


MINISTRY OF HEALTH OF UKRAINE  
HIGHER STATE EDUCATIONAL ESTABLISHMENT OF UKRAINE  
«BUKOVINIAN STATE MEDICAL UNIVERSITY»

"APPROVE"

Vice-rector for scientific and pedagogical work  
Associate Professor  I.V. Gerush  
"28" \_\_\_\_\_ 2020

**STUDENT GUIDE  
(SYLLABUS)  
of studying the discipline  
(elective course)  
Topical issues of Pulmonology**

**Field of knowledge** 22 Healthcare  
(code and name of the field of knowledge)

**Specialty** 222 Medicine  
(code and name of the specialty)

**Educational degree** master  
(master, bachelor, junior bachelor)

**Educational year** V


**Form of study** full-time  
(full-time, part-time, distance)

**Department** Department of Phthiology and Pulmonology  
(name of the department)

Approved at the methodical session of the department of Phthiology and Pulmonology  
"28" August 2020 (Protocol № 1).

Head of the Department  L.D. Todoriko  
(signature)

Approved by the subject methodical commission on Therapeutic disciplines  
"28" August 2020 (Protocol № 11).

Chairman of the subject methodical  
commission  V.K. Taschuk  
(signature)

## 1. GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL WORKERS WHO TEACH THE SUBJECT

<b>Department</b>	Department of Phthisiology and Pulmonology
<b>Surname, name of scientific and pedagogical staff, scientific degree, academic status</b>	- Yeremenchuk Inha - PhD, Assistant Professor - Semianiv Ihor – PhD, Assistant Professor - Pidverbetska Olena – PhD, Assistant Professor
<b>Web page of the department on the official website of the university</b>	<a href="https://www.bsmu.edu.ua/ftiziatriyi-ta-pulmonologiyi/">https://www.bsmu.edu.ua/ftiziatriyi-ta-pulmonologiyi/</a>
<b>Department website</b>	<a href="http://kfp.bsmu.edu.ua/">http://kfp.bsmu.edu.ua/</a>
<b>E-mail</b>	<a href="mailto:pulmonology@bsmu.edu.ua">pulmonology@bsmu.edu.ua</a>
<b>Address</b>	Ukraine, 58000, Chernivtsi, I. Bohuna, 18 str.
<b>Contact phone</b>	(0372) 55-53-80

## 2. GENERAL INFORMATION ABOUT THE DISCIPLINE

<b>Status of the discipline</b>	normative
<b>Number of credits</b>	3
<b>Total amount of hours</b>	90
<b>Lectures</b>	-
<b>Practical lessons</b>	20
<b>Individual work</b>	70
<b>Type of final control</b>	-

## 3. DESCRIPTION OF THE DISCIPLINE (ABSTRACT)

"Topical issues of Pulmonology" is a clinical discipline, during the study of which students get basic theoretical knowledge and practical approaches to the revealing, diagnostics, treatment and prevention of the respiratory diseases. Assimilation of theoretical material is accompanied by the acquisition of appropriate integrated, general and professional competencies.

The subject of study of the discipline is the theoretical foundations and practical approaches to the revealing, diagnostics, treatment and prevention of the respiratory diseases.

## 4. POLICY OF THE SUBJECT

### 4.1. List of normative documents:

- Regulations on the organization of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/polozhennya-pro-organizacziyu-osvitnogo-proczesu-u-vdnzu-bukovinskij-derzhavnij-medichnij-universitet.pdf>);
- Instructions for assessing the educational activities of BSMU students in the implementation of the European credit transfer system of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/bdmu-instrukcziya-shhodo-oczinyuvannya-%D1%94kts-2014-3.pdf>);
- Regulations on the procedure for reworking missed and uncredited classes (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf>);
- Regulations on the appeal of the results of the final control of knowledge of higher education (<https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf>);
- Codex of Academic Integrity ([https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks\\_academic\\_faith.pdf](https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf));
- Moral and ethical codex of students ([https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics\\_code.docx](https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics_code.docx));
- Regulations on the prevention and detection of academic plagiarism (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/antiplagiat-1.pdf>);

- Regulations on the procedure and conditions for students to choose elective courses ([https://www.bsmu.edu.ua/wp-content/uploads/2020/04/nakaz\\_polozhennyz\\_vybirkovi\\_dyscypliny\\_2020.pdf](https://www.bsmu.edu.ua/wp-content/uploads/2020/04/nakaz_polozhennyz_vybirkovi_dyscypliny_2020.pdf));
- Rules of internal labor regulations of the Higher State Educational Institution of Ukraine "Bucovynian State Medical University" (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/17.1-bdmu-kolektivnij-dogovir-dodatok.doc>).

**4.2. Policy on adherence to the principles of academic integrity of higher education students:**

- independent performance of educational tasks of current and final controls without the use of external sources of information;
- cheating during control of knowledge is prohibited;
- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

**4.3. Policy on adherence to the principles and norms of ethics and deontology by higher education students:**

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;
- compliance with the rules of internal regulations of the university, to be tolerant, friendly and balanced in communication with students and teachers, medical staff of health care institutions;
- awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

**4.4. Attendance policy for higher education students:**

- attendance at all training sessions (lectures, practical classes, final modular control) is mandatory for the purpose of current and final assessment of knowledge (except for respectable reasons).

**4.5. Deadline policy and completion of missed or uncredited classes by higher education students:**

- reworks of missed classes are held according to the schedule of missed or uncredited classes and consultations.

**5. PRECISIONS AND POST-REQUIREMENTS OF THE EDUCATIONAL DISCIPLINE (INTERDISCIPLINARY RELATIONS)**

<b>List of disciplines, on which the study of academic discipline is based</b>	<b>List of academic disciplines, for which the basis is laid as a result of studying the discipline</b>
Human Anatomy	General practice of family medicine
Histology	Internal Medicine
Cytology and Embryology	Oncology
Pathological Anatomy	Phthisiology
Physiology	Surgery
Pathophysiology	Infectious Diseases
Medical and Biological Physics	Epidemiology
Bioorganic and Biological Chemistry	
Clinical Pharmacology and Clinical Pharmacy	
Propaedeutics of Internal Medicine	

**6. PURPOSE AND TASKS OF THE EDUCATIONAL DISCIPLINE:**

- 6.1. The purpose of teaching the discipline "Current issues of Pulmonology" is to acquire and deepen the knowledge, skills, abilities and other competencies in pulmonology required in professional activities, which are established on the basis of educational and professional program of the specialist.

6.2. The main tasks of studying the discipline are: to determine the etiological and pathogenetic factors of respiratory diseases, classify and analyze the typical clinical picture of respiratory diseases, identify different clinical variants and complications of respiratory diseases, identify the leading syndromes and symptoms in pulmonology, justify and formulate a preliminary diagnosis of respiratory diseases, make a plan for examination of the patient, interpret the results of laboratory and instrumental studies in respiratory diseases and their complications, carry out differential diagnosis, substantiate and formulate a clinical diagnosis of respiratory diseases, to determine the tactics of management (recommendations regarding the regime, diet, treatment, rehabilitation measures) of a patient with respiratory diseases, prescribe non-drug and drug treatment of respiratory diseases, carry out non-drug and drug primary and secondary prevention of respiratory diseases, to determine the prognosis and efficiency of patients with respiratory diseases, diagnose and provide medical care in emergencies, apply the basic algorithms of intensive care for emergencies in respiratory diseases, demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination.

## **7. COMPETENCIES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE DISCIPLINE:**

### 7.1. Integral competence:

- an ability to solve typical and complex specialized tasks and practical problems in professional activity in the field of the health care or in the process of training, which involves research and/or innovation and is characterized by the complexity and uncertainty of conditions and requirements;

### 7.2. General competencies:

- ability to abstract thinking, analysis and synthesis;
- ability to learn and master modern knowledge;
- ability to apply knowledge in practical situations;
- knowledge and understanding of the subject area and understanding of professional activity;
- ability to adapt and act in a new situation;
- ability to make reasonable decisions;
- ability to work in a team;
- interpersonal skills;
- ability to communicate in the state language both orally and in writing;
- ability to communicate in a foreign language;
- skills of using information and communication technologies;
- determination and perseverance in relation to the set tasks and responsibilities;
- ability to act socially responsibly and consciously;
- desire to preserve the environment;
- ability to plan and manage time;
- ability to act on the basis of ethical considerations (motives).

### 7.3. Professional (special) competencies:

- skills of interviewing and clinical examination of the patient;
- ability to determine the necessary list of laboratory and instrumental studies and evaluate their results;
- ability to conduct differential diagnosis;
- ability to diagnose the disease;
- ability to prescribe treatment;
- ability to diagnose emergencies;
- skills of providing emergency medical care;
- skills of performing medical manipulations;
- ability to keep medical records;
- ability to carry out sanitary and hygienic and preventive measures.

## 8. RESULTS OF STUDYING THE DISCIPLINE.

As a result of studying the discipline student must:

### 8.1. Know:

- etiology and pathogenesis of respiratory diseases, risk factors for their complicated course
- different clinical variants and complications of respiratory diseases
- mandatory minimum of additional (laboratory and instrumental) examination of patients with various, including complicated, course of respiratory diseases
- diagnostic value of clinical, instrumental and laboratory examination data in different variants of the course of respiratory diseases
- differential diagnosis, criteria for diagnosis of different variants of respiratory diseases
- prevention of complications, prognosis and efficiency of patients with respiratory diseases
- principles of non-drug and drug treatment of patients with respiratory diseases
- management (recommendations for lifestyle modification, medical and non-medical treatment, rehabilitation measures) of patients with various, including complicated, course of respiratory diseases
- criteria for diagnosis and standards of medical care in emergencies of respiratory diseases (acute pulmonary heart disease, spontaneous pneumothorax, pleural empyema)
- primary and secondary prevention in different, including complicated, course of respiratory diseases

### 8.2. Be able to:

- conduct surveys and physical examinations of patients with various, including complicated, course of respiratory diseases
- diagnose respiratory diseases preliminary and identify their complications
- develop a plan for examination of patients and justify the usage of non-invasive and invasive diagnostic methods used in pulmonology
- evaluate the results of basic instrumental and laboratory methods for diagnosing respiratory diseases
- carry out differential diagnosis of respiratory diseases
- justify and formulate the clinical diagnosis of respiratory diseases
- prescribe non-drug and drug treatment, conduct non-drug and drug primary and secondary prevention of respiratory diseases
- determine the prognosis of patients with respiratory diseases
- diagnose and provide assistance in emergencies of respiratory diseases (acute pulmonary heart disease, pneumothorax, pleural empyema)
- demonstrate mastery of moral and deontological principles of a medical professional and the principles of professional subordination

### 8.3. Demonstrate:

- interpretation of the chest X-ray;
- interpretation of results of the spirometry, pletismography;
- interpretation of results of chest ultrasound;
- detailed collection of the complaints and the anamnesis of respiratory diseases;
- physical examination of the patient;
- prescribing an adequate treatment to a patient with a respiratory disease.

## 9. INFORMATIONAL SCOPE OF THE DISCIPLINE

*Description of each module of the discipline:*

8.1. Specific objectives of the module (content modules).

**Module 1. Topical issues of Pulmonology.**

*Content module 1. Instrumental methods for diagnostics of respiratory diseases*

Specific objectives:

- to know the basics of the main instrumental methods using for diagnostics of respiratory diseases

- to interpret the results of spirometric research
- to know the basics of conducting and evaluating the results of body plethysmography
- to interpret the results of radiological methods of examination of the chest
- to know the basics of conducting and evaluating the results of ultrasound examination of the thoracic cavity
- to interpret the results of fibrobronchoscopic examination

*Content module 2. Management of patients with certain respiratory diseases. Fundamentals of rational antibiotic therapy.*

Specific objectives:

- management of patients with sarcoidosis of respiratory organs
- management of patients with benign and malignant lung tumors
- management of patients with fungal and viral (Covid-19) lung lesions
- rational appointment of antibiotic therapy

8.2. Thematic structure of the module (content modules).

### **Module 1. Topical issues of Pulmonology**

*Content module 1. Instrumental methods for diagnostics of respiratory diseases.*

#### **Topic 1. Instrumental methods of the respiratory diseases diagnostics.**

The main methods of instrumental investigation which are used in patients with pathology of the broncho-pulmonary system. Spirometric study: indications and contraindications to the conduct, interpretation of results. The concept of bodyplethysmography. X-ray examination of the respiratory system: radiography and radioscopy. Ultrasound examination of the chest. Multislice computed tomography, magnetic resonance imaging and positron emission tomography: indications. Fibrobronchoscopy: main types, indications, contraindications, complications. Methods of measuring the strength of the respiratory muscles.

*Content module 2. Management of patients with certain respiratory diseases. Fundamentals of rational antibiotic therapy*

#### **Topic 2. Sarcoidosis of respiratory organs.**

Definition. Basic theories of sarcoidosis. Classification, clinical picture and diagnostic criteria for sarcoidosis. Indications and contraindications to lung biopsy. Tactics of management of patients with sarcoidosis. First and second line drugs: indications and contraindications for use. Complications of sarcoidosis. The prognosis of the disease and efficiency.

#### **Topic 3. Benign and malignant lung tumors.**

Classification of lung tumors. Indications and contraindications to diagnostic fibrobronchoscopy, transthoracic biopsy, videothoracoscopy. Classification of bronchoalveolar cancer. The concept of morphological classification of malignant neoplasms of the lungs, immunohistochemical study. X-ray methods in the diagnosis of lung tumors. Indications and contraindications to surgical treatment of bronchoalveolar cancer. Polychemotherapy for lung cancer. Prognosis in different stages of bronchoalveolar cancer.

#### **Topic 4. Fungal and viral (Covid-19) lesions of the pulmonary system. Rational antibiotic therapy for respiratory diseases.**

Classification, etiological factors, clinical signs, diagnosis criteria, differential diagnosis and standards of treatment of fungal lesions of the lungs and bronchi. Treatment tactics depending on the cause and clinical variant. Primary and secondary prevention of fungal lung lesions.

Respiratory lesions in coronavirus disease 2019 (Covid-19) - etiology, pathogenesis, clinical signs, diagnosis, differential diagnosis, current treatment protocol.

Classification and indications for the appointment of antibacterial drugs. Spectrum of action of the main classes of antibacterial drugs. The main side effects of antibacterial therapy and methods of treatment. Indications for discontinuation of antibacterial therapy. Procalcitonin and other biomarkers of inflammation. Mechanisms of antibiotic resistance development.

## 10. STRUCTURE OF EDUCATIONAL DISCIPLINE

Names of content modules and topics	Amount of hours				
	Total	including			
		Classroom		Individual work	Independent students' work
Lectures	Practicals				
1	2	3	4	5	6
<b>Module 1.</b>					
<b>Content module 1. Instrumental methods for diagnostics of respiratory diseases</b>					
<b>Topic 1.</b> Instrumental methods of the respiratory diseases diagnostics	25	–	5	–	20
<b>Total on the content module 1</b>	<b>25</b>	–	<b>5</b>	–	<b>20</b>
<b>Content module 2. Management of patients with certain respiratory diseases. Fundamentals of rational antibiotic therapy</b>					
<b>Topic 2.</b> Sarcoidosis of respiratory organs	20	–	5	–	15
<b>Topic 3.</b> Benign and malignant lung tumors	20	–	5	–	15
<b>Topic 4.</b> Fungal and viral (Covid-19) lesions of the pulmonary system. Rational antibiotic therapy for respiratory diseases	25	–	5	–	20
<b>Total on the content module 2</b>	<b>65</b>	–	<b>15</b>	–	<b>50</b>
<b>Individual work (if present)</b>	–	–	–	–	–
<b>TOTAL HOURS</b>	<b>90</b>	–	<b>20</b>	–	<b>70</b>

## 11. THEMATIC PLAN OF LECTURES

№	Name of topic	Amount of hours
-	-	-

## 12. THEMATIC PLAN OF PRACTICAL CLASSES

№	Name of topic	Amount of hours
1	Instrumental methods of the respiratory diseases diagnostics	5
2	Sarcoidosis of respiratory organs	5
3	Benign and malignant lung tumors	5
4	Fungal and viral (Covid-19) lesions of the pulmonary system. Rational antibiotic therapy for respiratory diseases	5
	<b>Total</b>	<b>20</b>

## 13. THEMATIC PLAN OF INDIVIDUAL WORK

№	Name of topic	Amount of hours
<b>1.</b>	<b>Preparation for practical classes - theoretical training and mastering of practical skills</b>	<b>70</b>
<b>Total</b>		<b>70</b>

#### 14. LIST OF INDIVIDUAL TASKS (*if provided*)

-

#### 15. METHODS AND FORMS OF IMPLEMENTATION OF THE CONTROL

Forms of control and assessment system are carried out in accordance with the requirements of the discipline program and "Instructions for assessing the educational activities of BSMU students in the implementation of the European credit transfer system of the educational process" (approved by the Academic Council of May 29, 2014, protocol 9).

**Control of the initial level of knowledge** is conducted on the first practical lesson by solving 60 computer tests.

**Current control** is carried out at each practical lesson in accordance with the specific objectives of the topic. The control of the knowledge, abilities, practical skills acquired by students is carried out by means of testing, practical cases solving, the description of radiographs, spiograms, oral answering.

**The credit** is carried out upon completion of the study of all topics of the module by assessing the student's mastery of educational material in the discipline on the basis of the results of the program provided for work in practical classes.

Students who have fully attended the classroom classes in the discipline that are provided by the curriculum, and scored a number of points not less than the minimum during the study of the relevant module are allowed to the credit. A student who has not completed all types of work provided for in the curriculum, for good reason, adjustments are made to the individual curriculum and are allowed to work off academic debt until a certain date. For students who missed classes without good reason, the decision to complete them is made individually by the dean of the faculty.

**The maximum number of points** that a student can score when studying the discipline for the current educational activity - **200 points**.

#### 16. EVALUATION OF THE LEVEL OF STUDENT TRAINING IN THE DISCIPLINE

Assessment of current educational activities, module control and discipline in general is carried out in accordance with the "Instructions for assessing the educational activities of students of Bukovinian State Medical University in the implementation of the European credit transfer system of educational process" (approved by the Academic Council of May 29, 2014, protocol 9).

**The grade for the module** is determined on the basis of the sum of grades of current educational activity (in points) and the grade of final module control (in points), which is set when assessment of theoretical knowledge and practical skills according to the lists defined by the discipline program is made.

The form of final control of academic success in the discipline "Actual issues of Pulmonology" is a credit.

**Credit** is a form of final control, which consists in assessing the student's mastery of educational material in a particular discipline solely on the basis of the results of his performance of certain types of work in practical, seminar or laboratory classes. Semester credit is planned in the absence of modular control, exam and does not require the presence of students.

**The grade for the module** is determined on the basis of the sum of grades of current educational activity (in points), which are set when assessing theoretical knowledge and practical skills in accordance with the lists defined by the program of the discipline.

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. When evaluating students' learning activities, it is necessary to give preference to standardized methods of control: solving questions and tasks for self-control, testing, solving situational problems, taking into account the conditions that are as close as possible to the real ones.

**The current assessment of students' knowledge** on the relevant topics is carried out on practical classes according to the traditional 4-point system (excellent, good, satisfactory, unsatisfactory) with subsequent conversion into a multi-point scale.



The grade "**excellent**" is given in the case when the student fully knows the content of the lesson and lecture material, illustrates the answers with various examples; gives comprehensively accurate and clear answers without any leading questions; spreads the material without errors and inaccuracies; freely solves problems and performs practical tasks of varying complexity.

The grade "**good**" is given when the student knows the content of the lesson and understands it well, answers the questions correctly, consistently and systematically, but they are not exhaustive, although the student answers additional questions without errors; solves all problems and performs practical tasks, but has difficulties only in the most severe cases.

The grade "**satisfactory**" is given to the student on the basis of his knowledge of the whole content of the lesson and with a satisfactory level of his understanding. The student is able to solve modified (simplified) problems with the help of leading questions; solves problems and performs practical skills, experiencing difficulties in simple cases; is not able to state the answer on his own systematically, but answers directly asked questions correctly.

The grade "**unsatisfactory**" is given in cases when the student's knowledge and skills do not meet the requirements of "satisfactory" grade.

### Distribution of points assigned to students

Number of module number of study hours / number of credits ECTS	Number of content modules, their numbers	Number of practical classes	Conversion into point of the traditional scale				Scores for individual task	Minimum score *
			Traditional scale					
			"5"	"4"	"3"	"2"		
Module 1 90/3,0	2 (№№ 1-2)	4	50	40	30	0	0	120

The weight of each topic within one module is the same.

Forms of assessment of current educational activities should be standardized and include control of theoretical and practical skills. The final score for the current activity is recognized as the arithmetic sum of the scores for each lesson.

**The maximum** number of points that a student can score for the current activity during the study of the module is **200 points**. It is calculated by multiplying the number of points corresponding to the grade "5" by the number of topics in the (**4 classes × 50 points**).

**The minimum** number of points that a student must score for the current activity during the study of the module is calculated by multiplying the number of points corresponding to "3" by the number of topics in the module and is **120 points (4 classes × 30 points)**. **Obtaining the minimum number of points per module is a prerequisite for grading "passed"**.

#### Assessment of individual student tasks

Points for individual tasks are awarded to the student only under conditions of their successful implementation. The number of points awarded for different types of individual tasks depends on their volume and significance. They are added to the amount of points earned by the student for the current academic activity. The maximum number of points for individual independent work - 6 points, the minimum number of points - 4 points.

#### Assessment of students' independent work

Students' independent work, which is provided by the topic of the lesson along with the classroom work, is assessed during the current control of the topic in the relevant lesson.

#### The credit

At the last thematic practical lesson on the subject "Topical issues of Pulmonology" after the analysis of the lesson topic, the teacher of the study group announces the amount of points that each

student of the group scored according to the results of the current control. The student receives a grade of "credited" if he has no absences from classes and scored a score not less than the minimum - 120 points; grade "not credited" if the student has unfinished absences and the number of points for the current control is less than the minimum.

### **Assessment of the module and discipline**

Assessment for the module and assessment for the discipline "Topical issues of Pulmonology" is defined as the sum of assessments of current educational activities (in points), which are displayed at each practical lesson on the relevant topic.

The form of final control of academic success in the discipline "Actual issues of Pulmonology" is a credit. At the last thematic practical lesson on the subject "Topical issues of Pulmonology" after the analysis of the lesson topic, the teacher of the study group announces the amount of points that each student of the group scored according to the results of the current control. The results of the tests are evaluated on a two-point scale: "credited", "not credited".

The student receives a grade of "credited" if he has completed all types of work provided for in the working curriculum of the discipline, attended all classes defined by the thematic plan of the discipline (if there are gaps - reworked them in time) and scored a score not less than 120 points.

The student receives a grade of "not credited" if the student has unfinished absences from classes (practical) and the number of points for the current control is less than the minimum.

The dean of the faculty issues a referral to the student who received a grade of "not credited" to eliminate academic debt in the discipline.

Rework of classes and increasing of points by students according to the direction of the dean's office should take place in the prescribed manner during the work on the schedule of the department. After completing the missed classes, the dean's office must give the student a test sheet, in which the teacher makes a credit mark.

Obtaining a grade "credited" from semester disciplines, the teaching of which ends with a credit, is a prerequisite for the transfer of the student to the next semester (year) of study.

## **17. RECOMMENDED LITERATURE**

### **19.1 Basic**

1. Internal Medicine : textbook for English-speaking students of higher medical educational establishments / K. M. Amosova [et al.] ; eds.: M. A. Stanislavchuk, V. K. Sierkova. – Vinnytsya : Nova Knyha, 2019. – Pt. 2 : Pulmonology. Gastroenterology. Nephrology. Diseases of the internal organs in countries with hot climate. – 2019. – 360 p.

### **19.2. Auxillary**

1. Kovalsky O. Radiology. Radiotherapy. Diagnostic Imaging : textbook for students of higher med. education establishments of IVth accreditation level / O. Kovalsky, D. Mechev, V. Danylevych. – Vinnytsia : Nova Knyha, 2013. - 498 p.

### **19.3 Information resources**

1. [www.moodle.bsmu.ua](http://www.moodle.bsmu.ua)
2. <https://www.ersnet.org/>

## **20. COMPILERS OF THE STUDENT HANDBOOK (SYLLABUS)**

1. Todoriko Liliia Dmytrivna – MD, Professor.
2. Pidverbetska Olena Valeriivna – PhD, Assistant.