

MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY
Department of Propaedeutic of Internal Medicine №1,
Fundamentals of Bioethics and Biosafety
The academic year - 2021-2022

SYLLABUS OF THE EDUCATIONAL COMPONENT
FUNDAMENTALS OF ELECTROCARDIOGRAPHY

The normative or selective educational component - selective
The form of education -
Area of knowledge - 22 "Health"
Specialty - 222 "Medicine"
Educational-professional program - "Medicine" of the second (master's) level of higher education

The syllabus of the discipline was approved
at the meeting of the department of
Propaedeutics of Internal Medicine №1,
Fundamentals of Bioethics and biosafety

Protocol from
“_27_” August 2021 №_16_
Head of the Department


(signature) professor Ashcheulova T.V.
(surname and initials)

Approved by the methodical commission
on problems of
therapeutic profile of KhNMU

Protocol from
“_31_” August 2021 №_1_
Head


(signature) professor Kravchun P.G.
(surname and initials)

SILABUS DEVELOPERS:

- 1) Ascheulova Tetyana Vadymivna, Head of the Department, Doctor of Medicine, Professor of the Department of Propaedeutics of Internal Medicine №1, Fundamentals of Bioethics and Biosafety;
- 2) Kochubey Oksana Anatoliyivna, PhD, Associate Professor of the Department of Propaedeutics of Internal Medicine №1, Fundamentals of Bioethics and Biosafety, PhD docent;
- 3) Sitina Iryna Vasylivna Associate Professor of the Department of Propaedeutics of Internal Medicine №1, Fundamentals of Bioethics and Biosafety, Ph.D.

INFORMATION ABOUT TEACHERS TEACHING THE EDUCATIONAL COMPONENT

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Timetable According to the schedule of the educational department

Consultations: According to the schedule posted on the information stand of the department of Propaedeutics of Internal Medicine №1, Fundamentals of Bioethics and biosafety

DISCIPLINE INFORMATION

Description of the discipline

Syllabus discipline " Basics of electrocardiography " is composed for educational and professional program "Medicine" second (master's) level , industry knowledge 22 "Health", specialty 22 2 " Medicine " - masters.

Description of the discipline (abstract) .

Basics of electrocardiography is selective disciplines th clinical phase of undergraduate training of doctors, the study of which allows students to learn general principles of using method electrocardiography for diagnosing heart disease . So, the basics of electrocardiography - Study clinical discipline that studies the physical basis of electrocardiographic examination methods , techniques ku survey , options and variations of normal electrocardiogram , characteristic ECG and displays certain diseases of the cardiovascular system .

Organization of educational process is carried out according to the requirements of the European credit transfer system of the educational process , which is based on determining the workload applicant higher education and necessary to achieve defined results nav Channa , and is recorded in credits ECTS. The amount of one loan is 30 hours. The workload of one academic year is usually 60 ECTS credits. Credit ECTS includes all types of student work: auditorium, independent, undergone practical training, certification training and preparation, and so on .

The subject of study of the discipline "Fundamentals of Electrocardiography" is a set of theoretical and practical issues aimed at mastering the theoretical principles and methodology of electrocardiographic research, as well as electrocardiographic semiotics of the most common diseases of the cardiovascular system.

Prerequisites. The study of the discipline involves the prior mastering of disciplines in medical and biological physics, human anatomy, histology, physiology and pathophysiology in higher education.

Postrequisites. The main provisions of the discipline should be applied in the study of professional disciplines.

1. PURPOSE AND TASKS OF THE COURSE

1.1. The purpose of teaching the discipline "Fundamentals of Electrocardiography" is to provide students with basic theoretical knowledge and professional competencies of electrocardiographic examination of the heart.

1.2. The main tasks of studying the discipline "Fundamentals of Electrocardiography" are:

- Mastering by the student of the theoretical knowledge necessary for performance of electrocardiographic research

- Mastering the practical techniques and methods of electrocardiographic examination of the heart
- Assimilation of electrocardiographic semiotics of the most common diseases of the cardiovascular system

1.3 Competences and learning outcomes.

1.3.1 Discipline ensures that students acquire the following competencies:

- *integral*:

ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

- *general*:

1. Ability to abstract thinking, analysis and synthesis.
2. The ability to learn and master modern knowledge.
3. Ability to apply knowledge in practical situations.
4. Knowledge and understanding of the subject area and understanding of professional activity.
5. Ability to adapt and act in a new situation.
6. Ability to make informed decisions.
7. Skills in the use of information and communication technologies.

special (professional, subject):

1. Ability to establish a syndromic diagnosis of the disease.
2. Ability to diagnose emergencies.
3. Ability to carry out sanitary and hygienic and preventive measures.
4. Ability to keep medical records.

1.3.2 The study of the discipline ensures the acquisition of students the following program learning outcomes:

Knowledge and understanding:

acquisition by a person of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary for the performance of typical professional tasks related to his / her activity in the medical field in the relevant position

- knowledge of psychophysiological features of the person, human health, health support, disease prevention, human treatment, public health

Application of knowledge and understanding:

- ability to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental research, medical manipulations;
- collection of patient information

- evaluation of survey results, physical examination, laboratory and instrumental research data
- establishing a preliminary clinical diagnosis of the disease
- diagnosing emergencies, determining the tactics of emergency medical care
- carrying out sanitary and hygienic and preventive measures
- maintenance of medical documentation, processing of state, social and medical information;

Formation of judgments:

- ability to assess the state of human health and provide its support taking into account the impact of the environment and other health factors/

1.3.3. The study of the discipline ensures the acquisition of students the following social skills (Soft skills): communication (implemented through: method of working in pairs and groups, brainstorming, self-presentation method), teamwork (implemented through: project method, openwork saw), conflict management (implemented through: dramatization method , game methods), time management (implemented through: project method, group work, training), leadership skills (implemented through: group work, project method, self-presentation method).

2. INFORMATION SCOPE OF THE COURSE

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the discipline
		full-time education
Number of credits - 3	Training direction 22 "Health care"	Normative
The total number of hours is 9 0	Specialty: 222 "Medicine"	Year of preparation:
		4 th
		Semester
		7 th / 8 th
		Lectures
Hours for full-time study: classroom - 3 0 independent work of the student - 6 0	Education level: master	0 years
		Practical, seminar
		3 0 y.
		Laboratory
		0 years
		Individual work
		6 0 y.
		Individual

		tasks: 0 hours.
		Type of control: With alik

2.1 Description of the discipline

2.2.1 Lectures - not provided

2.2.2 Seminars - not provided

2.2.3 Practical classes

№ in order	Name topics	hours	Methods teaching	Forms control
1	Physical bases of electrocardiography. Method of electrocardiogram registration.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
2	Electrophysiological bases of formation and parameters of a normal electrocardiogram.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
3	Method of decoding the electrocardiogram. Electrocardiographic signs of atrial overload.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
4	Electrocardiographic signs of ventricular hypertrophy.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
5	Electrocardiographic syndromes in coronary heart disease.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
6	Pseudocoronary changes in the electrocardiogram.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)

7	Electrocardiography in the diagnosis of acute coronary syndrome and myocardial infarction.	4	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
8	Impaired conduction of the heart. Intraatrial and intraventricular conduction disorders.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
9	Electrocardiographic signs of sinoauricular and atrioventricular block.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
10	Disorders of automaticity and excitability of the myocardium. Extrasystole and parasystole.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
11	Electrocardiographic diagnosis of paroxysmal tachycardias.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
12	Electrocardiographic signs of atrial fibrillation and flutter, ventricular fibrillation and flutter.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
13	Rare electrocardiographic syndromes.	2	story- explanation, conversation, demonstration, presentation, discussion	oral examination (individual and frontal)
14	Credit	2	story- explanation, conversation, demonstration, presentation, discussion	Final control: credit.

	Total hours of discipline	30		
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2.2.4. Laboratory classes are not provided

2.2.5. Individual work

№ in order	Name topics	hours	Methods teaching	Forms control
1	Physical bases of electrocardiography. Method of electrocardiogram registration.	4	Study of thematic literature, presentation, videos	individual task; self-control;
2	Electrophysiological bases of formation and parameters of a normal electrocardiogram.	4	Study of thematic literature, presentation, videos	individual task; self-control;
3	Method of decoding the electrocardiogram. Electrocardiographic signs of atrial overload.	4	Study of thematic literature, presentation, videos	individual task; self-control;
4	Electrocardiographic signs of ventricular hypertrophy.	4	Study of thematic literature, presentation, videos	individual task; self-control;
5	Electrocardiographic syndromes in coronary heart disease.	4	Study of thematic literature, presentation, videos	individual task; self-control;
6	Pseudocoronary changes in the electrocardiogram.	4	Study of thematic literature, presentation, videos	individual task; self-control;
7	Electrocardiography in the diagnosis of acute coronary syndrome and myocardial infarction.	8	Study of thematic literature, presentation, videos	individual task; self-control;
8	Impaired conduction of the heart. Intraatrial and intraventricular conduction	4	Study of thematic literature, presentation,	individual task; self-control;

	disorders.		videos	
9	Electrocardiographic signs of sinoauricular and atrioventricular block.	4	Study of thematic literature, presentation, videos	individual task; self-control;
10	Disorders of automaticity and excitability of the myocardium. Extrasystole and parasystole.	4	Study of thematic literature, presentation, videos	individual task; self-control;
11	Electrocardiographic diagnosis of paroxysmal tachycardias.	4	Study of thematic literature, presentation, videos	individual task; self-control;
12	Electrocardiographic signs of atrial fibrillation and flutter, ventricular fibrillation and flutter.	4	Study of thematic literature, presentation, videos	individual task; self-control;
13	Rare electrocardiographic syndromes.	4	Study of thematic literature, presentation, videos	individual task; self-control;
14	Credit	4	Study of thematic literature, presentation, videos	Final control: credit.
	Total hours of discipline	60		

3.2. Questions for credit and exam:

1. Physical foundations of electrocardiography. Method of electrocardiogram registration.
2. Electrophysiological bases of formation and parameters of the normal electrocardiogram.
3. Method of decoding the electrocardiogram. Electrocardiographic signs of atrial overload.
4. Electrocardiographic signs of ventricular hypertrophy.
5. Electrocardiographic syndromes in coronary heart disease.
6. Pseudocoronary changes of the electrocardiogram.
7. Electrocardiography in the diagnosis of acute coronary syndrome and myocardial infarction.

8. Impaired conduction of the heart. Intraatrial and intraventricular conduction disorders.
9. Electrocardiographic signs of sinoauricular and atrioventricular block.
10. Violation of automaticity and excitability of the myocardium. Extrasystole and parasystole.
11. Electrocardiographic diagnosis of paroxysmal tachycardias.
12. Electrocardiographic signs of atrial fibrillation and flutter, ventricular fibrillation and flutter.
13. Rare electrocardiographic syndromes.

3.4. Individual tasks (approved at the meeting of the department a list determining the number of points for their performance, which can be added as incentives): Individual tasks include: review of scientific literature, preparation of abstracts, conducting research and individual teaching and research tasks, writing abstracts of research and presentations at conferences.

4. DISCIPLINE POLICY

Discipline policy and values

It is expected that male and female students will attend all practical classes.

If they missed classes, it is necessary to work it out (according to the schedule on the information stand of the department).

Written and homework must be completed completely and on time, if students have questions, you can contact the teacher in person or by e-mail, which the teacher will provide at the first practical lesson.

Practical training

Active participation during the discussion in the audience, students should be ready to understand the material in detail, ask questions, express their point of view, discuss.

During the discussion it is important:

- respect for colleagues,
- tolerance for others and their experiences,
- susceptibility and impartiality,
- the ability to disagree with the opinion, but to respect the personality of the opponent,
- careful argumentation of one's opinion and courage to change one's position under the influence of evidence,
- self-expression, when a person avoids unnecessary generalizations, describes his feelings and formulates his wishes based on their own thoughts and emotions,
- obligatory acquaintance with primary sources.

A creative approach in its various manifestations is welcome. Students are expected to be interested in participating in city, national and international conferences, competitions and other events in the subject profile.

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Occupational Health

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exit is, where the fire extinguisher is, how to use it, and so on.

Behavior in the audience

Basic "yes" and "no"

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and do not differ in principle from generally accepted norms.

During classes it is allowed:

- leave the audience for a short time if necessary and with the permission of the teacher;
- drink soft drinks;
- take photos of presentation slides;
- take an active part in the class (see Academic Expectations from Students).

forbidden:

- eat (except for persons whose special medical condition requires another - in this case, medical confirmation is required);
- smoking, drinking alcohol and even low-alcohol beverages or drugs;
- to use obscene language or use words that offend the honor and dignity of colleagues and faculty;

- gaff;
- to damage the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);
- shouting, shouting or listening to loud music in classrooms and even in corridors during classes.

5. ACADEMIC INTEGRITY

The Department of Propaedeutics of Internal Medicine №1, Fundamentals of Bioethics and biosafety maintains zero tolerance for plagiarism. Students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

Procedure for informing about changes in the syllabus: necessary changes in the syllabus are approved by the methodical commission of KhNMU on problems of professional training of therapeutic profile and published on the site of KhNMU, the site of the Department of Propaedeutics of Internal Medicine №1, Fundamentals of bioethics and biosafety of KhNMU

6. RECOMMENDED LITERATURE

Basic

1. Zharinov OY, Kuts VO (ed.) Fundamentals of electrocardiography. - Lviv .: MS, 2017. - 240 p.
2. Kovaleva OM , Ащеулова Т.В. "Propaedeutics of internal medicine " Part 1. Diagnosis . Textbook with the stamp of the Ministry of Education and Science, Ministry of Health . - Vinnytsia: A new book. - 2017. - 424 p. (in English).
3. Kushakovskyy M. S. Hryshkyn Yu N. arrhythmia of the heart (disorders of heart rhythm and violations conductivity . Causes , Mechanisms , электокардиографическая and электрофизиологическая diagnostics , Clinic , Treatment): guidance for doctors . - 4th ed ., Corrected . and ext . / M. S. Kushakovskyy , JN Grishkin . - St. Petersburg: ООО " Publishing Folyant ", 2014. - 720 p .: il .
4. Orlov, VN Guide to electrocardiography / VN Orlov. - 9th ed ., Corrected . - Moscow: LLC " Medical Information Agency", 2017. - 560 p .: ill .

Auxiliary

1. Comprehensive Electrocardiology / Macfarlane PW, van Oosterom A., Pahlm O., Kligfield P., Janse M., Camm J. (Eds .) - 2 nd ed. - Springer, 2011. - 2291 p.

Information resources

1. <https://litfl.com/ecg-library/ecg-references/>
2. <http://ecglibrary.com/>
3. <https://en.ecgpedia.org/>
4. <https://skillstat.com/tools/ecg-simulator>

5. <https://ekg.academy/>

8. OTHER

Useful links:

Provisions on prevention, prevention and settlement of cases,
related to sexual harassment and discrimination at KhNMU

http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog-sex.doc

Regulations on Academic Integrity and Academic Ethics
relationships at Kharkiv National Medical University

http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_ad_etyka_text.pdf

The order of conducting classes on in-depth study by students

Kharkiv National Medical University of certain disciplines
over the scope of the curriculum

http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/nak-poriad-pogl-vyv-dysc.docx

Regulations on the Commission on Academic Integrity, Ethics and Management
conflicts of KhNMU

http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_komis_ad_text.pdf

Regulations on the recognition of the results of non-formal education in Kharkiv
National Medical

University http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_neform_osv.pdf

INCLUSIVE

EDUCATION: http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=7

[108%3A2021-03-10-14-08-02&catid=12%3A2011-05-10-07-16-32&Itemid=33&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=7)

ACADEMIC INTEGRITY:

http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=2

[520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk](http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=2)

http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/kodex_AD.docx