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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University**

Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Outpatient Cardiology

course title

Recommended by the Didactic Council for the Education Field of:

31.05.01 General Medicine

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

General Medicine

higher education programme profile/specialisation title

1. COURSE GOAL(s)

The goal of the course “Outpatient Cardiology” is to equip students with knowledge rational approaches to pharmacological treatment of the most common cardiological diseases at the outpatient level.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) “Outpatient Cardiology” is aimed at the development of the following competences /competences in part: **(PC)-3, 5**.

Table 2.1. List of competences that students acquire through the course study

Competence code	Competence descriptor	Competence formation indicators (within this course)
PC-3	Being able to prescribe treatment and monitor its efficacy and safety	PC-3.1. Being able to develop for a disease or condition taking into account the diagnosis, and monitor its age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
		PC-3.2. Being able to prescribe medicinal drugs medical devices and medical nutrition taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
		PC-3.4. Being able to assess the efficacy and safety of the use of drugs, medical devices, medical nutrition and other treatment methods.
		PC-3.6. Being able to organize personalized treatment for a patient, including pregnant women, elderly and senile patients; assess the efficacy and safety of treatment.
PC-5		PC-5.4. Being able to carry out follow-up care of patients with diagnosed chronic Noncommunicable diseases.

Competence code	Competence descriptor	Competence formation indicators (within this course)
	Being able to carry out follow-up care of out preventive noncommunicable measures and diseases. measures to promote a healthy life style education among population and monitor their effectiveness	PC-5.5. Being able to prescribe preventive measures to patients taking into account risk factors in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care
		PC-5.11. Being able to assess the effectiveness of preventive patient care.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GPC-1	GPC-1. Being able to implement moral and legal norms, ethical and deontological principals in professional activity	«Bioethics», «Legal studies», «Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	«Polyclinic Therapy», «Hospital Therapy», Endocrinology», « Clinical Pharmacology»
GPC-4	GPC-4. Being able to use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis	«Bioethics», «Legal studies», «Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	«Polyclinic Therapy», «Hospital Therapy», Endocrinology», « Clinical Pharmacology»
GPC-5	GPC-5. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to	«Bioethics», «Legal studies», «Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine»,	«Polyclinic Therapy», «Hospital Therapy», Endocrinology», « Clinical Pharmacology»

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
	solve professional tasks	«Pharmacology»	
GPC-7	GPC-7. Being able to prescribetreatment and monitor its efficacy and safety	«Bioethics», «Legal studies», «Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	«Polyclinic Therapy», «Hospital Therapy», Endocrinology», «Clinical Pharmacology»
PC-2	PC-2. Being able to examine apatient in order to determine a diagnosis	«Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	Polyclinic Therapy», «Hospital Therapy Endocrinology», «Clinical Pharmacology»
PC-3	PC-3. Being able to prescribetreatment and monitor its efficacy and safety	«Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	Polyclinic Therapy», «Hospital Therapy Endocrinology», «Clinical Pharmacology»
PC-5	PC-5. Being able to carry out preventive measures and measures to promote a healthy lifestyle and sanitary and hygiene education among population and monitor their effectiveness	«Propaedeutics of Internal Diseases», «Faculty Therapy», «Evidence-Based Medicine», «Pharmacology»	Polyclinic Therapy», «Hospital Therapy Endocrinology», «Clinical Pharmacology»

* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course “Outpatient Cardiology” is 7 credits (252 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (full-time training)**

Type of academic activities		Total academic hours	Semesters/training modules			
			XII			
<i>Contact academic hours</i>		48	48			
including:						
Lectures (LC)						
Lab work (LW)						
Seminars (workshops/tutorials) (S)		48	48			
<i>Self-studies</i>		24	24			
<i>Evaluation and assessment (exam/passing/failing grade)</i>						
Course workload	academic hours	72	72			
	credits	2	2			

* To be filled in according to the competence matrix of the higher education programme.

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Module 1	ACE inhibitors. General characteristics and place in therapy. Classification of ACE inhibitors. Features of use of some preparations. Complications and limitations to use.	S
	Sartans. Sakibuthril / valsartan.	S
	Beta-blockers. Characteristics of the group. Cautions and complications of beta-blocker therapy. Nitrates. Characteristics of nitrates. Place nitrates in therapy. Complications and cautions when using. Nicorandil.	S
	Calcium channel blockers (BCC). Dihydropyridine BCC. Complications with dihydropyridines. Pulse-thinning BPC	S
	Alpha-1-adrenoblockers	S
	Diuretics. Loop diuretics. Thiazides and similar diuretics. Antagonists of aldosterone. Potassium-sparing diuretics. Inhibitors of carbonic anhydrase.	S

Course module title	Course module contents (topics)	Academic activities types
	Antihypertensive drugs of central action	S
	Cardiac glycosides. Mechanism of action and effects. Place in modern therapy. Complications and contraindications for use	S
	Antiarrhythmic drugs (AAP). AARP IA class. AARP IB class. AAS class IC. AARP class II. AARP class III. AARP class IV. Other AARPs.	S
	Antithrombotic agents. Antiaggregants, anticoagulants. Lipid-lowering drugs. Statins. Fibrates. Ezetimibe. Anicotinic acid. Final interview on the section.	S
Module 2	Arterial hypertension (AH). General issues. Rational pharmacotherapy. AH in pregnancy and lactation. Resistant hypertension. Pulmonary hypertension. Pharmacotherapy of hypertensive crises.	S
	Ischemic heart disease (CHD). Angina pectoris. General issues. Rational pharmacotherapy of angina pectoris. Variable angina pectoris (Prinzmetal angina). Microvascular angina pectoris (syndrome X).	S
	Chronic heart failure (CHF). General issues. Rational pharmacotherapy.	S

Course module title	Course module contents (topics)	Academic activities types
	Heart rhythm disturbances. Sinus tachycardia. Isolated sinus tachycardia. Extravital extrasystole. Ventricular extrasystole. Reciprocal AV-node tachycardia. Atrial fibrillation. Atrial flutter. Ventricular tachycardia. WPW-syndrome. Final interview on the section.	S
Module 3	Indications for consultation of a cardiologist and necessary studies before consultation.	S
	AH, angina of tension, CHF.	S
	Atrial fibrillation. Atrial flutter.	S
	Other rhythm disturbances.	S
	Postponed myocardial infarction, coronary angioplasty, aorto-coronary bypass. Final interview on the section. Final interview on discipline.	S
	Arterial hypertension (AH). General issues. Rational pharmacotherapy. AH in pregnancy and lactation. Resistant hypertension. Pulmonary hypertension. Pharmacotherapy of hypertensive crises.	S
	Ischemic heart disease (CHD). Angina pectoris. General issues. Rational pharmacotherapy of angina pectoris. Variable angina pectoris (Prinzmetal angina). Microvascular angina pectoris (syndrome X).	S
	Chronic heart failure (CHF). General issues. Rational pharmacotherapy.	S
	Heart rhythm disturbances. Sinus tachycardia. Isolated sinus tachycardia. Extravital extrasystole. Ventricular extrasystole. Reciprocal AV-node tachycardia. Atrial fibrillation. Atrial flutter. Ventricular tachycardia. WPW-syndrome. Final interview on the section.	S

Course module title	Course module contents (topics)	Academic activities types
	Indications for consultation of a cardiologist and necessary studies before consultation.	S
	AH, angina of tension, CHF.	S
	Atrial fibrillation. Atrial flutter.	S
	Other rhythm disturbances.	S
	Postponed myocardial infarction, coronary angioplasty, aorto-coronary bypass. Final interview on the section. Final interview on discipline.	S

* - to be filled in only for **full**-time training: LC - lectures; LW - lab work; S - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	Set of specialized furniture; chalk board; technical facilities: projection screen, NEC NP-210 portable multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803
Seminar	A set of specialized furniture; magnetic marker board; technical facilities: projection screen, stationary multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803
Self-studies	A set of specialized furniture; magnetic marker board; technical facilities: projection screen, stationary multimedia projector, Asus A52J laptop, Internet access	• Microsoft Windows 10 for educational institutions Version 1803

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

- 1) Order of the Ministry of Health of the Russian Federation of 15.11.2012 N 918n (ed. of 21.02.2020) "On approval of the procedure for providing medical care to patients with

cardiovascular diseases"

- 2) Arterial hypertension in adults. Clinical recommendations 2020. Russian Journal of Cardiology. 2020;25(3):3786. doi:10.15829/1560-4071-2020-3-3786
- 3) Order of the Government of the Russian Federation of 12.10.2019 N 2406-r (ed. of 23.11.2020) "On approval of the list of vital and essential medicines, as well as lists of medicines for medical use and the minimum range of medicines necessary for the provision of medical care" (with amendments and additions, intro. effective from 01.01.2021)
- 4) Order of the Ministry of Health of the Russian Federation of 29.03.2019 N 173n "On approval of the procedure for conducting dispensary monitoring of adults"
- 5) Order of the Ministry of Health of the Russian Federation of 13.03.2019 N 124n (ed. of 02.12.2020) "On approval of the procedure for conducting preventive medical examination and medical examination of certain groups of the adult population" (latest edition)

Additional readings:

1. Syrov, A.V. Practical issues of diagnosis and treatment of atrial fibrillation: monograph / A.V. Syrov. - Moscow: RUDN, 2020. - 120 p.: ill.
2. Guidelines for the diagnosis and treatment of diseases of the circulatory system in the context of the COVID-19 pandemic // Working group: Shlyakhto E. V., Konradi A. O., Arutyunov G. P., Arutyunov A. G., Bautin A. E., Boitsov S. A., Villevalde S. V., Grigorieva N. Yu., Duplyakov D. V., Zvartau N. E., Koziolova N. A., Lebedev D. S., Malchikova S. V., Medvedeva E. A., Mikhailov E. N., Moiseeva O. M., Orlova Ya. A., Pavlova T. V., Pevsner D. V., Petrova M. M., Rebrov A. P., Sitnikova M. Yu., Solovyova A. E., Tarlovskaya E. I., Trukshina M. A., Fedotov P. A., Fomin I. V., Khripun A.V., Chesnikova A. I., Shaposhnik I. I., Yavelov I. S., Yakovlev A. N.– <https://russjcardiol.elpub.ru> ISSN 1560-4071 (print) doi:10.15829/1560-4071-2020-3-3801
3. Syrov, A.V., Pozdnyakov, Yu. M. Key issues of outpatient cardiology in clinical examples. - M., 2020– - 158 p.
4. Guidelines for Central Cardiology // <https://www.urmc.rochester.edu/cardiology/patient-care/programs/outpatient-cardiology.aspx>

Internet (based) sources

- 1. Electronic libraries with access for RUDN students:
 - Electronic library network of RUDN – ELN RUDN <http://lib.rudn.ru/MegaPro/Web>
 - ELN «University Library online» <http://www.biblioclub.ru>
 - ELN Urait <http://www.biblio-online.ru>
 - ELN «Student Advisor» www.studentlibrary.ru
 - ELN «Lan» <http://e.lanbook.com/>
- 2. Databases and search engines:
 - electronic fund of legal and regulatory and technical documentation <http://docs.cntd.ru/>
 - search system Yandex <https://www.yandex.ru/>
 - search system Google <https://www.google.ru/>
 - abstract database SCOPUS <http://www.elsevierscience.ru/products/scopus/>

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course “Outpatient Cardiology”

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS’ COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (**PC-3, 5**) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

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Practice

position, department

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signature

name and surname

Professor Assistant (Docent)

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