FACULTY OF STOMATOLOGY

STUDY PROGRAM 0911.1. STOMATOLOGY

DEPARTMENT OF HUMAN PHYSIOLOGY AND BIOPHYSICS

APPROVED
at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum in Stomatology
Minutes No. 6 of 28.06.2022
Chairman Chairman, PHD, professor,
Elena Stepco _____

APPROVED
at the Council meeting of the Faculty Stomatology
Minutes No. 1 of 06.09.2022
Dean of the Faculty Stomatology, doctor of medicine, assoc. professor,
Oleg Solomon _____

APPROVED
approved at the meeting of the chair Human Physiology and Biophysics
Minutes No. 31 of 06.06.2022
Head of chair PHD, professor,
Victor Vovc _____

SYLLABUS
DISCIPLINE COMMUNICATION TECHNIQUES BASED ON THE USE OF IT IN MEDICINE

Integrated studies

Tipe of course: **Optional Course**

Syllabus developed by the team of authors:
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I. INTRODUCTION

II. General presentation of the discipline: place and role of the discipline in the formation of the specific competences of the professional / specialty training program

IT-based communication techniques in healthcare are developing rapidly and it is obvious that they are widely applied in different fields like scientific, industrial, medical, etc. For this reason, informational technologies represent a fundamental field, the study of which at the university stage will allow the future specialist in medicine to study of the technological tools necessary to facilitate professional activities.

IT-based communication techniques in healthcare will allow medical specialists to create skills which will be applied and understand IT-based communication techniques, develop practical skills in software handling, data transfer, database creation and data processing, etc. applied in the medical fields. Learned at the first year of studies, IT-based communication techniques in healthcare set the basis for the study of data transfer techniques that will later allow the data acquisition and application of these techniques in many specialized fields that students will learn, such as biophysics, anatomy, physiology, and so on. In order to understand the discipline, are necessary knowledge in the field of information technologies and data processing.

III. Mission of the curriculum (aim) in professional training

The purpose of the discipline is to develop basic practical skills in IT-based communication technologies in healthcare, data analysis, database creation, data transfer, information processing, information transmission, etc. However, the discipline aims is to develop abstract, logical and critical thinking and ability to reflect critically on basic activities.

IV. Language of the discipline: English.

V. Beneficiaries: students of the 1st year, faculty Medicine II.

II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		**G.01.A.011**	
Name of the discipline		**Communication techniques based on the use of it in medicine**	
Persons in charge of the discipline		**Chiriac Tatiana, lecturer** **Dobrovolschi Veronica, lecturer**	
Year	**I**	Semester/Semesters	**I**
Total number of hours, including:			**30**
Lectures	**10**	Practical/laboratory hours	**10**
Seminars	**-**	Self-training	**10**
Form of assessment	**E**	Number of credits	**1**

III. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline study the student will be able to:

- ***at the level of knowledge and understanding:***

- To acquire basic knowledge in the field of IT-based communication in healthcare.
- To develop skills in the use of electronic communication techniques in healthcare.
- To acquire basic knowledge regarding the practical use of IT networks and the computer.
- To be able to demonstrate basic skills in data information processing.

- ***at the application level:***

- To be able to apply the theoretical knowledges in solving of practical problems.
- To use IT technology for data collection, processing and data transfer.
– To apply knowledge of IT-based communication techniques to solve a variety of problems.

- ***at the integration level:***

- To appreciate the importance of IT-based communication technologies in the context of medical activities.
- To be aware of the need of continuously assimilation of new knowledge in the field.
- To appreciate that role of IT-based communication technologies as a dynamic field rooted in many fields of sciences.

IV. PROVISIONAL TERMS AND CONDITIONS

The first year students have to know the following:
– knowledge of the language of instruction;
– confirmed competencies in sciences that are studied at high school level (basic computer knowledge);
– digital skills (internet use, processing of documents, electronic tables and presentations);
– ability to communicate and work in a team;
– Qualities - tolerance, autonomy, responsibility.

V. THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-trening

Nr. d/o	THEME	Number of hours		
		Lectures	laboratory hours	self-training
1.	Healthcare system introduction. Technology as a catalyst for health enhancement.	1		
2.	Health information exchange. Universal data standards. Healthcare information exchange.	1		
3.	IT-based communication in healthcare.	1		1

Nr. d/o	THEME	Number of hours		
		Lectures	laboratory hours	self-training
4.	Regulations in the medical system, confidentiality and data security.	1	1	1
5.	The interaction between the patient and the doctor and electronic medical records.	1	1	1
6.	The first concluding test	1	1	1
7.	Electronic Communication in Health Care	1	1	1
8.	Role of Wireless Communication in Healthcare System to Cater Disaster Situations Under 6G Vision	1	1	1
9.	Communication Systems in Healthcare	1	1	1
10.	Information and communication technology and the future of healthcare.	1	1	1
11.	The role of Information and Communication Technologies in Healthcare: Taxonomies, Perspectives, and Challenges		1	1
12.	The human factor in the implementation of IT-based communication technologies in medicine.		1	1
13.	The second concluding test.		1	
Total		**10**	**10**	**10**

VI. PRACTICAL TOOLS PURCHASED AT THE END OF THE COURSE

VII. OBJECTIVES AND CONTENT UNITS

Objectives	Content units
Theme 1. IT-based communication in healthcare.	
• To define existing medical systems. • To know the information and communication technologies applied currently in medicine. • To demonstrate skills in using IT-based communication techniques in healthcare.	Healthcare system introduction. Technology as a catalyst for health enhancement.
	Health information exchange. Universal data standards. Healthcare information exchange.
	IT-based communication in healthcare.
	Regulations in the medical system, confidentiality and data security.

Objectives	Content units
	The interaction between the patient and the doctor and electronic medical records.
Theme 2. The role of Information and Communication Technologies in Healthcare	
• To define the role of information and communication technologies in healthcare. • To know the electronic communication methods currently applied in medical systems. • To demonstrate skills in the use of systems of computer communication in medicine.	1. Electronic Communication in Health Care
	2. Role of Wireless Communication in Healthcare System to Cater Disaster Situations Under 6G Vision
	3. Information and communication technology and the future of healthcare.
	4. The role of Information and Communication Technologies in Healthcare: Taxonomies, Perspectives, and Challenges
	5. The human factor in the implementation of IT-based communication technologies in medicine.

VIII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY FINALITIES

✓ **Professional (specific) (SC) competences**

- CP1 Culture, ethics and values.Responsible execution of professional tasks with the application of the values and norms of professional ethics, as well as the compliances of available laws.
- CP2. – Professional teamwork efficiency. Carrying out the activities and exercising the specific roles of teamwork in various medical institutions. Promoting the spirit of initiative, dialogue, cooperation, positive attitude and respect towards others, empathy, altruism and continuous improvement of one's own activity.

✓ **Transversal competences (TC)**

- CT1. – Effective communication. Ability to understand written/spoken texts, to express concepts, thoughts, feelings, facts and opinions both orally and in written form (listening, speaking, reading and writing) and to interact linguistically in an appropriate way and creatively in a full range of social and cultural contexts.

✓ **Study finalities**

- To be able to assess the place and role of IT-based communication techniques in the training of medical students.
- To be able to apply specialized software to the medical field regarding IT-based communication techniques.
- To be competent to use the knowledge and methodology of computerized data transfer in medical practice;
- To be competent in finding, structuring and synthesizing information with the application of IT-based communication techniques.
- To be able to implement the gained knowledges in medical and scientific research.

• To be competent to use critically and reliably the scientific information obtained using new information and communication technologies.

Note. Discipline finatities (are deduced from the professional competences and the formative valences of the informational content of the discipline).

IX. STUDENT'S SELF-TRENING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with information sources and applying the studied software	Each student will receive at the beginning of the semester a list of tasks to complete, which the student will have to solve by the end of the semester. The list will contain tasks for the course topics and practical work. For each topic, there will be a detailed description of the tasks to be performed by the student, so the student will have no ambiguities in performing the tasks. In order to complete the tasks the student will have to: study the topic of the lecture or the material from the textbook on the respective topic; to learn about the sources further information on this topic; to select the source of additional information on the respective topic; to read the entire text carefully and write the essential content; to solve the problems based on the studied topics; to have practical skills for using the software studied in the practical work.	Ability to extract the essential; interpretive skills; Skills of task analysis and working with the use of the studied software; ability to apply and correct manipulation of the studied software, with the application of the fundamental notions from different studied topics; ability to understand and apply information techniques in other disciplines studied.	During the semester
2.	Preparation of presentations,	Selecting the research topic, establishing the plan and the deadline. Establishing the components of the PowerPoint	The volume of work, the degree of understanding of the essence of the project theme, the level	By the end of the semester

	posters and papers	presentation project, poster or paper - theme, purpose, results, conclusions, practical applications, and bibliography.	of scientific argumentation, the quality of conclusions, elements of creativity, the formation of personal attitude, coherence of exposition and scientific correctness, graphic presentation.	

X. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

✓ ***Teaching and learning methods used***

Discipline IT-based communication in healthcare is an optional subject and it is studied in accordance with the classical university standard: lectures and practical hours. The course holders using the Moodle platform gives the lectures. At the practical hours, students are learning how to work with different apps and software used in IT-based communication techniques. Due to this, students are able to apply in practice under his own coordination the theoretical notions acquired.

✓ ***Applied*** *(specific to the discipline)* ***teaching strategies / technologies***

– Use of IT-based communication techniques in healthcare;
– Finding, structuring and synthesizing information on the role of IT-based communication techniques in healthcare;
– Transfer of medical information through IT-based communication techniques;
– Understanding the role of IT technologies and communication techniques applied in the healthcare field.
– Knowledge of the information exchange procedures applied in the medical fields.
– Application of universal data transfer standards.

Methods of assessment *(including the method of final mark calculation)*

Current: frontal and / or individual control through:

- applying computerized tests,
- solving exercises.

Final*:* Exam.

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	**2**	**F**
3,01-4,99	**4**	**FX**
5,00	**5**	**E**
5,01-5,50	**5,5**	

5,51-6,0	**6**	
6,01-6,50	**6,5**	**D**
6,51-7,00	**7**	
7,01-7,50	**7,5**	**C**
7,51-8,00	**8**	
8,01-8,50	**8,5**	**B**
8,51-9,00	**9**	
9,01-9,50	**9,5**	**A**
9,51-10,0	**10**	

The average annual mark and the marks of all stages of final examination (computer assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in number with two decimals, which is transferred to student's record-book.

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations in the failed exam.

XI. RECOMMENDED LITERATURE:

A. Compulsory :

1. Biomedical Informatics. Computer Applications in Health Care and Biomedicine (Health Informatics). Edward H. Shortliffe, James J. Cimino, third edition 2006.

B. Additional

1. Hospital-Based Emergency Care: At the Breaking Point. Committee on the Future of Emergency Care in the United States Health System. Institute of medicine of the National Academies.
2. Information and Communication Technologies in Healthcare. Stephan Jones and Frank M. Groom.