DESCRIPTION OF THE COURSE OF STUDY

Course code	0912-7LEK-C-IM	
Name of the course in	Polish	***Choroby wewnętrzne***
	English	***Internal Medicine***

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	Medicine
1.2. Mode of study	Full-time
1.3. Level of study	Uniform Masters' study
1.4. Profile of study*	General academic
1.5. Person/s preparing the course description	Dr hab. Janusz Sielski, prof UJK
1.6. Contact	janusz.sielski@ujk.edu.pl

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites*	Knowledge of modules: morphological science and scientific basis of medicine

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes		**LECTURE: 75 (including 6 hours of e-learning),** **CLASSES: 65 (including 5 hours of e-learning),** **PRACTICAL CLASSES: 95**
3.2. Place of classes		Lectures and classes – teaching rooms of the JKU Practical classes – hospitals, out-patient departments
3.3. Form of assessment		Semesters VII, VIII and X Lecture – credit with grade (test) Classes – credit with grade (test) Practical classes – credit (oral and practical skills) Final exam with grade after completing "Internal medicine - clinical teaching and practice" after semester XI (test, oral). Lectures are obligatory.
3.4. Teaching methods		Conversational lecture, discussion, a case study in natural condition
3.5. Bibliography	**Required reading**	1. Harrison's Principles of Internal Medicine, Vol. 1 & Vol. 2; 22nd Edition. Authors: Longo, Dan; Fauci, Anthony; Jameson, J.; Hauser, Stephen; Kasper, Dennis; Loscalzo, Joseph;
	Further reading	1. Bates' Guide to Physical Examination and History-Taking by Lynn Bickley, Wolters Kluwer Health 2023 2. Podstawy badania klinicznego / Basics and Clinical Examination. Piotr Zaborowski. Medipage 2016

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

4.1. Course objectives *(including form of classes)*

Lectures

C01 Provision of theoretical knowledge in internal medicine, including cardiology.
Preparation of the student for:

- independent planning of diagnostic procedures and interpretation of results,
- conducting differential diagnosis,
- planning therapeutic management and anticipating consequences of proposed interventions in both inpatient and outpatient settings.

C02 Development of practical skills in conducting medical interviews, performing physical examination, recognizing symptomatology of internal diseases, and performing basic diagnostic procedures in compliance with legal regulations, with particular emphasis on cardiology.

C03 Acquisition of competence in assessing indications and contraindications for various stages of diagnostic and therapeutic processes, including knowledge of drug interactions.

Classes

C01 Training in conducting comprehensive and focused medical interviews with patients and their families in the context of internal medicine.
C02 Training in proper performance of physical examination.
C03 Training in accurate interpretation of laboratory tests, imaging, ECG, and other diagnostic findings.
C04 Development of competence in differential diagnosis of internal diseases.
C05 Acquisition of skills in planning an optimal diagnostic and therapeutic strategy for internal medicine patients, with consideration of comorbidities and contraindications for specific diagnostic and therapeutic procedures.
C06 Ability to plan further patient education in the context of secondary prevention, with particular emphasis on cardiovascular diseases.
C07 Ability to Use and Critically Analyze Artificial Intelligence (AI)

Practical Classes

C01 Ability to perform and interpret basic diagnostic procedures (ECG, spirometry, urine dipstick tests, arterial blood gas analysis, swabs, measurement of surface and core body temperature, blood pressure measurement).
C02 Ability to perform peripheral venous cannulation.
C03 Ability to conduct cardiopulmonary resuscitation, including defibrillation and chest compressions.
C04 Competence in conducting comprehensive and focused medical interviews with patients and their families in the context of internal medicine.
C05 Ability to insert a gastric tube

4.2. Detailed syllabus *(including form of classes)*

Year IV

Semester VII – Lectures

- **Respiratory diseases:** airway diseases, chronic obstructive pulmonary disease (COPD), bronchial asthma, bronchiectasis, pneumonia, tuberculosis, interstitial lung diseases, pleural and mediastinal disorders, obstructive and central sleep apnea, acute and chronic respiratory failure, lung neoplasms, tobacco dependence.

- **Renal and urinary tract diseases:** acute and chronic renal failure, glomerular and interstitial kidney diseases, renal cysts, urolithiasis, urinary tract infections, urinary tract malignancies (bladder cancer, renal cancer).
- **Hematological diseases:** aplastic anemia, anemias, granulocytopenia and agranulocytosis, thrombocytopenia, acute leukemias, myeloproliferative and myelodysplastic-myeloproliferative neoplasms, myelodysplastic syndromes, mature B-cell and T-cell neoplasms.

E-learning module:

- Hematological disorders: bleeding diatheses (plasma, platelet, vascular), thrombophilias, life-threatening conditions in hematology, hematological abnormalities secondary to other organ diseases.

Semester VII – Classes

- Conducting a focused medical interview.
- Performing a targeted physical examination in relation to respiratory, renal/urinary tract, and hematological diseases.
- Assessment and description of somatic status.
- Planning diagnostic, therapeutic, and preventive management.
- Differential diagnosis of the most common cardiovascular and respiratory diseases.
- Qualification of patients for outpatient versus inpatient treatment.
- Planning specialist consultations.
- Principles of transfusion of blood and blood products.
- Dialysis therapy.

E-learning module:

- Acute and chronic kidney disease, glomerular diseases.

Semester VII – Practical Classes

Application of previously acquired internal medicine knowledge and skills during clinical training:

- Measurement of temperature, respiratory rate, pulse, and blood pressure.
- Monitoring of vital parameters using a cardiac monitor and pulse oximeter.
- Initiation and supervision of passive and active oxygen therapy.
- Insertion of an oropharyngeal airway.
- Administration of medications (intravenous, intramuscular, subcutaneous), peripheral vein cannulation, blood culture collection, arterial blood sampling, arterialized capillary blood sampling.
- Collection of nasal, throat, and skin swabs; pleural puncture.
- Assisting with transfusion of blood and blood products.
- Assisting with dialysis therapy.
- Maintaining medical records (with particular emphasis on electronic health records).

Semester VIII – Lectures

- **Endocrine diseases:** disorders of the hypothalamus and pituitary gland, thyroid gland, parathyroid glands, adrenal cortex and medulla, ovaries and testes, neuroendocrine tumors, multiple endocrine syndromes.
- **Diabetes and metabolic syndrome:** hypoglycemia, obesity, dyslipidemia.

E-learning module:

- Water-electrolyte and acid–base disorders: dehydration, fluid overload, electrolyte imbalance, acidosis, alkalosis.

Semester VIII – Classes

- Performing targeted physical examinations in relation to water–electrolyte and acid–base disorders as well as endocrine diseases and diabetes.
- Conducting differential diagnosis.
- Assessment and description of somatic status within recognized disease entities.
- Planning diagnostic, therapeutic, and preventive management.

- Insulin therapy in acute states and in chronic diabetes management.
- Principles of correction of electrolyte disturbances and acid–base imbalance.

E-learning module:
- Conducting differential diagnosis in endocrine disorders.

Semester VIII – Practical Classes
Application of previously acquired internal medicine knowledge and skills during clinical training:
- Performing urine dipstick tests and blood glucose measurement.
- Measurement of temperature, respiratory rate, pulse, and blood pressure.
- Monitoring of vital parameters using a cardiac monitor and pulse oximeter.
- Initiation and supervision of passive and active oxygen therapy.
- Insertion of an oropharyngeal airway.
- Administration of medications (intravenous, intramuscular, subcutaneous), peripheral vein cannulation, blood culture collection, arterial blood sampling, arterialized capillary blood sampling.
- Collection of nasal, throat, and skin swabs; pleural puncture.
- Maintaining medical records (with particular emphasis on electronic health records).

Year V

Semester X – Lectures
- **Rheumatologic diseases:** connective tissue diseases, systemic vasculitides, spondyloarthritides, metabolic bone diseases, osteoporosis, degenerative joint diseases, gout.
- **Allergic diseases:** anaphylaxis, anaphylactic shock, angioedema.
- **Gastrointestinal diseases:** disorders of the oral cavity, esophagus, stomach and duodenum, intestines, pancreas, liver, bile ducts, gallbladder – with particular emphasis on malignancies.

Semester X – Classes
- Conducting a focused medical interview.
- Performing a targeted physical examination in relation to gastroenterological, rheumatological, and allergic diseases.
- Conducting differential diagnosis.
- Assessment and description of somatic status within recognized disease entities.
- Planning diagnostic, therapeutic, and preventive management.
- Qualification of patients for outpatient versus inpatient treatment.
- Planning specialist consultations.
- Proposing individualized therapeutic strategies and implementing alternative treatment methods in cases of standard therapy ineffectiveness or contraindications.
- Proposing nutritional treatment (including enteral and parenteral nutrition).

Semester X – Practical Classes
Application of previously acquired internal medicine knowledge and skills during clinical training:
- Assisting in skin prick testing, intradermal testing, and scarification tests, and interpreting results.
- Performing gastric intubation, gastric lavage, and enemas.
- Assisting in paracentesis and fine-needle biopsy.
- Maintaining medical records (with particular emphasis on electronic health records).

4.3. Education outcomes in the discipline

Code	A student, who passed the course	Relation to teaching outcomes
Within the scope of **KNOWLEDGE**:		

W01	Knows environmental and epidemiological conditions for the most common diseas	E.W1.
W02	the causes, symptoms, principles of diagnosis and therapeutic management in relation to the most frequent internal diseases occurring in adults and their complications: 1) cardiovascular diseases, including coronary heart disease, heart defects, endocarditis , myocarditis, pericarditis, heart failure (acute and chronic), arterial and venous diseases, primary and secondary hypertension, pulmonary hypertension, 2) respiratory diseases, including diseases of the respiratory tract, chronic obstructive pulmonary disease, bronchial asthma, bronchiectasis, cystic fibrosis, respiratory infections, interstitial lung disease, pleura, mediastinum, obstructive and central sleep apnea, respiratory failure (acute and chronic), respiratory cancers, 3) gastrointestinal diseases, including diseases of oral cavity, esophagus, stomach and duodenum, intestine, pancreas, liver, biliary tract and gall bladder, P7U_W P7S-WG P7S_WK 9 4) endocrine diseases, including diseases of the hypothalamus and pituitary, thyroid, parathyroid, cortex and adrenal medulla, ovaries and testes as well as neuroendocrine tumors polyglandular syndromes, different types of diabetes and metabolic syndrome: hypoglycemia, obesity, dyslipidemia, 5), diseases of kidney and urinary tract, including acute and chronic renal failure, renal glomeruli diseases, cystic kidney disease, kidney stones, urinary tract infections, urinary tract tumor, particularly bladder cancer and kidney cancer, 6) hematological diseases, including bone marrow aplasia, anemia, neutropenia and agranulocytosis, thrombocytopenia, acute leukemia, myeloproliferative neoplasms and myelodysplastic -myeloproliferative disorders, myelodysplastic syndromes, cancer of mature B and T lymphocytes, bleeding disorders, thrombophilia, states of a direct threat to life in hematology, blood disorders, diseases of other organs, 7) rheumatic diseases, including systemic connective tissue disease, systemic vasculitis, inflammation of joints involving the spine, metabolic bone diseases, especially osteoporosis and degenerative diseases of the joints, gout, 8) allergic diseases, including: anaphylaxis and anaphylactic shock and angioedema, 9) water-electrolyte abnormalities and acid-base disorders: states of dehydration or fluid overload, electrolyte disorders, acidosis and alkalosis;	E.W7.
within the scope of **ABILITIES:**		
U01	conduct a review of medical history of the adult patient;	E.U1.
U02	conduct full and targeted physical examination of the adult patient;	E.U3
U03	assess patient’s general condition, consciousness and awareness	E.U7
U04	perform differential diagnosis of the most common diseases in adults and children;	E.U12.

U05	assess and describes the somatic and mental state of patients;	E.U13.
U06	recognize states of a direct threat to life	E.U14
U07	recognize when a patient is under the influence of alcohol, drugs and other addictive products	E.U15
U08	plan diagnostic, therapeutic and preventive procedures;	E.U16
U09	conduct analysis of the potential side effects of each drug and the interaction between them	E.U17
U10	qualify the patient for home treatment and hospitalization;	E.U20
U11	recognize states in which functional status of the patient's or his/her preferences restrict the treatment in accordance with specific guidelines for the disease	E.U21.
U12	interpret laboratory test results and identify the reasons for deviations;	E.U24
U13	apply dietary treatment with the consideration of enteral and parenteral feeding;	E.U25
U14	qualify the patient for vaccination	E.U27
U15	collect and secure samples of material used in laboratory diagnostics;	E.U28
U016	perform basic medical procedures and treatments, including: 1) measurement of body temperature, pulse measurement, non-invasive blood pressure measurement, 2) monitoring of vital signs using a cardio-monitor or pulse oximetry, 3) spirometry, oxygen therapy, assisted and control mode ventilation 4) introduction of the oropharyngeal tube, 5) intravenous injection , intramuscular and subcutaneous injections, cannulation of peripheral veins, collection of peripheral venous blood, collection of arterial blood, collection arterialized capillary blood, 6) collecting swabs from the nose, throat and skin, puncture of pleural cavity, 7) catheterization of the urinary bladder in women and me, nasogastric intubation, gastric lavage, enema, 8) standard electrocardiogram along with its interpretation, cardioversion and defibrillation of the heart, 9) simple test strips and measuring the concentration of glucose in the blood;	E.U29
U017	assist when the following procedures and medical treatments are performed: 1) transfusions of blood and blood products, 2) drainage of the pleural cavity, 3) puncture of the pericardium, 4) puncture of the peritoneal cavity, 5) lumbar puncture, 6) needle biopsy, 7) epidermal tests, 8) intradermal and scarification tests and interpret their results;	E.U30
U018	plan specialist consultations;	E.U32
U19	implement the basic therapeutic procedure in acute poisoning	E.U33
U20	monitor the status of a patient poisoned by chemical substances or drugs;	E.U34
U21	evaluate decubitus and apply appropriate dressings;	E.U35
U22	recognize the agony of the patient and pronounce him/her dead;	E.U37

U23	keep medical records of the patient;	E.U38
U24	comply with the aseptic and antiseptic rules;	F.U3
U25	use peripheral venous catheter;	F.U5.
within the scope of **SOCIAL COMPETENCE**:		
K01	establish and maintain deep and respectful contact with the patient and show understanding towards ideological and cultural differences;	H.S1
K02	do what is right for the patient;	H.S2
K03	respect medical confidentiality and patient's rights;	H.S3
K04	take actions concerning the patient on the basis of ethical principles, being aware of social conditions and restrictions resulting from illness;	H.S4
K05	recognize his/her own limitations and self-evaluate educational deficiencies and needs;	H.S5
K06	promote healthy lifestyle;	H.S6
K07	use reliable information sources;	H.S7
K08	conclude on the basis of own surveys and observations;	H.S8
K09	introduce rules of social conduct and teamwork to the group of specialists, including specialists form other medical professions also in the multicultural and multinational environment;	H.S9
K10	give opinions concerning various aspects of professional activity;	H.S10
K11	take responsibility for own decisions made during professional activities including own safety and safety of other people;	H.S11

4.4. Methods of assessment of the intended teaching outcomes

Teaching outcomes *(code)*	**Method of assessment (+/-)**																				
	Exam oral/written*			**Colloquium**			**Project***			**Effort in class***			**Self-study***			**Group work***			**Others* Observation**		
	Form of classes			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***		
	L	*C*	*PC*	*L*	*C*	*PC*	*L*	*C*	*PC*	*L*	*C*	*PC*	*L*	*C*	*PC*	*L*	*C*	PC	*L*	*C*	PC
W01-W02	+	+											+	+	+						
U01-U25		+			+						+	+	+	+	+			+			
K01-K11					+							+	+	+	+			+			

delete as appropriate

4.5. Criteria of assessment of the intended teaching outcomes

Form of classes	**Grade**	**Criterion of assessment**
lecture (L)	**3**	61% -68% correct answers
	3,5	69% - 76% correct answers
	4	77% - 84% correct answers

	4,5	85 % -92% correct answers
	5	93% - 100% correct answers
classes (C)*	**3**	61% -68% correct answers
	3,5	69% - 76% correct answers
	4	77% - 84% correct answers
	4,5	85 % -92% correct answers
	5	93% - 100% correct answers
Practical classes – labs PC	**3**	Independently conducts focused patient interviews but requires instructor assistance during physical examinations. Provides an imprecise description of the patient's somatic condition and is able to solve basic diagnostic and therapeutic tasks independently. However, when performing practical skills, requires guidance from the instructor. Demonstrates appropriate ethical conduct in interactions with patients but experiences difficulties in establishing effective relationships within the therapeutic team. The decisions made indicate limited knowledge of legal regulations.
	3,5	Independently conducts focused patient interviews and requires only minimal assistance from the instructor during physical examinations. Provides a precise description of the patient's somatic condition and is able to solve basic diagnostic and therapeutic tasks independently, including differentiating between common clinical conditions. However, when performing practical skills, requires guidance from the instructor. Demonstrates appropriate ethical conduct in interactions with patients but experiences difficulties in establishing effective relationships within the therapeutic team. The decisions made indicate gaps in the knowledge of legal regulations.
	4	Independently conducts focused patient interviews and physical examinations, providing a precise description of the patient's somatic condition. Effectively solves basic diagnostic and therapeutic tasks and is capable of differentiating between common clinical conditions. Performs practical skills independently and demonstrates appropriate ethical conduct in interactions with both patients and medical staff. However, the decisions made indicate gaps in the knowledge of legal regulations.
	4,5	Independently conducts focused patient interviews and physical examinations, providing a precise description of the patient's somatic condition. Demonstrates the ability to independently solve both basic and complex diagnostic and therapeutic tasks and is capable of differentiating between various clinical conditions. Performs practical skills independently and consistently demonstrates appropriate ethical conduct in interactions with both patients and medical staff. The decisions made confirm a solid understanding of relevant legal regulations.
	5	Independently conducts focused patient interviews and physical examinations, providing a precise and accurate description of the patient's somatic condition. Demonstrates the ability to independently solve complex and challenging diagnostic and therapeutic tasks and is proficient in differentiating between various clinical conditions. Performs practical skills independently and consistently demonstrates impeccable ethical conduct in interactions with both patients and medical staff. The decisions made confirm a thorough understanding of relevant legal regulations.

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	Student's workload

	Full-time studies
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/	**180**
*Participation in lectures**	**54**
*Participation in classes, seminars, laboratories**	**115**
*Preparation in the exam/ final test**	
*Others**	**11**
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/	**70**
*Preparation for the lecture**	**50**
*Preparation for the classes, seminars, laboratories**	**20**
*Preparation for the exam/test**	
*Gathering materials for the project/Internet query**	
Preparation of multimedia presentation	
*Others**	
TOTAL NUMBER OF HOURS	**250**
ECTS credits for the course of study	**10**

Accepted for execution *(date and signatures of the teachers running the course in the given academic year)*

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[1] e-learning