V.G. Bardov. Vinnytsya: Nova Knyha, 2018. 688 p.
5. Hygiene and Ecology. Edited by Professor V.G. Bardov. Vinnytsya: Nova Knyha, 2009. 688 p.
6. Murashko V.O., Mechev D.S., Bardov V.G. et al. Radiation Hygiene: a textbook for interns and listeners. Vinnytsia: Nova Knyha, 2013. 376 p.
7. Occupational hygiene: Textbook / Y.I. Kundiev, O.P. Yavorovsky, A.M. Shevchenko et al.; edited acad. NAS of Ukraine, NAMS of Ukraine, prof. Yu.I. Kundiev, prof. O.P. Yavorovsky. – K: "Medytsyna",

2011. 904p.

8. Prevention of nosocomial infections (hygienic, epidemiological and microbiological aspects) / edited by V.F. Moskalenko - K.: "Health", 2013. 160 p.

Additional

1. Course of lectures on hygiene and ecology. 3rd ed., revised. and additional. Edited by Professor E.M. Biletska. Dnipro, 2017. 254 p.
2. Hygiene and labor protection of medical workers. Textbook / Ed. V.F. Moskalenko, O.P. Yavorovsky. - K.: «Medytsyna», 2009. 176 p.
3. Hygiene of children and adolescents: Textbook / Ed. Corresponding Member Academy of Pedagogical Sciences of Ukraine, Doctor of Medical Sciences, Prof. V.I. Berzin. - Kyiv: Askania Publishing House, 2008. 345p.
4. Moskalenko V.F., Yavorovskiy O.P., Lastkov D.O., Harkavyi S.I. et al. Hygiene and ecology in terms, schemes, tables and tests: textbook. K.: VSV «Medytsyna», 2012. 208 p.
5. Prevention of nosocomial infections (hygienic, epidemiological and microbiological aspects) / VF Moskalenko, OAShevchenko, SIGarkavy, EADerkachev, etc.; Edited by VF Moskalenko.-K.: Zdorovie, 2013.-160 p.
6. Public hygiene. For order Goncharuk E.G. Textbook. Kyiv, "Zdorovie", 2003. - 728 p.
7. Radiation hygiene: Textbook. Edited by Professor V.Ya. Umanskyi, Professor S.T. Omelchuk. Donetsk: Nord-Pres, 2009. 143 p.

Information resources:

1. Official web-site of the 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. World Health Organization – <http://www.who.int/en/>.
7. National Scientific Medical Library of Ukraine – <http://www.library.gov.ua/>.
8. Dnipropetrovsk Regional Scientific and Medical Library – <http://medlib.dp.gov.ua/>.
9. Library SI «DMA» – <http://www.dsma.dp.ua/biblioteka/>.
10. Testing Center of the Ministry of Health of Ukraine – <http://testcentr.org.ua/>.
11. English-language web resource for doctors and other health professionals – <http://www.medscape.com>
12. English text database of medical and biological publications – <http://www.pubmed.com>.
13. Page of the Department of General Hygiene (301) on the site www.dsma.dp.ua

Responsible for the course
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