

SYLLABUS

1. General information on the course

Full course name	Occupational Diseases
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра нейрохірургії та неврології з курсами психіатрії, наркології, медичної психології, професійних хвороб
Author(s)	Kolenko Oksana Ivanivna
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Semester	17 weeks across 9 semester
Workload	5 ECTS, 150 hours. For full-time course 36 hours are working hours with the lecturer (36 hours of seminars), 114 hours of the individual study.
Language(s)	English

2. Place in the study programme

Relation to curriculum	Elective course available for study programme "Medicine"
Prerequisites	Krok-1, Biogeochemistry, Pathological Anatomy, Normal Physiology, Pathophysiology, Internal Diseases, Propedeutics of Internal Medicine with Care of Patients, Hygiene, Social Medicine, Organization and Economics of Health Care, Phtysiatrics, Dermatology and Venerology, Neurology, Obstetrics and Gynecology, Traumatology and Orthopedics, Psychiatry and Narcology, Biological Physics
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

The purpose of studying the discipline "Occupational Diseases" is to acquire theoretical knowledge and practical skills in public health in the field of occupational pathology; prevention, diagnosis and treatment of occupational diseases necessary for the implementation of professional activities of a specialist in the specialty: "Medicine"

4. Contents

<p>Topic 1 General issues of occupational pathology</p> <p>Introduction of occupational pathology. The history of the occupational diseases. Peculiarities of the diagnosis of the occupational disease. Preliminary and periodical medical check-ups of industrial and agricultural workers.</p>
<p>Topic 2 Occupational pathology caused by industrial aerosols. Pneumoconioses. Silicosis.</p> <p>Pneumoconioses. Pathophysiology of respiratory diseases caused by dust. Silicosis. Clinical picture. Diagnosis. Treatment. Examination of working ability and prevention.</p>
<p>Topic 3 Silicatosis. Carboconiosis. Metalloconiosis.</p> <p>Silicatosis. Carboconiosis. Metalloconiosis. Clinical picture. Diagnosis. Treatment. Examination of working ability and prevention.</p>
<p>Topic 4 The hypersensitivity pneumonitis.</p> <p>Berilyliosis. Byssinosis. Clinical picture. Diagnosis. Treatment. Examination of working ability and prevention. Occupational bronchial asthma.</p>
<p>Topic 5 Chronic bronchitis and chronic obstructive pulmonary disease caused by dust.</p> <p>Chronic bronchitis and chronic obstructive pulmonary disease caused by dust. Berilyliosis. Byssinosis. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 6 Vibration disease.</p> <p>Vibration disease. Values of vibration parameters for disease development. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 7 Occupational disease caused by occupational noise. Altitude and decompression diseases</p> <p>Sensorineural hearing loss. Caisson disease and decompression disease. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 8 Occupational diseases caused by electromagnetic radiation, ultrasound, and unfavorable factors of industrial microclimate</p> <p>Occupational diseases caused by electromagnetic radiation, ultrasound, and unfavorable factors of industrial microclimate. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 9 Occupational diseases caused by overstraining of separate organs and systems</p> <p>Occupational dyskinesia or coordination neurosis. Diseases of the peripheral nervous system. Diseases of the musculoskeletal system and connective tissue. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 10 Occupational diseases caused by chemical factors with predominant affection of the blood system</p> <p>Occupational intoxication with aromatic hydrocarbons (benzol compounds), with amino- and nitrocompounds of benzol, carbon monoxide. Lead and arsenic hydride intoxication. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>

<p>Topic 11 Occupational diseases caused by chemical factors with predominant affection of the nervous system</p> <p>Manganese intoxication. Mercury intoxication. Tetraethyl lead intoxication. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 12 Occupational diseases caused by chemical factors with predominant affection of respiratory system</p> <p>Acute and chronic toxic respiratory system affection. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention. Acute toxic pulmonary edema.</p>
<p>Topic 13 Occupational intoxications with the chemical pesticides</p> <p>Occupational intoxication with organophosphorus, organochlorine, organomercuric compounds, and others. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 14 Occupational diseases caused by chemical factors with predominant affection of hepato-biliary and urinary system</p> <p>Occupational toxic hepatitis. Occupational toxic nephropathy. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 15 Occupational diseases caused by unfavorable occupational environment factors in persons employed in engineering industry, ore mining, coal mining, and metallurgy</p> <p>Occupational diseases caused by unfavorable occupational environment factors in persons employed in engineering industry, ore mining, coal mining, and metallurgy. Classification. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 16 Occupational diseases caused by unfavorable occupational environment factors in persons employed in manufacture of building materials and agricultural</p> <p>Occupational diseases caused by unfavorable occupational environment factors in persons employed in manufacture of building materials and agricultural. Classification. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 17 Occupational diseases caused by unfavorable occupational environment factors in persons employed in medicine and microbiology</p> <p>Occupational diseases caused by unfavorable occupational environment factors in persons employed in medicine and microbiology. Classification. Clinical picture. Diagnosis. Treatment. Examination of the working ability and prevention.</p>
<p>Topic 18 Final control</p> <p>Final control (differentiated credit)</p>

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Apply knowledge of occupational diseases in practical situations.
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LO2	Carry out a differential diagnosis, formulate a clinical diagnosis based on the evaluation of the results of laboratory and instrumental studies. To justify the use of basic invasive and non-invasive diagnostic methods in the clinic of occupational diseases.
LO3	Solve complex problems and problems that arise in professional activities. Be able to determine the tactics of management of patients with various pathological conditions in the clinic of occupational diseases. Apply the principles of evidence-based medicine to patients and provide emergency care.
LO4	Determine the list of necessary laboratory and instrumental studies for examining a patient with occupational pathology as well as interpret the obtained results.
LO5	Use professional vocabulary in practice.

7. Soft Skills

SS1	Ability to abstract thinking, analysis and synthesis.
SS2	Ability to learn, master modern knowledge and apply it in practical situations
SS3	Knowledge and understanding of the subject area and understanding of professional activity
SS4	Ability to make informed decisions; work in a team; interpersonal skills.
SS5	Ability to use information and communication technologies.

8. Teaching and learning activities

Topic 1. General issues of occupational pathology	
pr.tr.1 "General issues of occupational pathology" (full-time course)	Introduction of occupational pathology. The history of the occupational diseases. Peculiarities of the diagnosis of the occupational disease. Preliminary and periodical medical check-ups of industrial and agricultural workers.
Topic 2. Occupational pathology caused by industrial aerosols. Pneumoconioses. Silicosis.	
pr.tr.2 "Occupational pathology caused by industrial aerosols. Pneumoconioses. Silicosis." (full-time course)	Pneumoconioses. Pathophysiology of respiratory diseases caused by dust. Silicosis. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of working ability and prevention.
Topic 3. Silicatosis. Carboconiosis. Metalloconiosis.	
pr.tr.3 "Silicatosis. Carboconiosis. Metalloconiosis." (full-time course)	Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of thematic presentations and reports, analysis of clinical cases. Examination of working ability and prevention.

Topic 4. The hypersensitivity pneumonitis.

pr.tr.4 "The hypersensitivity pneumonitis" (full-time course)

Berilyliosis. Byssinosis. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of working ability and prevention. Occupational bronchial asthma.

Topic 5. Chronic bronchitis and chronic obstructive pulmonary disease caused by dust.

pr.tr.5 "Chronic bronchitis and chronic obstructive pulmonary disease caused by dust" (full-time course)

Chronic bronchitis and chronic obstructive pulmonary disease caused by dust. Berilyliosis. Byssinosis. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 6. Vibration disease.

pr.tr.6 "Vibration disease" (full-time course)

Vibration disease. Values of vibration parameters for disease development. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 7. Occupational disease caused by occupational noise. Altitude and decompression diseases

pr.tr.7 "Occupational disease caused by occupational noise. Altitude and decompression diseases" (full-time course)

Sensorineural hearing loss. Caisson disease and decompression disease. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 8. Occupational diseases caused by electromagnetic radiation, ultrasound, and unfavorable factors of industrial microclimate

pr.tr.8 "Occupational diseases caused by electromagnetic radiation, ultrasound, and unfavorable factors of industrial microclimate" (full-time course)

Occupational diseases caused by electromagnetic radiation, ultrasound, and unfavorable factors of industrial microclimate. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 9. Occupational diseases caused by overstraining of separate organs and systems

pr.tr.9 "Occupational diseases caused by overstraining of separate organs and systems" (full-time course)

Occupational dyskinesia or coordination neurosis. Diseases of the peripheral nervous system. Diseases of the musculoskeletal system and connective tissue. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports.. Examination of the working ability and prevention.

Topic 10. Occupational diseases caused by chemical factors with predominant affection of the blood system

pr.tr.10 "Occupational diseases caused by chemical factors with predominant affection of the blood system" (full-time course)

Occupational intoxication with aromatic hydrocarbons (benzol compounds), with amino- and nitrocompounds of benzol, carbon monoxide. Lead and arsenic hydride intoxication. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 11. Occupational diseases caused by chemical factors with predominant affection of the nervous system

pr.tr.11 "Occupational diseases caused by chemical factors with predominant affection of the nervous system" (full-time course)

Manganese intoxication. Mercury intoxication. Tetraethyl lead intoxication. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports.. Examination of the working ability and prevention.

Topic 12. Occupational diseases caused by chemical factors with predominant affection of respiratory system

pr.tr.12 "Occupational diseases caused by chemical factors with predominant affection of respiratory system" (full-time course)

Acute and chronic toxic respiratory system affection. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention. Acute toxic pulmonary edema.

Topic 13. Occupational intoxications with the chemical pesticides

pr.tr.13 "Occupational intoxications with the chemical pesticides" (full-time course)

Occupational intoxication with organophosphorus, organochlorine, organomercuric compounds, and others. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of thematic presentations and reports, analysis of clinical cases. Examination of the working ability and prevention.

Topic 14. Occupational diseases caused by chemical factors with predominant affection of hepato-biliary and urinary system

pr.tr.14 "Occupational diseases caused by chemical factors with predominant affection of hepato-biliary and urinary system" (full-time course)

Occupational toxic hepatitis. Occupational toxic nephropathy. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 15. Occupational diseases caused by unfavorable occupational environment factors in persons employed in engineering industry, ore mining, coal mining, and metallurgy

pr.tr.15 "Occupational diseases caused by unfavorable occupational environment factors in persons employed in engineering industry, ore mining, coal mining, and metallurgy" (full-time course)

Occupational diseases caused by unfavorable occupational environment factors in persons employed in engineering industry, ore mining, coal mining, and metallurgy. Classification. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of virtual simulation (watching movies) with further discussion; analysis of clinical cases; protection of thematic presentations and reports. Examination of the working ability and prevention.

Topic 16. Occupational diseases caused by unfavorable occupational environment factors in persons employed in manufacture of building materials and agricultural

pr.tr.16 "Occupational diseases caused by unfavorable occupational environment factors in persons employed in manufacture of building materials and agricultural" (full-time course)

Occupational diseases caused by unfavorable occupational environment factors in persons employed in manufacture of building materials and agricultural. Classification. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of thematic presentations and reports. Examination of the working ability and prevention.

Topic 17. Occupational diseases caused by unfavorable occupational environment factors in persons employed in medicine and microbiology

pr.tr.17 "Occupational diseases caused by unfavorable occupational environment factors in persons employed in medicine and microbiology" (full-time course)

Occupational diseases caused by unfavorable occupational environment factors in persons employed in medicine and microbiology. Classification. Clinical picture. Diagnosis. Treatment of diseases from the standpoint of evidence-based medicine. The study of this topic involves the use of thematic presentations and reports, analysis of clinical cases. Examination of the working ability and prevention.

Topic 18. Final control

pr.tr.18 "Final control" (full-time course)

Final control (differentiated credit)

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Case-based learning
TM2	Team Based Learning
TM3	Practical training
TM4	Electronic learning
TM5	Self-study

The discipline provides students with the ability to abstract thinking, analysis and synthesis; ability to apply knowledge in practical situations; ability to make informed decisions; ability to learn, master modern knowledge and apply it in practical situations.

According to the requirements of the OPP, the discipline ensures that students acquire: Practical classes allow students to plan and interpret a patient's examination scheme results of studies of patients with occupational pathology. Analysis of specific situations will allow to determine the tactics of examination of patients. Practice-oriented learning will develop students' skills independent learning, synthesis and analytical thinking.

9.2 Learning activities

LA1	Electronic learning in systems (MIX.sumdu.edu.ua)
LA2	performing practical tasks
LA3	Self-study
LA4	Solving clinical cases
LA5	Work with textbooks and relevant information sources

10. Methods and criteria for assessment

10.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$140 \leq RD < 169$
Fair but with significant shortcomings	3 (Satisfactory)	$120 \leq RD < 139$
Fail – some more work required before the credit can be awarded	2 (Fail)	$0 \leq RD < 119$

10.2 Formative assessment

	Description	Deadline, weeks	Feedback
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<p>FA1 Discussed self-correction of Wicon work by students</p>	<p>Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities</p>	<p>During the entire period of studying the discipline</p>	<p>Teacher's oral comments</p>
<p>FA2 Solving situational tasks</p>	<p>The case method makes it possible to reveal and form the qualities and abilities of medical students necessary for further work, forms clinical thinking, analytical abilities, independence in decision-making, communication, skills for working with a sufficiently large amount of information.</p>	<p>Assessment of the student's ability to think clinically, justify their decisions, clearly express th</p>	<p>Teacher's oral comments</p>
<p>FA3 Survey and teacher's oral comments based on his results</p>	<p>It provides an opportunity to identify the state of educational experience acquired by students in accordance with the set goals, to find out the prerequisites for the state of formation of the obtained results, the causes of difficulties, to adjust the learning process, to track the dynamics of the formation of learning results and to forecast their development.</p>	<p>During the entire period of studying the discipline</p>	<p>According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants</p>
<p>FA4 Checking and evaluating written assignments</p>	<p>A method of effective verification of the level of assimilation of knowledge, abilities and skills from each subject of an educational discipline. Testing allows you to check the assimilation of educational material from each subject</p>	<p>During the entire period of studying the discipline</p>	<p>According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants</p>

FA5 Express testing	A method of effective verification of the level of assimilation of knowledge, abilities and skills from each subject of an educational discipline. Testing allows you to check the assimilation of educational material from each subject.	During the entire period of studying the discipline	The student must provide 60% of the correct answers
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10.3 Summative assessment

	Description	Deadline, weeks	Feedback
SA1 Differentiated scoring	Candidates who have successfully mastered the material from the discipline are allowed to take the test	In the last discipline lesson	The winner can get 80 points for differential credit. The minimum number of points a student must receive is 48 points
SA2 Final testing	A method of effective verification of the level of assimilation of knowledge, abilities and skills from an educational discipline. Testing allows you to check the results of training during the cycle and determine the level of knowledge at the end of the discipline.	Final computer test at the end of the course (10 points)	It is an admission to the preparation of the credit
SA3 Solving a clinical case	It involves demonstrating the ability to think clinically, analyze a practical situation, and make decisions independently	Відповідно розкладу	A student can get a maximum of 10 points.
SA4 Current evaluation of the level of theoretical and practical training	Includes oral interview, interpretation of laboratory and instrumental methods of examination, solution of clinical individual and group cases, current testing	During the entire period of studying the discipline	It is an admission to the preparation of the credit

Form of assessment:

	Points	Minimum points	Можливість перескладання з метою підвищення оцінки
9 semester	200 scores		
SA1. Differentiated scoring	80		
Oral questioning, solving situational tasks	80	48	No
SA2. Final testing	10		

		10	Не передбачено	No
SA3. Solving a clinical case		10		
		10	3	No
SA4. Current evaluation of the level of theoretical and practical training		100		
	oral examination	100	60	No

Grade in the discipline is defined as the sum of points for current educational activities (not less than 72) and points for the final module control (not less than 48). The number of points for the current activity is calculated by the formula $100 \times \frac{\text{the arithmetic mean of the student's success in the 4-point grading system}}{5}$. The student receives a maximum of 10 points for solving a clinical case. The minimum number of points that a student must receive is 6 points. For the defense of the presentation the student receives a maximum of 10 points, a minimum of 6. The student is admitted to the test subject to the requirements of the curriculum and if for the current educational activity he scored at least 72 points: 60 points during practical classes, 6 points for defense presentations and 6 points for solving a clinical case. The final module control is conducted at the end of the semester in the form of a written test, with a score of "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. In case of unsatisfactory result for the final module control, the student has the right to retake the test. Students who fail to take the test without good reason are considered to have received an unsatisfactory grade. The student's refusal to perform the final modular task is certified as an unsatisfactory answer.

11. Learning resources

11.1 Material and technical support

MTS1	In case of quarantine restrictions, the grading is carried out on-line using the platform Mix.sumdu.edu.ua, Zoom, Google meet.
MTS2	Software (use of the training platform Mix.sumdu.edu.ua, in special cases of the platforms Google meet, Zoom)
MTS3	Information and communication systems, computers, computer systems and networks, projection equipment
MTS4	Sumy Regional Clinical Hospital, 4th Munitipal Clinical Hospital

11.2 Information and methodical support

Essential Reading	
1	Occupational Diseases [Текст] : textbook / V. A. Kapustnik, I. F. Kostyuk, H. O. Bondarenko etc. ; edit.: V.A. Kapustnik, I.F. Kostyuk. — second edition. — K. : AUS Medicine Publishing, 2018. — 496 p.
Supplemental Reading	
1	Goldman-Cecil medicine [Текст]. V.1 / L. Goldman, L. Schafer, M. Crow etc. — 25-th ed. — Saunders: Saunders Elsevier, 2016. — 1489 p.

2	Occupational Health and safety for healthcare workers [Текст] : study guide / O. P. Yavorovsky, M. I. Veremey, V. I. Zenkina etc. — K. : AUS Medicine Publishing, 2015. — 120 p.
Web-based and electronic resources	
1	Journal of Occupational Medicine and Toxicology https://occup-med.biomedcentral.com/
2	https://academic.oup.com/occmed
3	International Labor Organisation
4	Radiation damage. The concept of radiation injury, medical care at the stages of medical evacuation. Acute radiation sickness. Stage treatment of patients with acute radiation sickness. Atypical forms of radiation sickness : methodical instructions for the 5th year students to the practical class / comp.: B. Shelest, D. Martovytskyi, A. Melenevych, D. Molotyagin. — Kharkiv : KhNMU, 2022. — 16 p.; http://repo.knmu.edu.ua/handle/123456789/31637
5	Organization of therapeutic care in wartime and in emergencies in peacetime : methodical instructions for the 5th year students to the practical class / comp.: A. Melenevych, D. Martovytskyi, D. Molotyagin. — Kharkiv : KhNMU, 2022. — 12 p.; http://repo.knmu.edu.ua/handle/123456789/31636
6	Hazardous and toxic substances poisoning in wartime and peacetime. Classification of hazardous chemicals. Mechanism of toxic action. Clinical manifestations of poisoning with chemical agents : methodical instructions for the 5th year students to the practical class / comp.: A. Melenevych, D. Martovytskyi, D. Molotyagin. — Kharkiv : KhNMU, 2022. — 16 p.; http://repo.knmu.edu.ua/handle/123456789/31634
7	Preparation to MLE «STEP 2» in disciplines «Pulmonology» and «Occupational diseases», based on materials of MLE «STEP 2» 2017–2018 : methodical instructions for students of 6th course of medical faculty / authors: V. A. Kapustnik, I. F. Kostuk, O. O. Kalmykov, B. O. Shelest, O. L. Arkhipkina, A. Ya. Melenevich, V. M. Tverezovskyi. — Kharkiv : KhNMU, 2019. — 28 p.; https://repo.knmu.edu.ua/handle/123456789/22851