

MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY

Department of Medical and Biological Physics and Medical Informatics
Academic year 2021-2022

SYLLABUS OF THE COURSE
«EUROPEAN COMPUTER DRIVING LICENCE»

Normative or selective educational component _____ selective

Form of education _____ Full-time _____
(full-time, part-time, remote)

Field of knowledge _____ 22 «Health Care» _____
(the code and name of the training direction)

Major field _____ 222 «Medicine» _____
(the code and name of specialization)

Specialization (if available) _____

Educational and professional program (educational and scientific program) «Medicine»

The second (master's) level of higher education

Year: 2

This syllabus was approved at the meeting of the department of medical and biological physics and medical informatics

Record № 7 dated
27 August 2021,

Acting Head of Department




prof. O.V. Zaytseva

Approved by the methodological committee on international students training (KhNMU)

Record № 1 dated
31 August 2021,

Head



S.O.Krasnikova

SYLLABUS DEVELOPERS:

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(surname, name, position, academic title, scientific degree)
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3. Ganna Chovpan, Associate Professor, Associate Professor, Candidate of Physical
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INFORMATION ABOUT TEACHERS TEACHING THE EDUCATIONAL COMPONENT

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Professional interests:

mathematical modeling in biology and medicine

Consultations (face-to-face consultations: schedule and venue; online consultations: schedule, links to electronic resources): face-to-face and online consultations are conducted according to the schedule of the department or by prior arrangement with the teacher.

Location: Kharkiv, 4 Nauki Ave., main building, 2nd floor, Department of Medical and Biological Physics and Medical Information Science, teaching room 1, 2, 3.

INTRODUCTION

The syllabus of the discipline **«EUROPEAN COMPUTER DRIVING LICENCE»** compiled in accordance with the educational and professional program (further - EPP) 222 «Medicine» and the Standard of Higher Education of Ukraine (further - Standard) second (master's) level, field of knowledge 22 «Health care», specialties 222 «Medicine».

Description of the discipline (abstract)

The course «European computer driving licence» is offered for study by students of 2nd Course and is selective. The scope of discipline (in ECTS credits with the definition of the distribution of hours for lectures, practical classes, seminars, SSS): 3 ECTS credits, or **90** hours, of which **10** hours of lectures, **100** hours of practical classes, **70** hours of independent work. Type of control – **credit**.

The subject of study of the discipline «European computer driving licence» acquaints students with the laws and principles of information processes in systems of different levels of the hierarchy of health care, the problems of collecting, storing, processing and transmitting signals and images in pediatrics, decision support systems in pediatrics; information technologies of analysis, modeling, forecasting, management in the field of medical and biological research, theory of medical information systems.

Interdisciplinary connections

Course «European computer driving licence»:

- is based on the study of a number of disciplines by students: «Medical and biological physics», «Medical informatics», «Logic». «Formal logic» and integrates with these disciplines;
- lays the foundations for the study of fundamental and clinical disciplines.

In the general system of training a future doctor, the discipline «European computer driving licence» belongs to the cycle of natural science training.

- **Prerequisites.** The study of the discipline «European computer driving licence» involves the preliminary mastering of credits in the disciplines «Medical and Biological Physics».
- **Co-requisites.** The main provisions of the discipline «European computer driving licence» should be applied in the study of such disciplines as «Medical Informatics», «Philosophy and Methodology of Science», «Biostatistics», «Biostatistics and Clinical Epidemiology», «Social and Demographic Statistics», «Communication activities in the public sphere» others.

Moodle discipline page: <http://31.128.79.157:8083/course/view.php?id=1034>

1. PURPOSE AND OBJECTIVES OF THE DISCIPLINE

1.1. Purpose and objectives of the discipline The purpose of teaching the discipline «European computer driving licence»: the formation and development of future doctors' competence in digital technology to ensure the rational use of modern general and special purpose software in processing medical and biological data, studying patterns and principles of information processes in systems different levels of hierarchy in the field of health care, problems of collection, storage, processing and transmission of signals and images in medicine, decision support systems in medicine; information technologies of analysis, modeling, forecasting, management in the field of medical and biological research, theory of medical information systems.

1.2. The main tasks of the discipline: The main tasks of studying the discipline «European computer driving licence» are:

- formation and development of knowledge, skills and abilities necessary for effective use of system and applied software in the field of health care;
- acquaintance with possibilities of new information and communication technologies in the field of public health services, bases of telemedicine and prospects of development of digital technologies in the future;
- development of skills to independently master medical and general purpose software, update previously acquired knowledge and apply them in pediatric activities;
- mastering computer technologies of visualization and statistical analysis of medical and biological research data;
- mastering the concept of databases, acquaintance with specialized databases of evidence-based medicine, especially in the field of pediatrics;
- explanation of the principles of formalization and algorithmization of medical problems, the basics of modeling in medicine and pediatrics;
- formation of skills to develop decision support systems in medicine and pediatrics;
- acquaintance with possibilities of Web-technologies and bases of data protection.

1.3. Competencies and learning outcomes the formation of which is facilitated by the discipline (interrelation with the normative content of higher education training, formulated in terms of learning outcomes in the Standard).

In accordance with the requirements of the Standard, the discipline ensures the acquisition of competencies:

integrated:

- ability to apply the acquired knowledge, solve complex problems and practical problems in the professional activity of a doctor with the application of theories, provisions, principles and norms of the humanities, basic and clinical sciences in terms of information and complexity.

general:

- ability to think abstractly;
- ability to analyze and synthesize the received information;
- the ability to form, organize, consistently express their thoughts;
- ability to draw up and implement plans and personal projects;

- ability to interactively use teaching aids;
- ability to process and interpret empirical data;
- desire for autonomous activity;
- ability to function in heterogeneous groups;
- readiness to act in accordance with moral norms and ethical principles;
- the ability to define and justify goals that relate to their own values and are the meaning of life;
- ability to cooperate, show initiative and maintain relationships with others;
- ability to apply theoretical knowledge and gain practical experience in solving life and professional problems;
- ability to use information technology in everyday life;
- ability to self-organization and free development of personality.

special (professional, subject):

- ability to logical, dialectical thinking;
- the ability to see errors in reasoning and identify them;
- ability to realize the meaning of life priorities and guidelines;
- ability to think critically;
- ability to solve test problems of varying complexity;
- ability to keep a special logical terminological dictionary;
- ability to search and accumulate the necessary specialized information on the logic and disciplines of the philosophical cycle;
- ability to summarize primary sources and scientific publications on logic;
- ability to implement in practice the acquired theoretical and practical knowledge;
- ability to analyze the mechanisms of formation of logical ideas and teachings in the cultural process of mankind;
- ability to a priori synthesize the acquired knowledge from philosophical disciplines into a holistic worldview and worldview.
- ability to analyze communicative problems related to logical errors and techniques;
- ability to master the methods and techniques of dialogue, discussion.

1.3.1. The study of the discipline provides students with the acquisition of the following **program learning outcomes:**

№	Competence	Knowledge	Skills
PLO 1	Ability to think abstractly	Knowledge of epistemology and basics of logic	Ability to analyze the received information
PLO 2	Ability to analyze and synthesize the information obtained	Knowledge of methodology (way of cognition)	Ability to form your own point of view
PLO 3	Ability to form, organize, consistently express their thoughts	Know the basics of rhetoric and logic	Be able to choose ways and strategies of analysis of knowledge and communication
PLO 4	Ability to draw up and	Know the methods of	Be able to apply

	implement plans and personal projects	applying knowledge in practice	knowledge in practice
PLO 5	Ability to process and interpret empirical data	Have deep theoretical knowledge	Ability to apply the acquired knowledge in practice
PLO 6	Ability to function in heterogeneous groups	Know the basics of worship, religions and traditions of different peoples	Be able to be tolerant and communicative
PLO 7	Willingness to act in accordance with moral norms and ethical principles	Know the basic principles and norms of ethics	Be able to use the acquired ethical knowledge in practice
PLO 8	Ability to define and justify goals that are related to one's own values and are the meaning of life	Know the basics of axiology and basic philosophical questions	Be able to use knowledge in the formation of life position and worldview
PLO 9	Ability to cooperate, take initiative and maintain relationships with others	Knowledge of tactics and strategies of communication, basics of communicative behavior	Be able to choose the means and strategies of communication to ensure an effective result
PLO 10	Ability to apply theoretical knowledge and gain practical experience in solving life and professional problems	Have deep theoretical knowledge, as well as knowledge of tactics and strategy of communication	Ability to use knowledge in a variety of practical situations
PLO 11	Ability to self-organization and free development of personality	Know the methods of applying knowledge in solving both theoretical and practical issues	Be able to apply the acquired knowledge in practice
PLO 12	Ability to logical, dialectical thinking	Knowledge of the basics of logic and dialectics	Be able to apply the acquired knowledge in practice
PLO 13	Ability to see errors in reasoning and identify them;	Knowledge of correct and incorrect forms of reasoning	Be able to identify incorrect considerations in the process of a real communicative act, and the mistakes that are made in them.
PLO 14	Ability to think critically	Знання основних законів логіки та правил логіки	Be able to use knowledge of the laws and rules of logic, which is a way to form a high level of culture of thinking
PLO 15	Ability to maintain a logical terminological dictionary	Know the basic terms, definitions	Be able to place the selected information in a certain sequence and in an understandable form
PLO 16	Ability to search and accumulate the necessary	Know the most famous authors, major works and	Be able to accumulate and creatively develop

	specialized information on the logic and disciplines of the philosophical cycle	determine their status Know the methods of monitoring information sources and methods of accumulation of large amounts of information	the acquired knowledge
PLO 17	Ability to summarize primary sources and scientific publications on logic	Know and have methods of generalization of the content of scientific publications on logic, Master the philosophical methodology in the preparation of scientific papers, abstracts	Be able to self-study, organize information, analyze logical texts, and publications on professional activities
PLO 18	Ability to analyze the mechanisms of formation of logical ideas and teachings in the cultural process of mankind	Know the history of the development of logical knowledge in the context of human history	Be able to distinguish between logical ideas and theories and see the criterion for distinguishing them
PLO 19	Ability to a priori synthesize the acquired knowledge from philosophical disciplines into a holistic worldview and worldview	Know the specifics of philosophical knowledge, which reveals the ultimate foundations of the world and man, their relationship	Be able to independently analyze complex phenomena of socio-cultural life and build a system of meanings
PLO 20	Ability to analyze communication problems related to logical errors and techniques	Know the logical foundations of the theory of argumentation, the mechanisms of logical and illogical influences on the opponent in the dispute	Be able to establish communication on the principles of understanding
PLO 21	Ability to master the methods and techniques of dialogue, discussion	Know the basics of communication psychology, management theory, rhetoric and logic	Be able to correctly build a system of beliefs and arguments Be able to ask philosophical questions, consider paradoxes, alternatives, contradictions, ie to form the skills of logical and dialectical thinking

1.3.2. The study of the discipline provides students with the following **social skills (Soft skills)**:

- formation and development of knowledge, skills and abilities necessary for effective use of system and applied software in the field of health care;
- acquaintance with possibilities of new information and communication technologies in the field of public health services, bases of telemedicine and prospects of development of digital technologies in the future;
- development of skills to independently master medical and general purpose software, update previously acquired knowledge and apply them in pediatric activities;

- mastering computer technologies of visualization and statistical analysis of medical and biological research data;
- mastering the concept of databases, acquaintance with specialized databases of evidence-based medicine, especially in the field of pediatrics;
- explanation of the principles of formalization and algorithmization of medical problems, the basics of modeling in medicine and pediatrics;
- formation of skills to develop decision support systems in medicine and pediatrics;
- acquaintance with possibilities of Web-technologies and bases of data protection.

2. INFORMATION SCOPE OF THE COURSE

Name of indicators	Field of knowledge, specialty, educational degree, EPP	Characteristics of the discipline
		full-time education
Number of credits – 3,0	Field of knowledge: <u>22 "Health care"</u> (the code and name)	Selective discipline
Total number of hours - 90	Specialty <u>222 «Medicine»</u> (the code and name of specialization)	Year of preparation (course):
		2-nd
		Semester
		4
Hours for day (or evening) form of study: classrooms – 20 hours independent student work – 70 hours	Educational degree: <u>master</u> EPP: <u>222 «Medicine»</u>	Lecture – 10 hours
		Practical classes
		10 hours
		Laboratory work
		-
		Independent work
		70 hours
		Individual tasks: 0 год.
Type of control – credit		

2.1 Description of the discipline

2.2.1. Topics of lectures

№	Name topics	Number hours
1	Basic concepts of computer science. Computer and software in the activities of a doctor. Operating Systems.	2
2	General hardware and software architecture of modern computer systems. Hardware and software.	2
3	General and special purpose software in the activities of a doctor	2
4	The concept of databases (DB). Database management systems (DBMS). Medical Information Systems (MIS)	2
5	Computer networks and telecommunications. Informatics, cybernetics, synergetics and directions of development of modern information technologies	2
Total lecture hours		10

2.2.2. Topics of seminars

№ з/п	The name of topic	Number of hours
Total lecture hours		-

2.2.3. Topics of practical classes

№	Name topics	Number hours
1	Basic concepts of computer science. The computer in the doctor's activity.	2
2	Network technologies in professional activity. Network software. Basics of information security.	2
3	Information resources Internet	2
4	Medical information systems. Electronic medical cards of the patient.	2
5	Text editors for creating, editing text documents	
6	Database management system for organizing, storing and accessing data	
7	Tool software in mathematical modeling and biological statistics.	
8	Data processing technologies in a spreadsheet environment	
9	Programs for preparing presentations	
10	Final lesson. Test	2
Total hours of practical training		10

2.2.4. Materials for student's self-study

№	Name topics	Number of hours
1	History of development of informatics and information technologies	6
2	Cybernetics and the history of its development	6
3	Comparative analysis of operating systems (Windows, Linux, Android, etc.)	6
4	Problems of information protection in the implementation of network technologies	6
5	Information systems life cycle	6
6	Types of information system software (informational, legal, mathematical, software, etc.)	6
7	Simulation and mathematical modeling in biology and medicine	8
8	Expert systems in medicine as specialized software	8
9	OSI network model	6
10	Network data transmission protocols	6
11	Types of database organization	6
12	General principles of database development	2
13	Data schemes in databases	2
14	Image encoding	4
15	Information compression standards	6
16	Possibilities of multimedia technologies in providing information	6
Total hours of independent student work		90

3. Evaluation policy

3.1. Evaluation of the success of education of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU".

3.1.1. Evaluation of current educational activities of students:

Control of mastering the topic (current control) in practical classes is carried out in accordance with specific objectives with the use of entrance test control, oral examination and testing of practical skills.

After conducting the last practical lesson and grading in the electronic journal, the teacher calculates the average grade for the entire period of study of the discipline (on the traditional scale).

Recalculation of the average grade for the current activity into a multi-scale scale is carried out in accordance with the Table 1.

Table 1

Recalculation of the average score for the current activity into a multi-scale scale (for subjects completed by credit)

4-mark scale	200-point scale	4-mark scale	200-point scale	4-mark scale	200-point scale
5	200	4.22-4,23	169	3.45-3,46	138
4.97-4,99	199	4.19-4,21	168	3.42-3,44	137
4.95-4,96	198	4.17-4,18	167	3.4-3,41	136
4.92-4,94	197	4.14-4,16	166	3.37-3,39	135
4.9-4,91	196	4.12-4,13	165	3.35-3,36	134
4.87-4,89	195	4.09-4,11	164	3.32-3,34	133
4.85-4,86	194	4.07-4,08	163	3.3-3,31	132
4.82-4,84	193	4.04-4,06	162	3.27-3,29	131
4.8-4,81	192	4.02-4,03	161	3.25-3,26	130
4.77-4,79	191	3.99-4,01	160	3.22-3,24	129
4.75-4,76	190	3.97-3,98	159	3.2-3,21	128
4.72-4,74	189	3.94-3,96	158	3.17-3,19	127
4.7-4,71	188	3.92-3,93	157	3.15-3,16	126
4.67-4,69	187	3.89-3,91	156	3.12-3,14	125
4.65-4,66	186	3.87-3,88	155	3.1-3,11	124
4.62-4,64	185	3.84-3,86	154	3.07-3,09	123
4.6-4,61	184	3.82-3,83	153	3.05-3,06	122
4.57-4,59	183	3.79-3,81	152	3.02-3,04	121
4.54-4,56	182	3.77-3,78	151	3-3,01	120
4.52-4,53	181	3.74-3,76	150	Less 3	Unsatisfactory
4.5-4,51	180	3.72-3,73	149		
4.47-4,49	179	3.7-3,71	148		
4.45-4,46	178	3.67-3,69	147		
4.42-4,44	177	3.65-3,66	146		
4.4-4,41	176	3.62-3,64	145		
4.37-4,39	175	3.6-3,61	144		
4.35-4,36	174	3.57-3,59	143		
4.32-4,34	173	3.55-3,56	142		
4.3-4,31	172	3.52-3,54	141		
4,27-4,29	171	3.5-3,51	140		
4.24-4,26	170	3.47-3,49	139		

3.1.2. The individual tasks of the student (IE) are evaluated in points (not more than 10), which are added to the points scored on the IPA at the end of the study of the discipline before the "test". Points for individual work are accrued to the student if he has completely and qualitatively filled in his Workbook or performed other tasks proposed by the teacher in the discipline, and is a maximum of 10 points.

The total amount of points for IPA and SCI may not exceed 200 points.

3.1.3. Grade from the discipline

The grade in the discipline is defined as the sum of points for IPA and IPR and ranges from 120 to 200 points.

The correspondence of the scores on the 200-point scale according to the ECTS scale and to the four-point (national) scale is given in Table 2.

Table 2

Correspondence of scores on the 200-point scale to the ECTS scale and to the four-point (national) scale

200 - point scale	CKTC - point scale	Score for four-point (national) scale
180–200	A	Excellent
160–179	B	Very good
150–159	C	Good
130–149	D	Satisfactory
120–129	E	Sufficiency
Less 120	F	Unsatisfactory

A student receives a mark "credited" to the record book if he scored from 120 to 200 points.

3.2. Questions to credit:

1. Definition of computer science as a science. Tasks of computer science.
2. The concepts of "information message", "data", "signal", "communication channel".
3. Measuring the amount of information.
4. The structure of a personal computer.
5. Personal computer software. Software classification.
6. Operating systems and their classification.
7. The main components of computer networks. Basic communication model.
8. Classification of computer networks.
9. Internet addressing: IP address, domain name (DNS address); URL.
10. Use of Internet services.
11. Principles of forming a search query. Types of search.
12. General purpose search engines.
13. Specialized medical search systems.
14. Medical resources Internet.
15. The concept of the semantic triangle.
16. Definition of classification and its examples.

17. Types of codes: numerical, mnemonic, hierarchical, comparison codes.
18. Coding system MKH, DSM, SNOMED, ICPC.
19. Definition of formalization and algorithmization.
20. Types of algorithms: linear, branched, cyclic.
21. Basic concepts of evidence-based medicine.
22. Stages of research planning.
23. Reliability and generalization of research results.
24. Systematic and random errors.
25. Types of clinical trial structures.
26. Types of randomization.
27. Intervention masking.
28. Evidence technologies in medical decision making.
29. Centralized and distributed databases, hierarchical and network databases, specialized databases.
30. The main groups of technical devices used in medical diagnostics.
31. Describe the main components of diagnostic MAPC.
32. Types of noise and their influence on the determination of measured parameters.
33. The main categories of electrophysiological indicators.
34. Types of bioelectrical indicators of direct and indirect measurements.
35. Types of research conducted with the help of MAPC.
36. Information system, MIS classification, their purpose.
37. Consulting and diagnostic systems and their types.
38. Medical hardware and software complexes, their classification.
39. Automated doctor's place.
40. Classification of MIS level of treatment and prevention facilities.
41. Electronic medical record, basic levels of computerization of medical history.
42. Classification of MIS territorial level.
43. The current situation in the field of information security.
44. Categories of information security: confidentiality, integrity, secrecy, protection, authenticity, appeal, reliability, accuracy, controllability, identification control.
45. Protection of medical information, degree of protection of information (GIS) about patients.
46. Characteristics affecting information security.
47. Problems of protection of medical secrecy.
48. Classification of information security violations.
49. Modeling of GIS creation processes.
50. Workbook in MS Excel, its type.
51. Wrong values in MS Excel.
52. Construction of charts (graphs) in MS Excel.
53. Use in medicine MS Excel.
54. Using MS Excel to process statistics.
55. Definition of general and sample populations.
56. Data types. Measurement scales.
57. Types of graphical data description.
58. Distribution histogram. Algorithm for its construction.

59. Numerical characteristics of the general population: mean, variance, standard deviation.
60. Parametric and nonparametric methods of statistics.
61. Statistical hypotheses
62. Descriptive statistics for samples with a normal distribution law.
63. Descriptive statistics for samples with a distribution law other than normal.
64. Statistical functions for calculating descriptive statistics in LibreOffice Calc.
65. Types of relationships between variables. Statistical connection.
66. Correlation dependence. Pearson's linear correlation coefficient. Spearman's rank correlation coefficient.
67. Coefficient of determination in linear regression. Its relationship with the correlation coefficient.
68. Criteria for comparing the significance of the difference between the average of the two samples.
69. Student's criterion of comparisons of two means.
70. Mann-Whitney test to compare the two samples.
71. The main task of cluster analysis
72. Methods of cluster analysis, programs for clustering.
73. Spreadsheet technologies used in clustering.
74. Expert systems as a class of artificial intelligence systems. The specifics of the implementation of expert systems based on formal and informal logic.
75. The main criteria for the feasibility of creating expert systems.
76. The composition of a typical expert system.
77. Characteristic features of expert systems (field of use, design features, method of solving problems, etc.).
78. Logic inference machine. Direct and inverse logical inference.
79. Tools of expert systems.
80. Knowledge base of expert system, static, dynamic, working knowledge. Source of knowledge of the expert system. Ways of obtaining knowledge by the system.
81. Basic models of knowledge representation: production, frames, semantic networks, logical, neural networks.
82. Use of expert systems in medicine.
83. Artificial neural networks (AN). Features of their work. Areas of application of AN.
84. AN classification, AN training.
85. Expert systems (ES) as a class of artificial intelligence systems. The specifics of the implementation of expert systems based on formal and informal logic. criteria for the need to create expert systems.
86. Components of a typical ES, characteristic features of the ES (scope, design features, method of solving problems, etc.).
87. Logical inference machine. Direct and inverse logical conclusion.
88. ES tool devices.
89. ES knowledge base. Static, dynamic, working knowledge. Sources of ES knowledge. Ways to gain knowledge of the system.

90. Models of knowledge representation: production, frames, semantic networks, logical, neural networks.
91. The concept of approximation model, types of approximation models implemented in the spreadsheet LibreOffice Calc.
92. The concept of "forecast" and "forecasting", the accuracy of any forecast, the main sources of forecast errors.
93. The method of the "gold standard" for diagnosis. Characteristics of sensitivity and specificity of the diagnostic test?
94. Definition of Bayes' theorem.
95. Data to assess the likelihood of disease in a positive test.
96. Types of modeling, degrees of complexity and adequacy of the mathematical model.
97. Examples of energy, material, mathematical models in medicine.
98. Limitations and advantages of the method of mathematical modeling.
99. Model "predators - victims".
100. Description of the immunological model.
101. Description of the population growth model.
102. Description of the model of infection spread.
103. Multimedia technologies, categories of multimedia products, possibilities of multimedia technologies.
104. Multimedia in medicine, multimedia program "Libre Office Impress".

3.4 Individual tasks

The total maximum number of additional points for individual work of students is 10 points (according to the «Guidelines for the evaluation of educational activities under the European Credit Transfer System of the organization of the educational process», assessment of individual tasks of the student).

Scores for individual assignments are only awarded to the student once a commission (commission - head of department, head teacher, group teacher) only if they are successfully fulfilled and protected. The total amount of points for the CLA may not exceed 120 points.

3.5. Rules for appealing the assessment

If the student does not agree with the grade obtained in class, he can appeal it. In this case, the student's knowledge will be assessed by a commission consisting of the head or head of the department, an independent teacher and a teacher of the group in which the student is studying. To increase the grade, the group teacher may also ask the student to write an essay or complete an individual task on a chosen topic.

4. DISCIPLINE POLICY

Discipline requirements (system of requirements and rules that the teacher imposes on students of higher education in the study of the discipline)

For successful mastering the discipline it is necessary for the student of higher education systematically be prepared for practical classes, performs the tasks offered for

mastering the topics recommended for self-study, read the recommended literature, take an active part in discussing the topic in class.

Attendance and behavior (inadmissibility of skipping a lesson, delays, clothing requirements, medical examination, etc.).

Attendance at practical classes in the discipline is mandatory (except for good reasons). A lesson missed by a student for any reason must be worked out. It is inadmissible to be late for classes. By the time the class begins, the student must be dressed in a medical gown. During the lesson you can not eat or drink, chew gum, contaminate the surfaces of classrooms. When communicating with the teacher and others, the student must be polite, talk quietly and behave calmly.

Use of electronic gadgets

The use of any electronic gadgets (smartphones, watches, tablets, laptops, etc.) throughout the lesson is strictly prohibited. If the teacher sees that the student violates this requirement, he can remove the student from the classroom and put him «absenteeism».

Academic Integrity Policy (including liability for breach of academic integrity)

Adherence to academic integrity by the student provides:

independent performance of educational tasks, tasks of current and final control of learning outcomes; references to sources of information in the case of the use of ideas, statements, information; compliance with copyright law; providing reliable information about the results of their own educational (scientific, creative) activities. Academic plagiarism, writing off, deception, falsification, etc. are considered violations of academic integrity.

For violation of academic integrity, students may be held subject to the following academic liability: re-assessment (test, exam, test, etc.); re-taking the training course; deductions from the educational institution.

Policy for people with special educational needs

For persons with special needs, the requirement of academic integrity is applied taking into account their individual needs and capabilities.

Recommendations for successful completion of the discipline (activity of higher education students during practical classes, fulfillment of the required minimum of educational work) to successfully complete the discipline, the applicant must complete the required minimum of educational (classroom and independent) work specified in the curriculum. The grade for the lesson also takes into account the diligence, accuracy of the student, activity in discussing the topic, speed and creativity of thinking, perseverance in learning.

Encouragement and penalties (additional points for conferences, research, edits, advice, participation in surveys)

To encourage students who are particularly active and persistent in their studies, they are awarded additional points for participating in scientific conferences, research, surveys, etc. For violation of discipline (rules of conduct, clothing, etc.) and academic integrity during classes, the student may be subject to penalties - removal from class, re-assessment (test, exam, test, etc.); re-taking the training course; deductions from the educational institution.

Safety precautions

During the lesson, the student must follow the rules of life safety.

When conducting laboratory work or practical classes, it is necessary to follow the rules of fire safety, students need to know the location of the primary means of fire extinguishing (fire extinguisher, capes made of fire-retardant fabric, sand).

In the event of an accident, the victim or eyewitness must immediately notify the teacher. If equipment, computers, fixtures and tools malfunction, stop working and notify the instructor.

During the class, students must follow the order of laboratory work and practical classes, the rules of personal hygiene, remove foreign objects from the workplace and ensure its cleanliness.

Electrical devices and appliances, including computers, should not be left unattended. If malfunctions are found in the operation of electrical devices that are under voltage, their increased heating, sparks, the smell of burnt insulation, smoke, immediately stop work, turn off the power supply and notify the teacher.

Procedure for informing about changes in the syllabus:

the necessary changes in the syllabus are approved by the methodical commission of KhNMU on the problems of natural science training and are published on the site of KhNMU, the site of the department of medical and biological physics and medical informatics of KhNMU.

5. ACADEMIC INTEGRITY

Adherence to academic integrity by the student provides:

independent performance of educational tasks, tasks of current and final control of learning outcomes; references to sources of information in the case of the use of ideas, statements, information; compliance with copyright law; providing reliable information about the results of their own educational (scientific, creative) activities.

Academic plagiarism, writing off, deception, falsification, etc. are considered violations of academic integrity. For violation of academic integrity, students may be held subject to the following academic liability: re-assessment (test, exam, test, etc.); re-taking the training course; deductions from the educational institution.

6. RECOMMENDED LITERATURE

Basic

1. «Pass ECDL 5 Units 1-7/ Alex Sharpe, Flora Heathcote, O.H.U Heathcote, Pat Heathcote, R.P. Richards. Pearson Education Limited. – 2009. - 560 pages.
2. ECDL IT User Fundamentals Using Windows 8.1 (BCS ITQ Level 1) - Sunderland, United Kingdom: CiA Training Ltd, 2014. – 178 p.
3. Training for ECDL: Syllabus 4: A Practical Course in Windows XP/Office 2003 / Paula Kelly, Denise O'Connor, John Brennan, Richard Butler - Blackrock Education Centre, 2005. – 460 p.
4. ECDL Using Email and the Internet Part 2 Using Outlook 2016 (BCS ITQ Level 1) - Sunderland, United Kingdom: CiA Training Ltd, 2016. – 114 p.
5. ECDL Syllabus 5.0 Module 5 Using Databases Using Access 2007: Module 5. - Sunderland, United Kingdom: CiA Training Ltd, 2009. – 140 p.

6. Medical information science. P.1 : textbook for 2nd year students of medical universities / M. A. Bondarenko, E. V. Vysotskaja, N. A. Gordienko, O. V. Zaitzeva, T. R. Kocharova, V. G. Knigavko, S. N. Lad, O. P. Mescheryakova, N. P. Polyotova, E. B. Radzisheskaya, L. M. Risovanaya, A. S. Solodovnikov, I. V. Shuba ; edited by V. G. Knigavko. – Kharkiv : KhNMU, 2017. – 127 p.
7. Medical information science. P.2 : textbook for 2nd year students of medical universities / M. A. Bondarenko, E. V. Vysotskaja, N. A. Gordienko, O. V. Zaitzeva, T. R. Kocharova, V. G. Knigavko, S. N. Lad, O. P. Mescheryakova, N. P. Polyotova, E. B. Radzisheskaya, L. M. Risovanaya, A. S. Solodovnikov, I. V. Shuba ; edited by V. G. Knigavko. – Kharkiv : KhNMU, 2017. – 143 p.
8. Medical informatics : tutorial for foreign English-speaking students of medical universities / V. G. Knigavko, O. V. Zaytseva, M. A. Bondarenko, L. V. Batyuk, A. S. Rukin. – Kharkov: KhNMU, 2019. – 60 p.

Auxiliary

1. David J. Lubliner. Biomedical Informatics: An Introduction to Information Systems and Software in Medicine and Health // Auerbach Publications. 2015. – 434 p.
2. Nanette B. Health Information Management Technology: An Applied Approach 5th ed. Edition // American Health Information Management Association. 2016 – 686 p.
3. Mervat Abdelhak. Health Information: Management of a Strategic Resource, 5th Edition / Mervat Abdelhak, Mary Alice Hanken // Saunders; 5 edition 2015. – 800 p.
4. Handbook of Medical Informatics. J.H. Editors, V. Bommel, M.A. Musen // Електронний ресурс: <http://www.mieur.nl/mihandbook>;

7. INFORMATION RESOURCES

educational portal

- multimedia lectures

- computer training programs

Information resources can be found at:

<http://repo.knmu.edu.ua/handle/123456789/162>

<http://repo.knmu.edu.ua/handle/123456789/16713>

<http://nmu.ua/zagalni-vidomosti/kafedri/departament-medical-biological-physics/informatsiya-dlya-studentiv/>

<http://31.128.79.157:8083/course/view.php?id=1034>

5. OTHER

Useful links:

1. Положення про запобігання, попередження та врегулювання випадків, пов'язаних із сексуальними домаганнями і дискримінацією у ХНМУ
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog-sex.doc

2. Положення про академічну доброчесність та етику академічних взаємовідносин в Харківському національному медичному університеті
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_ad_etyka_text.pdf

3. Порядок проведення занять з поглибленого вивчення студентами Харківського національного медичного університету окремих дисциплін понад обсяг навчального плану
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/nak-poriad-pogl-vyv-dysc.docx
4. Положення про Комісію з академічної доброчесності, етики та управління конфліктами ХНМУ
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_komis_ad_text.pdf
5. Положення про визнання результатів неформальної освіти в Харківському національному медичному університеті
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/polog_neform_osv.pdf
6. Інклюзивна освіта:
http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=7108%3A2021-03-10-14-08-02&catid=12%3A2011-05-10-07-16-32&Itemid=33&lang=uk
7. Академічна доброчесність:
http://www.knmu.kharkov.ua/index.php?option=com_content&view=article&id=2520%3A2015-04-30-08-10-46&catid=20%3A2011-05-17-09-30-17&Itemid=40&lang=uk
http://files.knmu.edu.ua:8181/upload/redakt/doc_uchproc/kodex_AD.docx