SYLLABUS

The academic year when the cycle of instruction is commenced 2021-2027

Module/course name:	Cardiology	**Module code**	**LK.3.029**
Faculty:	Faculty of Medicine MUL		
Major:	Medical		
Specialty:			
Level of study:	I (Bachelor studies) □ II (Master studies) □ Integrated Master studies **X** Doctoral studies □		
Mode of study:	full-time **X**		
Year of study:	I □ II □ III □ IV X V□ VI □	Semester:	1□ 2 □ 3□ 4 □ 5□ 6□ 7**X** 8 □ 9□ 10 □ 11 □ 12 □
Module/course type:	obligatory **X** elective □		
Language of instruction:	Polish □ English **X**		

Form of education	**Hours**
Lecture	
Seminar	**20**
Laboratory class	**25**
E-learning	
Practical class	
Internship	
Other	
TOTAL	**45**
Student's work input (participation in class, preparation, evaluation, etc.)	**Student's hourly workload**
1. In class	**45**
2. Student's own work including: 1 Peparation for class 2 Preparation for partials and finals	**45**
Summary of the student's workload	**90**
ECTS points for module/course	**3**

Educational objectives:

Having completed the cardiology module students have practical knowledge in cardio-vascular system diseases, skills in their diagnostics, up-to-date treatment and prevention.
Students are also familiar with therapies of life threatening cardiac emergencies.

The matrix of learning outcomes for module/ subject with reference to verification methods of the intended educational outcomes and forms of instruction:

Learning outcome code	A student who has obtained a credit for the module/course has the knowledge/skill to:	Methods of verifying the achievement of the intended learning outcomes:	Form of instruction * provide the symbol
E.W7.1)	knows and understands the causes, symptoms, diagnostic principles and therapeutic procedures in respect to most common internal diseases in adults and their complications; 1) circulatory disorders, including ischaemic heart disease, heart defects, disorders of the endocardium, myocardium, pericardium, acute and chronic cardiac failure, arterial and venous disorders, primary and secondary arterial hypertension, pulmonary hypertension,	Multiple-choice final test (MCQ)	Seminar/Lab class
E.W7. 9)	knows and understands the causes, symptoms, diagnostic principles and therapeutic procedures in respect to most common internal diseases in adults and their complications; 9) water-electrolyte and acido-basic disturbances, dehydration, hyperhydration, electrolyte disorders, acidosis and alkalosis.	Multiple-choice final test (MCQ)	Seminar/Lab class
E.U1	carries out history taking in adult patient;	Skill observation sheet	Seminar/Lab class
E.U3	performs complete and organ-system specific physical examination of adult patient;	Skill observation sheet	Seminar/Lab class
E.U7	assesses patient` s general condition, level of consciousness and orientation;	Skill observation sheet	Seminar/Lab class
E.U12	performs differential diagnostics of most common diseases in adults and children;	Skill observation sheet	Seminar/Lab class
E.U13	assesses and describes somatic and mental condition of patient;	Skill observation sheet	Seminar/Lab class
E.U14	identifies life-threatening conditions;	Skill observation sheet	Seminar/Lab class
E.U18	proposes individualization of the routine therapeutic directives and other treatment methods in view of lack of effectiveness or contraindications to standard therapy;	Skill observation sheet	Seminar/Lab class
E.U24	interprets laboratory test results and identifies reasons for deflections from normal;	Skill observation sheet	Seminar/Lab class
E.U29. 8)	standard ECG at rest with interpretation, electric cardioversion and defibrillation	Skill observation sheet	Seminar/Lab class
E.U30 3)	assists in carrying out of the following medical procedures and treatments: puncture of the pericardial sac,	Skill observation sheet	Seminar/Lab class
E.U32	can plan specialist consultations;	Skill observation sheet	Seminar/Lab class

E.U37	identifies patient` s death throes and certifies death;	Skill observation sheet	Seminar/Lab class
E.U38	can keep patient` s medical records.	Skill observation sheet	Seminar/Lab class
K.03	can converse with patients and treats them with respect (potrafi roz.z pacientem i go respektować)	Skill observation sheet	Seminar/Lab class
K.04	realizes the need of constant learning	Skill observation sheet	Seminar/Lab class

EXAMPLES OF METHODS VERIFYING THE ACHIEVEMENT OF THE INTENDED LEARNING OUTCOMES:

In terms of knowledge: Oral exam (*non-standardized, standardized, traditional, problem-based*).

Written exam – the student produces/identifies answers)*essay, report; structured short-answer questions /SSQ/; multiple choice questions /MCQ/; multiple response questions /MRQ/; matching test; true/false test; open cloze test* **)**

In terms of skills: practical exam; Objective Structured Clinical Examination /OSCE/; Mini-CEX (mini – clinical examination); completion of a given assignment; project, presentation.

In terms of social competences:

A reflective essay; an extended observation by a supervisor/tutor; 360-degree assessment (feedback from teachers, peers, patients, other co-workers); self-assessment (portfolio included).

Course content: (use keywords referring to the content of each class following the intended learning outcomes):

Seminars:

1. Ischaemic heart disease
2. Acute coronary syndromes
3. Interventional cardiology
4. Cardiac arrhythmias
5. Cardiac implanted devices
6. EPS and catheter ablation
7. Valvular heart disease
8. Echocardiography
9. Cardiomyopathies
10. Pulmonary embolism

Laboratory class:

Ischemic heart disease: Part I: Risk factors, clinical symptoms, diagnostic methods- ECG exercise test, coronarography. Pharmacology- groups of pharmaceuticals. Invasive treatment- methods of revascularization, PCI, stents. Primary and secondary prevention.

Ischemic heart disease: Part II: Angina: clinical forms, CCS classification. Indications for angiography urgent/elective, cardiac risk evaluation. Pharmacotherapy.

Ischemic heart disease: Part III: Acute coronary syndromes and myocardial infarction (MI)- clinical forms, ECG and biochemical diagnostics. Rules of treatment in pre-hospital period and in CCU- fibrynolitic treatment and PCI. Post-MI rehabilitation. Early and late complications of MI. Echo assessment of left ventricular dysfunction.

Emergencies: Cardiac arrest- causes, mechanisms, clinical symptoms, resuscitation. Pulmonary oedema- cardiac and non-cardiac causes- clinical symptoms and treatment (mechanical ventilation). Cardiogenic shock- causes, symptoms, treatment. Circulation support- intraaortic contrapulsation (IABP) and others. Pulmonary embolism- causes, clinical symptoms, treatment, prophylaxis. Cardiac tamponade- causes, clinical symptoms, treatment.

Cardiac arrhytmias: Part I: Extrasystoles and tachyarrhythmias- paroxysmal atrial tachycardia, AVRT/AVNRT, atrial flutter and atrial fibrillation- causes, symptoms, clinical and ECG evaluation, rules of treatment. Ventricular tachycardia- non-sustained and sustained, mono- and polymorfic, ventricular flutter and ventricular fibrillation- causes, symptoms, clinical and ECG evaluation, rules of treatment.
Antiarrhythmic medication, electrical cardioversion and electrical defibrillation. Cardiac ablation. Implantable cardioverter-defibrillator (ICD).

Cardiac arrhytmias: Part II: Slow cardiac rhythms- sinus bradycardia, sino-atrial blocks, sinus arrest, atrio-ventricular blocks- causes, symptoms, clinical and ECG evaluation, treatment. Syncope- differential diagnosis- MAS syndrome, vaso-vagal syndrome, carotid sinus syndrome, orthostatic syncope. Diagnostic tools: Holter ECG monitoring, tilt-test, electrophysiological study (EPS).

Congestive heart failure: Acute and chronic, left- right-ventricular and mixed.
Chronic heart failure- causes, pathophysiological mechanisms, clinical symptoms. NYHA classification. Treatment- groups of drugs, implanted devices (ICD, CRT).

Acquired valvular diseases: Part I: Stenosis and insufficiency of mitral valve: aetiology, clinical symptoms, auscultation, ECG changes, X-ray and ECHO findings. Complications. Treatment- pharmacotherapy, indications and methods of valve surgery.

Acquired valvular diseases: Part II: Stenosis and inefficiency of aortic valve- aetiology, clinical symptoms, auscultation, ECG, X-ray and ECHO findings. Treatment- pharmacotherapy, indications and methods of valve surgery. Artificial heart valves- antithrombotic treatment.

Cardiac pacing: Permanent and temporary. Indications for pacemaker implantation. Types of stimulation, stimulation code. ECG diagnostics in pacemaker patients.

Inflammatory and degenerative heart diseases: myocarditis, endocarditis and pericarditis. Infective endocarditis- aetiology, clinical symptoms, diagnostics, rules of treatment. Antibiotic prophylaxis. Cardiomyopathies: congestive, hypertrophic and restrictive. Cardiac tumors.

Arterial hypertension: Classification, aetiology- primary/secondary hypertension. Epidemiology. Clinical symptoms. Complications. Pharmacotherapy: groups of drugs.

Obligatory literature:

1. Kumar and Clark's Clinical Medicine, 10th edition, 2020, Elsevier
2. Harrison's Principles of Internal Medicine, Twentieth Edition, J. Larry Jameson, Dennis Kasper, Stephen Hauser, Dan Longo, Anthony Fauci, Joseph Loscalzo, 2018.

Complementary literature:

1.ESC Clinical Practice Guidelines (www.escardio.org)

Requirements for didactic aids (e.g. laboratory, multimedia projector, others…)

1. multimedia projector

Conditions for obtaining a credit for the subject:

Attendance: no absences are permissible

Tardiness: students are expected to turn up for class on time

Uniforms: medical uniform and shoes are obligatory

Multiple choice test will be held at the end of term.

Grading scale:

0-59% - 2
60-74% - 3
75-79% - 3,5
80-84% - 4
85-89% - 4,5
>90% - 5

The name and address of the department/clinic where the course is taught (module/course); contact details (phone number/ email address):

KATEDRA I KLINIKA KARDIOLOGII UNIWERSYTETU MEDYCZNEGO W LUBLINIE
20-090 Lublin; ul. Jaczewskiego 8
tel./fax : + 48 (81) 724 41 51
e-mail : andrzej.wysokinski@umlub.pl

Names of the author/authors of this syllabus:

Dr n. med. Michał Trojnar
Dr n. med. Wojciech Brzozowski

Names of the teacher/teachers conducting classes:

Dr n. med. Jacek Baszak
lek. Paweł Binko
dr n. med. Robert Błaszczyk
dr hab. n. med. Andrzej Głowniak
dr n. med. Marcin Janowski
dr n. med. Marek Jankiewicz
dr n. med. Bartosz Kondracki
dr hab. n. med. Janusz Kudlicki
dr n. med. Sylwia Łukasik
dr hab. n. med. Michał Tomaszewski
dr n. med. Michał Trojnar
dr hab. n. med. Piotr Waciński
dr n. med. Agnieszka Wojtkowska
dr hab. n. med. Maciej Wójcik
dr n. med. Radosław Zarczuk

Signature of the head of the department/clinic **Dean's signature**

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Date of submission: