

Syllabus of the training module at the university level

Name of the Faculty	Faculty of Medicine, Jagiellonian University Medical College
Name of the unit conducting the module	II Department of Internal Medicine
Name of the training module	Internal Medicine III
Module code	
Language of training	English
Education effects for the training module	<p>Educational module "Internal Medicine – Nephrology"</p> <p>In terms of knowledge, the Student:</p> <ul style="list-style-type: none"> - knows the genetic, environmental and epidemiological conditions of the most common diseases of the kidneys and urinary system, - knows and understands the causes, symptoms and principles of diagnosis and therapeutic management of the most common diseases of the kidneys and urinary tract, including: acute and chronic renal failure, glomerular and interstitial kidney diseases, kidney cysts, kidney stones, urinary tract infections, urinary tract cancers, in particular bladder cancer and kidney cancer <p>In terms of student skills:</p> <ul style="list-style-type: none"> - interview an adult patient - conducts a full targeted physical examination of an adult patient - assesses the general condition, state of consciousness and awareness of the patient - performs the differential diagnosis of the most common diseases of the kidneys and urinary tract in adults - plans diagnostic, therapeutic and prophylactic procedures for diseases of the kidneys and urinary system - interprets laboratory tests and identifies the causes of deviations - can perform basic medical procedures and treatments, including: body temperature measurement, heart rate measurement, non-invasive blood pressure measurement, monitoring of vital signs with a cardiac monitor, urinary bladder catheterization in women and men - Assists in the following medical procedures and procedures: fine needle biopsy of the kidney, ultrasound of the abdominal cavity and transplanted kidney - can plan specialist consultations - can plan specialist consultations - is able to plan the patient's medical documentation <p>In the field of social competences Student:</p> <ul style="list-style-type: none"> - shows respect for the patient - Adheres to ethical principles in its activities - respects the patient's 9 rights to the protection of personal data and intimacy) - can search and critically analyze literature data (including English) - demonstrates problem-solving skills - can work in a group - effectively cooperates with representatives of other medical professions

	<p>Educational module "Internal Medicine – Cardiology"</p> <p>After the end of the course, the Student: in terms of knowledge:</p> <p>He knows the rules of procedure in sudden cardiac arrest. He knows the principles of primary and secondary prevention of sudden cardiac death. He knows the indications and rules of conduct in electrical / pharmacological cardioversion. He knows the indications for artificial heart pacing and ICD implantation. He knows the indications and basic principles of the interpretation of the electrophysiological test (EPS). He knows the basics of ECG interpretation in a patient with an artificial pacemaker. He knows the usefulness of ECG Holter monitoring in cardiological practice.</p> <p>He knows the usefulness and principles of interpretation of laboratory tests in the diagnosis and treatment monitoring of patients with heart failure. Knows and understands the causes, symptoms, principles of diagnosis, differential diagnosis and therapeutic management in the following diseases: heart failure (acute and chronic), cor pulmonale, pulmonary embolism, atrial fibrillation and flutter, and tachycardia with wide and narrow QRS complexes.</p> <p>He knows the relationship between the pathophysiological foundations and pharmacotherapy in heart failure, atrial fibrillation and flutter as well as tachycardia with wide and narrow QRS complexes.</p> <p>He knows the principles of anticoagulant and antiplatelet treatment.</p> <p>Knows the rules of qualifying patients to:</p> <ul style="list-style-type: none"> - resynchronization therapy ± ICD - supporting the functions of the left ventricle - heart transplant <p>He knows the rules of qualifying patients for percutaneous ablation.</p> <p>in terms of skills:</p> <p>Can assess the general condition of the patient. He is able to recognize the states of imminent threat to life. Can interpret the ECG of a patient with a pacemaker (basic scope). Can interpret the result of Holter ECG monitoring. Can interpret the results of laboratory tests useful in the diagnosis and monitoring of the treatment of heart failure.</p> <p>Based on the clinical picture, he can make an initial diagnosis, plan diagnostic tests, perform differential diagnosis and propose therapeutic treatment in patients with:</p> <ul style="list-style-type: none"> - heart failure - pulmonary heart - zatorowością płucną - atrial fibrillation and flutter
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	<p>- wide and narrow QRS complex tachycardias</p> <p>Can plan specialist consultations.</p> <p>in the field of social competences (professionalism): He shows respect for the patient and care for his well-being. Observes ethical principles in its activities. Respects the patient's rights. Demonstrates the ability to solve problems. Can work in a group.</p> <p>Educational module "Internal Medicine – Pulmonology"</p> <p>After completing the course, the student: in terms of knowledge:</p> <ul style="list-style-type: none"> - demonstrates the knowledge of epidemiology, etiology and the natural course, as well as understands the pathophysiological basis of the basic respiratory system diseases included in the program - correctly explains and interprets the symptoms and signs accompanying respiratory system diseases - understands the role and can use additional tests in the diagnosis of lung diseases, with particular emphasis on imaging tests, functional tests of the respiratory system, as well as arterial blood gasometry - demonstrates knowledge of invasive procedures in the field of endoscopy of the respiratory system, pleural puncture and pleural biopsy as well as needle biopsy of peripheral lesions through the chest wall - is proficient in conducting differential diagnosis, non-pharmacological and pharmacological treatment as well as monitoring the course of respiratory diseases <p>in terms of skills:</p> <ul style="list-style-type: none"> - is able to properly and comprehensively conduct a subjective and physical examination with a special one taking into account lung diseases - plan diagnostic and therapeutic procedures for the diseases in question - is able to interpret and use additional tests, especially: imaging, functional, invasive respiratory system and arterial blood gas measurement in diagnostic and therapeutic procedures. <p>in the field of social competences (professionalism)</p> <ul style="list-style-type: none"> - shows respect for the patient and care for his well-being - complies with the relevant ethical principles - respects the patient's rights, including the protection of personal data and privacy - can search and critically analyze data from the literature (including English) - demonstrates the ability to solve problems - demonstrates the ability to independently acquire information and analyze it critically - can discuss, give constructive criticism and use criticism - can work in a group - can teach others
Type of training module (mandatory/facultative)	mandatory

Year of study	4-6
Semester	VII/VIII
Name of the person leading the module	Tomasz Grodzicki , Marek Kuźniewski , Wiesław Pyrczak
Name of the person examining or granting a credit if it is not the person conducting the module	Rafał Badacz , Alina Bętkowska-Prokop , Małgorzata Biernat-Sudolska , Krzysztof Bryniarski , Monika Brzychczy-Włochy , Adriana Celińska , Magdalena Celińska-Löwenhoff , Piotr Ceranowicz , Bernadeta Chyrchel , Danuta Czarnecka , Joanna Dolipska , Jerzy Dropiński , Tomasz Drożdż , Artur Drzewiecki , Agnieszka Gawlewicz-Mrocza , Tomasz Gosiewski , Iwona Gross-Sondej , Bartłomiej Guzik , Ewa Ignacak , Piotr Jankowski , Anna Kabłak-Ziembicka , Aleksander Kania , Łukasz Kasper , Grzegorz Kiełbasa , Marek Kłoczek , Piotr Kochan , Monika Komar , Grzegorz Kopeć , Magdalena Kostkiewicz , Andrzej Kraśniak , Jacek Krawczyk , Katarzyna Krzanowska , Marcin Krzanowski , Marek Kuźniewski , Sławomir Kwiecień , Jacek Legutko , Jacek Lelakowski , Barbara Małecka , Paweł Matusik , Przemysław Miarka , Marcin Mrugacz , Piotr Musiałek , Jadwiga Nessler , Piotr Odrowąż-Pieniążek , Agnieszka Olszanecka , Maria Olszowska , Agnieszka Padjas , Jan Pęksa , Agata Pietrzyk , Wojciech Płazak , Jakub Podolec , Piotr Podolec , Magdalena Polaczyk , Kamil Polok , Tadeusz Przewłocki , Marek Przybyszowski , Marek Rajzer , Wojciech Rudnicki , Anna Rydlewska , Dominika Salamon , Krzysztof Śladek , Jerzy Soja , Agnieszka Sroka-Oleksiak , Tomasz Stachura , Katarzyna Stolarz-Skrzypek , Marek Stopa , Andrzej Surdacki , Piotr Szolc , Michał Terlecki , Lidia Tomkiewicz-Pająk , Zygmunt Warzecha , Ewa Wieczorek-Surdacka , Wiktoria Wojciechowska , Karolina Woziwodzka , Barbara Zawilińska , Bożena Żurowicz
Methods of performance	
Initial and additional requirements	<p>Educational module "Internal Medicine – Nephrology"</p> <p>The student has the ability to basic subjective and physical examination of patients acquired during the teaching of internal medicine in the earlier years of study.</p> <p>Basic knowledge of the etiology, clinical symptoms, diagnosis and treatment of basic diseases of the kidneys and urinary system.</p> <p>Introductory subjects: Anatomy, Histology with cytophysiology, Biochemistry with elements of chemistry, Physiology, Pathology, Pharmacology, Radiology, Propaedeutics of internal diseases. Laboratory diagnosis.</p> <p>Requirements before being allowed to pass the classes:</p> <ul style="list-style-type: none"> - positive result of the exam in the subject: Pharmacology - a positive result of a credit in the subject: Radiology - a positive result of a credit in the course: Laboratory Diagnostics. <p>Educational module "Internal diseases - Pulmonology"</p> <p>Knowledge of: anatomy, physiology and pathophysiology of the respiratory system and pathomorphology of lung diseases, basics of</p>

	<p>psychology and medical ethics.</p> <p>The student has the ability to basic subjective and physical examination of patients acquired during the teaching of internal medicine in the earlier years of study.</p>
Teaching and learning activities	<p>Lecture: 6 hours Seminar: 9 hours Laboratory class: 75 hours Total: 90 hours</p> <p>Preparation for exercises - 15 hours Preparation for passing - 15 hours. Total: 120 hours</p>
Number of ECTS credits allocated	6 ECTS
Balance of ECTS points	<p>Participation in lectures - 6 hours. - 2 hours (cardiology) - 2 hours (pulmonology) - 2 hours (nephrology)</p> <p>Participation in the seminar - 9 hours, including: - 3 hours (cardiology) - 3 hours (pulmonology) - 3 hours (nephrology)</p> <p>Participation in exercises - 75 hours, including: - 25 hours (cardiology) - 25 hours (pulmonology) - 25 hours (nephrology)</p> <p>Preparation for exercises - 15 hours Preparation for passing - 15 hours.</p> <p>Total 90 hours classes and 120 hours student work.</p> <p>ECTS credits: 6, including: - 2 (cardiology) - 2 (pulmonology) - 2 (nephrology)</p>
Teaching methods applied	<p>Educational module "Internal diseases - Nephrology"</p> <ul style="list-style-type: none"> - conducting exercises in a small group of students - the use of clinical cases (Case Study) and PBL Problem Based Learning issues)
Methods for testing and evaluation criteria for learning outcomes achieved by students	<p>Educational module "Internal diseases - Nephrology"</p> <ul style="list-style-type: none"> - assessment by an assistant at the end of the course. Oral theoretical credit and assessment of practical skills throughout the course - discussion during the classes, observation of the student's work, assessment of activity during the classes. <p>Educational module "Internal diseases - Pulmonology"</p>

	<p>Forming gauges:</p> <p>Continuous structured assessment by instructors, on an ongoing basis after each class, with feedback to students</p> <p>Final (summary) tests</p> <p>In terms of knowledge:</p> <p>After completing all Internal Medicine courses, there is a test, practical and oral exam.</p> <p>In terms of skills:</p> <ul style="list-style-type: none"> - observation of the student by the teacher and structured assessment <p>In the field of social competences (professionalism)</p> <ul style="list-style-type: none"> - observation of the student by the teacher and structured assessment
Form and conditions for module passing, including the rules of admission to the exam, pass, and the form and condition for completion of the various activities within the scope of the module	<p>Internal Medicine - Nephrology</p> <ul style="list-style-type: none"> - Class attendance (clinical exercises and seminars). - Oral credit for classes at the tutoring assistant. <p>Educational module "Internal diseases - Cardiology":</p> <p>Credit for the person leading the given subgroup on the basis of:</p> <ul style="list-style-type: none"> - attendance at clinical exercises and seminars - activities during clinical exercises and seminars in the form of continuous assessment - verbally checking the knowledge after each cycle of clinical exercises. <p>Educational module "Internal diseases - Pulmonology"</p> <p>Credit based on the presence and knowledge presented at seminars and exercises - oral credit for classes at the tutoring assistant.</p> <p>After completing all Internal Medicine courses, there is a test, practical and oral exam.</p> <p>Participation in classes:</p> <p>Substantive and technical quality of the prepared materials, correctness of the presentation</p> <p>The ability to relate the developed topic to the discussed case</p> <p>Quality of participation in group discussions</p> <p>Ability to critically analyze information</p>
Training module content	<p>Brief description of the topic of classes for the "Internal diseases-cardiology" training module:</p> <p>Management of sudden cardiac arrest.</p> <p>Principles of primary and secondary prevention of sudden cardiac death.</p> <p>Indications for and detailed procedures in cardioversion.</p> <p>Indications for artificial cardiac pacing and ICD implantation</p> <p>Indications and basic principles of the interpretation of the electrophysiological test.</p> <p>Basics of ECG interpretation in a patient with an artificial pacemaker.</p> <p>The utility of ECG Holter monitoring in cardiological practice.</p> <p>Laboratory tests in the diagnosis of cardiovascular diseases and treatment monitoring (II).</p> <p>Pathophysiological basics, clinical picture, principles of diagnosis, differential diagnosis and treatment in selected disease entities.</p> <p>Principles of anticoagulant and antiplatelet treatment.</p> <p>Principles of qualifying patients for percutaneous ablation,</p>

	<p>implantation of implantable devices and heart transplantation.</p> <p>-----</p> <p>Educational module "Internal diseases - Pulmonology"</p> <p>Seminars (3 hours) - presentation of the most important clinical issues and current social and civilization problems as well as development directions in pulmonology</p> <p>Classes (25 hours) - practical classes in the lung diseases ward, including physical and physical examination, assessment of imaging and laboratory results, conducting differential diagnosis and learning about the methods of treating respiratory diseases included in the curriculum. Practical classes on the interpretation of blood gas results, pulmonary function tests and imaging tests</p> <p>Understanding invasive procedures in the field of respiratory endoscopy, pleural puncture, pleural biopsy and needle biopsy of peripheral lesions through the chest wall</p> <p>Independent work consisting in getting acquainted with the content included in the curriculum.</p> <p>Educational module "Internal diseases - Nephrology"</p> <ul style="list-style-type: none"> - Epidemiology of kidney diseases - Symptoms of kidney disease - Diagnosis of kidney diseases - Laboratory disorders in diseases of the kidneys and urinary system - Nephrotic and nephritic syndrome - Proteinuria, hematuria, hematuria - diagnosis and treatment - Primary and secondary glomerulonephritis - histopathological forms, diagnosis and treatment. - Interstitial nephritis - drug-induced and infectious. - Urinary tract infections - diagnosis, treatment principles division - Acute kidney damage - pre-renal, renal and non-renal. - Obstructive nephropathy - Neurotoksyczność aminoglikozydów - Chronic kidney disease-definition, stages of treatment - Nephroprotective treatment - Cystic kidney disease - Kidney stones - Kidney tumors - Post-contrast nephropathy - Diabetic nephropathy - Hypertension in kidney diseases - renal and vascular hypertension. Hypertensive nephropathy. - Tumors of the kidneys and urinary system. - Renal replacement therapy - hemodialysis, peritoneal dialysis, kidney transplantation. - Introduction to clinical transplantology. Immunosuppressive treatment - Treatment of basic electrolyte disturbances and acid-base disturbances. - Kidney disease in pregnancy. <p>Detailed topics for the training module "Internal diseases-cardiology":</p> <p>Management of sudden cardiac arrest.</p> <p>Principles of primary and secondary prevention of sudden cardiac death.</p> <p>Indications for and detailed management of electrical / pharmacological cardioversion.</p> <p>Indications for artificial cardiac pacing and ICD implantation</p>
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	<p>Indications and basic principles of the interpretation of the electrophysiological test (EPS).</p> <p>Basics of ECG interpretation in a patient with an artificial pacemaker.</p> <p>The utility of ECG Holter monitoring in cardiological practice.</p> <p>Laboratory tests in the diagnosis of cardiovascular diseases and treatment monitoring (II):</p> <ul style="list-style-type: none"> - acute and chronic heart failure <p>Clinical picture, principles of diagnosis, differential diagnosis and treatment in the following diseases:</p> <ul style="list-style-type: none"> - heart failure (acute and chronic) - pulmonary heart - zatorowość płucna - atrial fibrillation and flutter - tachycardias with wide and narrow QRS complexes <p>Pathophysiological basics and pharmacotherapy:</p> <ul style="list-style-type: none"> - heart failure - atrial fibrillation and flutter - tachycardias with wide and narrow QRS complexes <p>Principles of anticoagulant and antiplatelet therapy:</p> <ul style="list-style-type: none"> - heparin - vitamin K antagonists - new anticoagulants - aspirin and P2Y₁₂ receptor antagonists - cross-combinations of antiplatelet and anticoagulant drugs <p>Principles of qualifying patients to:</p> <ul style="list-style-type: none"> - resynchronization therapy ± ICD - supporting the functions of the left ventricle - heart transplant <p>Principles of qualifying patients for percutaneous ablation:</p> <ul style="list-style-type: none"> - in supraventricular tachycardia - accessory pathway (AVRT) and free pathway (AVNRT) - in atrial flutter - in the tricuspid-venous isthmus - in atrial fibrillation - encircling the orifices of the pulmonary veins and the AV junction - ventricular arrhythmia focus <p>-----</p> <p>Educational module "Internal diseases - Pulmonology"</p> <p>During pulmonology classes, the issues of symptomatology, diagnosis and treatment of the following disease entities will be discussed:</p> <ul style="list-style-type: none"> - Chronic bronchitis and emphysema (COPD). - Chronic pulmonary heart. - Pneumonia. Opportunistic infections of the respiratory system. - Lung cancer. - Pulmonary tuberculosis - pathomechanism, clinical forms and treatment. Tuberculosis and AIDS. - Cystic fibrosis. - Mycobacteriosis. Mycoses of the respiratory system. - Zatorowość płucna. - Idiopathic pulmonary hypertension. - Disturbed breathing during sleep. - Pulmonary emergencies (spontaneous pneumothorax, pulmonary haemorrhage, pulmonary embolism, acute asthma attack). - ARDS. Acute respiratory failure. Oxygen therapy. - Pleural diseases. - Allergic alveolitis. - Sarcoidosis. - Changes in the lungs in the course of connective tissue diseases.
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	<ul style="list-style-type: none"> - Wegener's granulomatosis. - Inflammation of the pulmonary vessels. - Occupational diseases of the respiratory system.
Basic and supplementary bibliography to complete the module	<p>Educational module "Internal diseases - Nephrology"</p> <p>Basic literature: Inner Szczeklik. Textbook of Internal Medicine 2017, Practical Medicine</p> <p>Supplementary literature: M. Myśliwiec - Great Interna. Nephrology. Medical Tribune Polska 2017 W. Januszewicz, F. Kokot - Interna, PZWL 2006, publishing house 2</p> <p>----- Educational module "Internal diseases - Pulmonology "</p> <p>1). "Diseases of the respiratory system" in Interna Szczeklik, edited by A. Szczeklik; Practical Medicine 2018 2). "Pulmonology part. I i II "in Wielka Interna Antczak, Myśliwiec, Pruszczyk; Medical Tribune Polska 2010</p> <p>Basic reference materials for the module "Internal diseases-kardiology"</p> <ol style="list-style-type: none"> 1. Kokot F .: Internal diseases - an academic textbook. PZWL, Warsaw, 2006. 2. Interna Szczeklik - a small textbook 2015/2016, edited by Gajewski P. et al. Medycyna Praktyczna, Krakow, 2015. 3. Herold G .: Internal Medicine, Volume 1-2 - Repetition for students of medicine and doctors. PZWL, Warsaw, 2008. 4. Tomasik T., Windak A. Skalska A., Kulczycka-Życzkowska J., Kocemba J .: Electrocardiography for practitioners. Vesalius, Krakow, 1998. <p>Supplementary literature for the module "Internal diseases-kardiology"</p> <ol style="list-style-type: none"> 1. Davidson's internal diseases - vol. 1, ed .: Kokot F, Hyla-Klekot L. Elsevier Urban & Partner, Wrocław, 2009. 2. Acute life-threatening conditions in internal diseases, ed.: Kokot F. PZWL, Warsaw, 2015. 3. Kozłowski D .: ECG analysis in clinical cases. Via Medica, Gdańsk, 2013. 4. Hampton JR .: 150 EKG problems. Elsevier Urban & Partner, Wrocław, 2014. 5. Polish Society of Cardiology - guidelines for the management of cardiovascular diseases based on the European Society of Cardiology (ESC). http://www.ptkardio.pl/Wytyczne-278.
Dimension, principles and form of awarded for practice when the training program provides practice	<p>Educational module "Internal diseases - Nephrology"</p> <ul style="list-style-type: none"> - Classes take place from 8.30 - full schedule on the notice board for students and at the Staroste of the 4th year of WL. - Clinical classes at the Departments of the Nephrology Clinic in the buildings of ul. Kopernika 15 and 15c. - Seminars - in the Copernicus seminar room 15 c - The cloakroom for students is located in the building at ul. Kopernika 15c, ground floor - key to the gatehouse <p>Educational module "Internal diseases - Pulmonology"</p> <ul style="list-style-type: none"> - Classes take place from 8.15 - full schedule on the notice board for Students - Clinical classes at the Departments of the Pulmonology Clinic in the building at ul. Skawińska 8

	<ul style="list-style-type: none">- Seminars - in the seminar / lecture room ul. Skawińska 8 - schedule at the porter- A cloakroom for students on the ground floor at the reception desk and in the building of the Pulmonology Clinic on the level between the ground floor and the 1st floor (upon receipt of the key at the porter)
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