

## SUBJECT CARD

**Faculty of Medicine and Health Sciences**

**Field of studies: Medicine**

**Form of studies: Full-time**

**Degree: long-cycle Master's program**

**Specializations: No specialization**

**Academic year: 2023/2024**

PULMONOLOGY	
<b>SUBJECT</b>	<b>Pulmonology</b>
<b>NUMBER OF ECTS POINTS</b>	4
<b>LANGUAGE OF INSTRUCTION</b>	English
<b>TEACHER(S)</b>	Professor Barbara Rogala, MD, PhD Assoc. Professor Andrzej Komorowski, MD, PhD Maciej Krupiński, MD, PhD Marcin Hetnał, MD, PhD Marek Koprowski, MD, PhD Katarzyna Kruczak, MD, PhD Marta Czubaj-Kowal, MD Anna Piątkiewicz-Faryna, MD Monika Połcik-Jastrząb, MD Małgorzata Stelmachowska, MD
<b>PERSON RESPONSIBLE</b>	Professor Barbara Rogala, MD, PhD
TOTAL NUMBER OF HOURS	
<b>LECTURES</b>	20 h
<b>CLASSES</b>	38 h
<b>SEMINARS</b>	12 h
GENERAL OBJECTIVES	
<b>OBJECTIVE 1</b>	<ul style="list-style-type: none"> <li>• Diagnostics and treatment of respiratory diseases.</li> <li>• Differential diagnosis of signs and symptoms of respiratory disorders</li> <li>• Choosing the relevant diagnostic procedures (imaging and functional);</li> <li>• Principles of respiratory diseases treatment, including infectious and malignant diseases and risks and benefits of pharmacotherapy;</li> <li>• Communication with patient during and after the diagnostic procedure and treatment, including communication with the patient's family;</li> <li>• When the patients require treatment at the Intensive Care Unit</li> </ul>

	Therapy?
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## PULMONOLOGY

### LEARNING OUTCOMES

<b>MK1</b>	<b>Knowledge:</b> Student will understand the genetic, environmental and epidemiologic background of the most prevalent respiratory diseases.
<b>MK2</b>	<b>Knowledge:</b> Student will know and understand the causative agents, signs and symptoms as well as diagnostic procedures and management of the most prevalent airways diseases in children.
<b>MK3</b>	<b>Knowledge:</b> Student will know and understand the signs and symptoms, the diagnostic procedures and management of the most prevalent internal diseases co-existing with the respiratory diseases, that is chronic bronchoobturative disease, bronchial asthma, mucoviscidosis, respiratory infections, fibrosis, pleura and mediastinum disorders, chronic and acute sleep apnea, respiratory failure, malignant diseases of the respiratory system.
<b>MK4</b>	<b>Knowledge:</b> Student will know when to use the imaging procedures in diagnosis of the respiratory disorders. In particular, the student will know: <ul style="list-style-type: none"> <li>• radiological therapeutic techniques;</li> <li>• indicators and contrindications regarding the use of contrast media.</li> </ul>
<b>MK5</b>	<b>Knowledge:</b> Student will know the environmental and epidemiologic conditions of the most prevalent malignant diseases of the respiratory system.
<b>MK6</b>	<b>Knowledge:</b> Student will know the most recent malignant diseases of the respiratory system therapies, including the multimodal therapy.
<b>MK7</b>	<b>Knowledge:</b> Student will understand the rehabilitation methods used for the respiratory system diseases.
<b>MK8</b>	<b>Knowledge:</b> Student will know the methods of basic surgical procedures regarding the respiratory system diseases.
<b>MK9</b>	<b>Knowledge:</b> Student will know the types of biological materials used in the laboratory diagnostic as well as the principles of collecting the material for examination of patients with the respiratory diseases.
<b>MS1</b>	<b>Skills:</b> Student will know how to conduct a medical interview with an adult patient and a child.
<b>MS2</b>	<b>Skills:</b> Student will know how to conduct a complete and targeted physical examination of an adult patient and a child with a pathology of the respiratory system.
<b>MS3</b>	<b>Skills:</b> Student will know how to conduct a differential diagnosis of the most common respiratory diseases in adults and children.
<b>MS4</b>	<b>Skills:</b> Student will know how to interpret the physical examination findings of patients suffering from dyspnea, cough

<b>MS5</b>	<b>Skills:</b> Student will know how to plan a diagnostic, therapeutic and prophylactic procedure regarding the respiratory system diseases.
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## PULMONOLOGY

<b>MS6</b>	<b>Skills:</b> Student will know how to analyse potential side effects and interactions of the medicines used by the patients for treatment of comorbidities
<b>MS7</b>	<b>Skills:</b> Student will know how to qualify a patient for home or hospital treatment.
<b>MS8</b>	<b>Skills:</b> Student will know how to define rehabilitation plan regarding the most common respiratory system diseases.
<b>MS9</b>	<b>Skills:</b> Student will know how to interpret laboratory tests results and identify the cause of wrong results.
<b>MS10</b>	<b>Skills:</b> Student will know how to collect material for the laboratory tests
<b>MS11</b>	<b>Skills:</b> Student will know how to perform spirometry, oxygen treatment and take nose and throat swabs.
<b>MS12</b>	<b>Skills:</b> Student will assist in performing and interpreting the results of the following procedures and medical treatments: <ul style="list-style-type: none"> <li>• Drainage of the pleural cavity;</li> <li>• Pleural puncture;</li> <li>• Peritoneal puncture;</li> <li>• Lumbar puncture;</li> <li>• Fine needle biopsy;</li> <li>• Skin, prick, intradermal tests.</li> </ul>
<b>MS13</b>	<b>Skills:</b> Student will know how to plan specialist consultation.
<b>MC1</b>	<b>Social Competency:</b> Student will be made aware of the necessary social competencies such as: respect of the patient rights including personal data protection right, the right to intimacy, the right to information about the state of health, the right to express an informed consent to treatment or withdraw from it, the right to a dignified death.
<b>MC2</b>	<b>Social Competency:</b> Student will be made aware of the professional conduct ethics.

## INTRODUCTORY REQUIREMENTS

Student has the knowledge about the structure and physiology of the respiratory system.

COURSE PROGRAM	DETAILED DESCRIPTION OF THE TOPIC BLOCKS
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COURSE PROGRAM	DETAILED DESCRIPTION OF THE TOPIC BLOCKS
<b>LECTURE 1</b>	COPD
<b>LECTURE 2</b>	Pneumonia.
<b>LECTURE 3</b>	Bronchiectasis.
<b>LECTURE 4</b>	Pulmonary fibrosis: diseases classification (sarcoidosis, AZPP, IPFi, ILD in the course of a connective tissue disease).
<b>LECTURE 5</b>	Pulmonary carcinoma and other malignant thoracic diseases.

<b>LECTURE 6</b>	Tuberculosis.
<b>LECTURE 7</b>	Life threatening conditions in pulmonology.
<b>LECTURE 8</b>	Respiratory failure.

<b>PULMONOLOGY</b>	
<b>LECTURE 9</b>	Surgery in pulmonology.
<b>LECTURE 10</b>	<p>Bronchial asthma:</p> <ul style="list-style-type: none"> <li>- clinical signs and symptoms;</li> <li>- spirometry, laboratory tests and their interpretation.</li> </ul> <p>Asthma pathomechanism:</p> <ul style="list-style-type: none"> <li>- endo and phenotypes characteristics.</li> </ul>
<b>LECTURE 11</b>	<p>Principles of asthma treatment:</p> <ul style="list-style-type: none"> <li>- chronic treatment;</li> <li>- management in exacerbation.</li> </ul> <p>Risk and safety of corticosteroid therapy:</p> <ul style="list-style-type: none"> <li>- asthma treatment in pregnancy;</li> <li>- treatment of asthma coexisting with other diseases;</li> <li>- biologicals therapy.</li> </ul>
<b>LECTURE 12</b>	<p><b>Radiology:</b> Emphysema, pleural fluid, pneumonia, lung contusion, pulmonary embolism, lung cancer/metastasis/mesothelioma.</p>
<b>LECTURE 13</b>	<p><b>Radiology:</b> Interstitial diseases; Tuberculosis/Sarcoidosis/Pneumoconiosis; Mediastinal disorders; Pulmonary hypertension.</p>
<b>CLASS 1</b>	Subject and physical examination of patients with respiratory diseases - interpretation of results. Evaluation of chest radiographs.
<b>CLASS 2</b>	Patients examination as above. Observation of bronchofiberscopy (including EBUS)
<b>CLASS 3</b>	Patients examination as above. Student will learn how to perform and interpret spirometry with assessment of reversibility of bronchospasm.
<b>CLASS 4</b>	Patients examination as above. Additional examination including bacteriological tests for assessment of the tuberculosis infection (OT and IGRA tests).
<b>CLASS 5</b>	Patients examination as above. Student will learn to perform pleural puncture.

<b>CLASS 6</b>	Practical exam.
<b>CLASS 7</b>	Children pulmonology.
<b>CLASS 8</b>	Children pulmonology.

<b>PULMONOLOGY</b>	
<b>SEMINAR 1</b>	<ul style="list-style-type: none"> <li>• Respiratory system anatomy and physiology (including sleep breathing physiology). Basic signs and symptoms of respiratory systems diseases;</li> <li>• The importance of diagnostic tests: gasometry, pulse oximetry, chest radiology, computed tomography</li> <li>• Indications and contraindications for spirometry and bronchoscopy;</li> <li>• Epidemiology of respiratory system diseases.</li> </ul>
<b>SEMINAR 2</b>	<ul style="list-style-type: none"> <li>• Larynx and bronchial tree diseases.</li> <li>• COPD: diagnostic methods (GOLD criteria), treatment and prevention;</li> <li>• Bronchiectasis;</li> <li>• Diagnostic and treatment of obstructive sleep apnea.</li> </ul>
<b>SEMINAR 3</b>	<ul style="list-style-type: none"> <li>• Aetiologic factors of pneumonia</li> <li>• Classification of interstitial lung diseases;</li> <li>• Idiopathic pulmonary fibrosis;</li> <li>• Sarcoidosis;</li> <li>• Allergic alveolitis;</li> <li>• Lymphangiomyomatosis;</li> <li>• Pulmonary proteinosis.</li> </ul>
<b>SEMINAR 4</b>	<ul style="list-style-type: none"> <li>• Tuberculosis: etiology, primary, post primary, forms of tuberculosis;</li> <li>• Diagnosis;</li> <li>• Treatment;</li> <li>• Drug – resistant tuberculosis;</li> <li>• Prevention;</li> <li>• Knowledge of mycobacteriosis;</li> <li>• Pleural disease;</li> <li>• Principles of collection and assessment of pleural fluid and pleural lesions.</li> </ul>
<b>SEMINAR 5</b>	<ul style="list-style-type: none"> <li>• Lung cancer: etiology, epidemiology and types of lung cancer;</li> <li>• Cancer symptoms and diagnosis, degree of severity (TNM classification) and principles of treatment;</li> <li>• Lung metastases;</li> <li>• Pleural mesothelioma;</li> <li>• Occupational diseases and diseases related to air pollution (including smoking).</li> </ul>

<b>SEMINAR 6</b>	<ul style="list-style-type: none"> <li>• Acute and chronic respiratory failure;</li> <li>• Management in life-threatening conditions in pulmonology (asthmatic state, exacerbation of COPD with respiratory failure);</li> <li>• Pneumothorax;</li> <li>• Rapidly increasing effusion in pleura;</li> <li>• Foreign body in the respiratory tract;</li> </ul>
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<b>PULMONOLOGY</b>	
<b>SEMINAR 7</b>	Asthma treatment strategy: <ul style="list-style-type: none"> <li>- selection of targeted therapy in different asthma endo-phenotypes (benefits and risks of side effects of individual therapeutic strategies);</li> <li>- the most common causes of asthma exacerbation;</li> <li>- assessment of the severity of exacerbation;</li> <li>- parameters monitored in patients with asthma exacerbation.</li> </ul>
<b>SEMINAR 8</b>	Radiotherapy in lung cancer.
<b>DIDACTIC METHODS (APPLIED)</b>	
	Laboratory seminar, Lectures, Workshops in the ward, Case studies.
<b>STUDENTS WORKLOAD</b>	
<b>NUMBER OF HOURS UNDER SUPERVISION</b>	70 hours
<b>NUMBER OF PREPARATION HOURS</b>	Preparation for seminars: 6 hours Preparation for the exam: 12 hours
<b>TOTAL NUMBER OF HOURS FOR THE COURSE</b>	88 hours
<b>CLASS REGULATIONS</b>	
Attendance at all lectures, classes and seminars is obligatory. The condition for admission to the exam is passing the classes and/or seminars.	
<b>METHODS OF ASSESSMENT</b>	
<b>IN TERMS OF KNOWLEDGE</b>	Multiple choice test, 60 questions, minimum threshold 55%.

<b>IN TERMS OF SKILLS</b>	Practical skills evaluation according to the standardised scheme: - an ability to perform anamnesis; - patient examination; - diagnosis; - treatment planning; - communication with patient.
<b>IN TERMS OF SOCIAL COMPETENCE</b>	Observation of students during classes.
<b>FORMATIVE</b>	Evaluation of student's active participation during the revision seminars (recorded).
<b>SUMMATIVE (I &amp; II TERMS)</b>	Theoretical knowledge examination (multiple choice test, 60 questions, threshold 55%)

<b>PULMONOLOGY</b>	
<b>GRADING SCALE</b>	
<b>3,0 (SATISFACTORY)</b>	<b>55% - 62%</b>
<b>3,5 (SATISFACTORY PLUS)</b>	<b>63% - 70%</b>
<b>4,0 (GOOD)</b>	<b>71% - 78%</b>
<b>4,5 (GOOD PLUS)</b>	<b>79% - 86%</b>
<b>5,0 (VERY GOOD)</b>	<b>87% - 100%</b>
<b>BASIC LITERATURE</b>	
[1] „Interna” Szczeklika (ed. Medycna Praktyczna); [2] "Pulmonologia" (edited by prof. Antczaka) (ed. Medical Tribune Polska).	