



## Pomeranian Medical University in Szczecin

### SYLLABUS of the MODULE:INTERNAL DISEASES (CARDIOLOGY)

#### General Information

<b>Module title:</b>	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Medicine
Level of study	long-cycle (S2J)
Mode of study	full-time studies
Year of studies, semester	Vth year, block system
ECTS credits (incl. semester breakdown)	2
Type/s of training	lectures (e-learning) 7h / seminars onsite (Cardiology Department) 7h/ classes onsite (Cardiology Department) 33h/ classes onsite (Medical Simulation Center) 2h
Form of assessment*	<input checked="" type="checkbox"/> graded assessment: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> descriptive</li> <li><input checked="" type="checkbox"/> test</li> <li><input checked="" type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> <input type="checkbox"/> non-graded assessment <ul style="list-style-type: none"> <li><input type="checkbox"/> final examination <ul style="list-style-type: none"> <li><input type="checkbox"/> descriptive</li> <li><input type="checkbox"/> test</li> <li><input type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> </li> </ul>
Head of the Department/ Clinic, Unit	Dr. Jarosław Kazimierzak PhD, Professor of cardiology
Tutor responsible for the module	Dr. Radosław Kiedrowicz PhD, Assistant professor of cardiology Email: <a href="mailto:radkied@wp.pl">radkied@wp.pl</a>
Contact details	Pomeranian Medical University Cardiology Department 72 Powstańców Wlkp. 70-111 Szczecin tel/fax 914661378/ 914661370
Department's/ Clinic's/ Unit's website	<a href="https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/klinika-kardiologii">https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/klinika-kardiologii</a>

Language	English
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**Detailed information**

<b>Module objectives</b>		To familiarise students with the basics of symptomatology, diagnostics and treatment of the most common cardiovascular diseases, such as coronary artery disease, heart failure, acquired valvular disorders, cardiac arrhythmias, infective endocarditis and myocarditis and cardiological emergencies.
Prerequisite /essential requirements	Knowledge	The basics of internal medicine and pharmacology
	Skills	To obtain an accurate medical history and perform a physical examination with emphasis on cardiovascular diseases. To appropriately assess laboratory tests, ECG and some cardiac imaging.
	Competences	A student who actively participates in the classes, with the ability to think independently and act in accordance to an appropriate code of ethics

**Description of the learning outcomes for the subject /module**

No. of learning outcome	Student, who has passed the (subject) knows /is able to /can:	SYMBOL (referring the standards)	Method of verification of learning outcomes
W01	knows definition and pathophysiology of shock with special regard to differentiation of its causes and multi-organ failure	K_C.W28	test examination
W02	knows etiology of hemodynamic disturbances, progressive and retrogressive changes	K_C.W29	test examination
W03	knows environmental and epidemiological conditions of most frequent diseases	K_E.W1	test examination
W04	knows and recognizes causes, symptoms, diagnoses and therapeutic procedures with regard to the most frequent internal diseases in adults and related complications: a) circulatory system diseases incl.: ischemic heart disease, organic heart diseases, endocardium, myocardium and pericardium diseases, heart failure (acute and chronic), angiopathy, primary and secondary hypertension and pulmonary hypertension, b) respiratory tract diseases incl.: airway diseases, chronic obstructive pulmonary diseases, bronchial asthma, bronchiectasis, mucoviscidosis, respiratory tract infection, interstitial disease of lungs, pleura and mediastinum, obstructive and sleep apnea, acute and chronic respiratory failure, respiratory system neoplasm	K_E.W7	test examination

	<p>c) alimentary system diseases, incl.: stomatopathy, esophagus diseases, gastrosis, diseases of duodenum, enteropathy, diseases of hepatopathy, pancearopathy, cholepathy, cholecystopathy</p> <p>d) endocrine system diseases, incl.: disorders of hypothalamus, hypophysis, thyroid, parathyroid, adrenal cortex, adrenal medulla, ovarioopathy, orchioopathy, neuroendocrine tumour disease, endocrine polyglandular syndrome, different types of diabetes and metabolic syndrome, hypoglycemia, obesity and dyslipidemia</p> <p>e) nephropathy and diseases of urinary tract incl.: acute and chronic renal failure, diseases of renal glomerules and interstitial diseases of kidneys, renal cyst, nephrolithiasis, urinary tract infections, urinary tract neoplasm, in particular bladder cancer and renal cancer</p> <p>f) diseases of hematopoietic system, incl.: panmyelophthisis, anemia, granulocytopenia and granulocytosis, trombocytopenia, acute leukemia, myeloproliferative and myelodysplastic-myeloproliferative diseases, myelodysplasia syndrome, B and T cell lymphoma, hemorrhagic diathesis, thrombophilia, life-threatening states in hematology, dyshematopoiesis in the failure of other organs</p> <p>g) rheumatic diseases, incl.: systemic connective tissue disease, systemic vasculitis arthritis of the spine, metabolic diseases of bones, in particular osteoporosis and arthrosis, uratic gout</p>		
W05	understands causes and knows basic peculiarities in most frequent diseases in elderly persons and procedures in basic geriatric syndromes	K_E.W9	test examination
W06	knows and understands the basic rules of pharmacotherapy of diseases in elderly people	K_E.W10	test examination
W07	knows and understands threats connected with hospitalization of the elderly people	K_E.W11	test examination
W08	knows importance and methods used in medical rehabilitation	K_E.W31	test examination
W09	knows types of biological materials used in laboratory diagnostics and rules governing sampling	K_E.W37	test examination
W10	knows theoretical and practical bases of laboratory diagnostics	K_E.W38	test examination

W11	knows and understands possibilities and limitations of laboratory examinations in emergency situations	K_E.W39	test examination
W12	knows rules of qualification for performance of and the most frequent complications after basic operative procedures and invasive diagnostic/treatment procedures	K_F.W3	test examination
W13	knows the indications and the rules of intensive therapy	K_F.W6	test examination
W14	knows current guidelines for circulation-respiration restitution in infants, adults and children	K_F.W7	test examination
W15	knows rules of national integrated life-saving system	K_F.W8	test examination
W16	knows issues of modern imaging methods, in particular: a) radiological symptomatology of main diseases b) instrumental methods and imaging techniques used for performance of therapeutic procedures c) indications, contra-indications and preparation of patients for certain kinds of imaging examination and contra-indications to the application of contrast media	K_F.W10	test examination
W17	knows rules of promotion of health , its objectives and modes of action, in particular, knowledge of importance of elements of wholesome lifestyle	K_G.W5	test examination
U01	takes history interview of adult patient	K_E.U1	case study
U02	carries out complete and guided physical examination of adult patient	K_E.U3	case study
U03	evaluates general state, state of patient's consciousness and awareness	K_E.U7	case study
U04	evaluates and describes somatic and mental state of patients	K_E.U13	case study
U05	recognizes states representing direct threat to life	K_E.U14	case study
U06	plans diagnostics, therapeutic and preventive procedures	K_E.U16	case study

U07	analyzes possible adverse effects of certain drugs and interactions between them	K_E.U17	case study
U08	suggests individualization of applicable therapeutic guidelines and other treatment methods because of ineffectiveness or contraindications with regard to standard treatment	K_E.U18	case study
U09	qualifies patients for home and hospital treatment	K_E.U20	case study
U10	defines states in which treatment according to guidelines for a particular disease is limited by patients' life expectancy, functional state or preferences	K_E.U21	case study
U11	can suggest rehabilitation scheme for most frequent diseases	K_E.U23	case study
U12	interprets laboratory investigations and identifies reasons for deviations	K_E.U24	case study
U13	obtains matter to be used in laboratory diagnostics	K_E.U28	practical skills assessment
U14	performs basic procedures and operations, incl.: a) body temperature measurement, heart rate measurement, blood pressure measurement b) monitoring life parameters using of cardiac monitor, pulse oximetry c) spirometry, oxygen therapy, forced and replacement ventilation d) introduction of mouth-throat tube e) intravenous, intramuscular and subcutaneous injections, cannulation of peripheral veins, drawing peripheral venous blood, sampling urine culture, drawing arterial blood, drawing arterialized capillary blood f) nose, throat and skin swabs, pleural cavity puncture g) urinary bladder catheterization in women and men, passage of gastric tube into stomach, gastric lavage, enema h) standard resting electrocardiogram c/w interpretation, electrical cardioversion and defibrillation i) simple strip tests and glucose concentration measurement	K_E.U29	practical skills assessment
U15	assists with performing and interprets the result of the following procedures and operations: a) transfusion of blood and blood-derivatives	K_E.U30	practical skills assessment

	<ul style="list-style-type: none"> <li>b) pleural cavity drainage</li> <li>c) heart sac puncture</li> <li>d) peritoneal cavity puncture</li> <li>e) lumbar puncture</li> <li>f) thin-needle biopsy</li> <li>g) epidermal tests</li> <li>h) intradermal and scarification tests</li> </ul>		
U16	interprets pharmaceutical specifications of medicinal products and reviews adverts regarding drugs	K_E.U31	practical skills assessment
U17	plans specialist consultations	K_E.U32	case study
U18	recognizes agony and states death	K_E.U37	case study
U19	keeps medical documentation	K_E.U38	case study
U20	assists with performing typical operation, prepares operation area and administers local anesthetic	K_F.U1	practical skills assessment
U21	adheres to rules of asepsis and antisepsis	K_F.U3	practical skills assessment
U22	makes circumferential insertion	K_F.U5	practical skills assessment
K01	accepts the need for ethical standards	K_K01	student's active participation and attitude assessment
K02	demonstrates the awareness for self-education, understands the need for continuing professional education, can inspire and organize learning processes in others	K_K03	student's active participation and attitude assessment
K03	adheres to proper examiner/examinee relationship while performing functional tests and observations	K_K05	student's active participation and attitude assessment
K04	takes a health and physical activity oriented attitude	K_K07	student's active participation and attitude assessment
K05	accepts personal autonomy	K_K09	student's active participation and attitude assessment
K06	is aware of patients' rights	K_K11	student's active participation

			and attitude assessment
K07	maintains professional confidentiality	K_K14	student's active participation and attitude assessment

Table presenting LEARNING OUTCOMES in relation to the form of classes

No. of learning outcome	Learning outcomes	Type of training						
		Lecture	Seminar	Practical	Clinical classes	Simulations	E-learning	Other...
W01	K_C.W28		X		X			
W02	K_C.W29		X		X			
W03	K_E.W1		X		X			
W04	K_E.W7		X		X			
W05	K_E.W9		X		X			
W06	K_E.W10		X		X			
W07	K_E.W11		X		X			
W08	K_E.W31		X		X			
W09	K_E.W37		X		X			
W10	K_E.W38		X		X			
W11	K_E.W39		X		X			
W12	K_F.W3		X		X			
W13	K_F.W6		X		X			
W14	K_F.W7		X		X			
W15	K_F.W8		X		X			
W16	K_F.W10		X		X			
W17	K_G.W5		X		X			
U01	K_E.U1				X			
U02	K_E.U3				X			
U03	K_E.U7				X			
U04	K_E.U13				X			
U05	K_E.U14				X			
U06	K_E.U16				X			
U07	K_E.U17				X			
U08	K_E.U18				X			
U09	K_E.U20				X			
U10	K_E.U21				X			
U11	K_E.U23				X			
U12	K_E.U24				X			
U13	K_E.U28				X			
U14	K_E.U29				X			
U15	K_E.U30				X			
U16	K_E.U31				X			
U17	K_E.U32				X			
U18	K_E.U37				X			
U19	K_E.U38				X			

U20	K_F.U1				X			
U21	K_F.U3				X			
U22	K_F.U5				X			
K01	K_K01				X			
K02	K_K03				X			
K03	K_K05				X			
K04	K_K07				X			
K05	K_K09				X			
K06	K_K11				X			
K07	K_K14				X			

Table presenting TEACHING PROGRAMME			
No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
<b>Seminars (e-learning)</b>			
TK01	Cardiovascular disease prevention	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK02	Non ST elevation acute coronary syndromes	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK03	Emergencies in cardiology	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK04	Heart Failure- diagnostics	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10

			K_G.W5
TK05	Congenital heart disorders	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK06	Ventricular cardiac arrhythmias	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK07	Inflammatory heart disorders. Cardiomyopathies.	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
<b>Seminars (onsite)</b>			
TK01	Chronic coronary syndromes	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK02	ST elevation acute coronary syndromes	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK03	Diagnostic methods in cardiology	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31

			K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK04	Heart Failure – treatment	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK05	Acquired valvular heart disorders	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK06	Supraventricular cardiac arrhythmias	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
TK07	Infective endocarditis	1	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5
<b>Practical classes</b>			
TK01	To obtain a medical history and perform a physical examination with emphasis on cardiovascular diseases. To assess cardiac tests such as ECG, echocardiography and coronary angiography. To participate in cardiology procedures such as: coronary angiography, percutaneous coronary angioplasty, electrophysiology study and catheter ablation of cardiac arrhythmias, pacemakers and cardioverter-defibrillators implantation, direct-current cardioversion, transthoracic and	32	K_C.W28,K_C.W29 K_E.W1,K_E.W7 K_E.W9,K_E.W10 K_E.W11,K_E.W31 K_E.W37,K_E.W38 K_E.W39,K_F.W3 K_F.W6,K_F.W7 K_F.W8,K_F.W10 K_G.W5,K_E.U1 K_E.U3,K_E.U7

	transoesophageal echocardiography, ECG treadmill test, tilt-test, follow-up of implantable devices. To participate in the morning takeovers and the daily routine clinical care of patients at main ward and admission room.	K_E.U13,K_E.U14 K_E.U16,K_E.U17 K_E.U18,K_E.U20 K_E.U21,K_E.U23 K_E.U24,K_E.U28 K_E.U29,K_E.U30 K_E.U31,K_E.U32 K_E.U37,K_E.U38 K_F.U1,K_F.U3 K_F.U5,K_K01 K_K03,K_K05 K_K07,K_K09 K_K11,K_K14
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<b>Booklist</b>
<b>Obligatory literature:</b>
1. G. Douglas, F Nikol, C. Robertson. Macleod's Clinical Examination 13th Edition. Churchill Livingstone 2013
2. S.H. Ralston, M.W.J. Strachan, I.D. Penman, R.P. Hobson. Davidson's Principles and Practice of Medicine 23 <sup>rd</sup> Edition. Elsevier 2018
<b>Supplementary literature:</b>
1. ESC clinical practice guidelines <a href="https://www.escardio.org/Guidelines">https://www.escardio.org/Guidelines</a>
2. Hein J. J. Wellens, Mary Boudreau Conover, The ECG in Emergency Decision Making, 2nd Edition. Saunders 2006

<b>Student's workload</b>	
Form of student's activity (in-class participation; activeness, produce a report, etc.)	Student's workload [h]
	Tutor
Contact hours with the tutor	41
Time spent on preparation to seminars/ practical classess	7
Time spent on reading recommended literature	14
Time spent on preparing to exam	7
Student's workload in total	69
<b>ECTS credits for the subject (in total)</b>	2
<b>Remarks</b>	