Educational Institution "Royal Metropolitan University"
department "Morphological and Fundamental disciplines"

SYLLABUS

in the discipline **"Clinical Pharmacology"**
for students of specialty 560004 "Dentistry"

Form of study	full-time
Course	3
Semester	6
Zachet	6
Total credits according to the curriculum	1
Total hours according to the curriculum	30
Lectures	9
Practical classes	9

Syllabus developer:
PhD Ermekova D.U.

Reviewed and approved at a meeting of the department of "Morphological and Fundamental disciplines"
Protocol No. 1 from "9" September 2024.
Head of the department PhD Jalilova A.A.

(signature)

Bishkek 2024

Teacher: Ermekova Dinara
тел: +996708910812 (WhatsApp)
e- mail: dinermekova@mail.ru

Name and complexity of the discipline.

Course	Semester	Weeks	Total academic hours		Number of hours for independent work		Total hours	Number of modules
			Lecture	Practical classes	SIW	SIWT		
3	6	6	6	12	6	6	30	1

Annotation of subject

Clinical Pharmacology - is an academic discipline containing systematized scientific knowledge and methods for studying practical use of drags in the treatment of human's diseases, taking into account the etiology, pathogenesis, clinical course, the presence of exacerbations and further prognosis.

The study of clinical pharmacology is important because drugs are an integral part of modern healthcare and have the potential to improve the lives of patients. However, drugs can also have adverse effects and may not be effective for all individuals. A deep understanding of the actions and effects of drugs in humans is essential for optimizing their use and minimizing their potential risks. Clinical pharmacology plays a critical role in the understanding of the pharmacokinetic and pharmacodynamic properties of drugs and how these properties relate to their therapeutic effects. This knowledge is used to predict and optimize the therapeutic efficacy and safety of drugs in humans and to identify and characterize the adverse effects of drugs.

Goal: Students are to obtain knowledge in the area of clinical pharmacology and become able to choose rational treatment in different clinical situations with regard for specifics of their future practical work.

The tasks of studying the discipline are to acquire and understand the knowledge of:

- the general principles of drug therapy of the main pathological processes and their individual manifestations;
- the basic principles of the choice of effective and safe medicines, taking into account the peculiarities of their pharmacokinetics and pharmacodynamics, possible side effects and additional factors affecting the effectiveness of treatment.

Place of discipline in the structure of the specialist' subjects:

To successful study this course, student must know: anatomy, normal and pathological physiology, microbiology, biological chemistry, the initial foundations of internal diseases, therapy, and basic pharmacology.

Based on the knowledge gained in the study of "Clinical Pharmacology", students will apply the acquired knowledge in the study of the following disciplines: surgery, oncology, occupational diseases, public health, dermatovenerology, infectious diseases, outpatient therapy, family medicine, obstetrics and gynecology, reanimation, intensive care and emergency care.

After studying the discipline, the student should

know:

- P-drugs choosing algorithm.
- Main clinical and pharmacological approaches to drugs choosing in different internal diseases for individual patients in concrete clinical situations.
- Peculiarities of rational drug choosing in special situations as pregnancy, breast-feeding, elderly age etc.
- Classification of adverse reactions.

be able to:

- Make choosing of the rational treatment for the patients with different internal diseases accordingly to P-drugs choosing algorithm;
- Recognize and diagnose side-effects of drugs on the base of clinical and laboratory findings, treat them and prevent them; have skills
- Consult, inform, warn a patient about prescribed treatment;
- Be able to make monitoring of treatment;
- Demonstrate and present a patient on clinical consultation, rounds, conference.

List of the planned training subject results compared with the planned results of mastering general program.

The study of this educational discipline is directed to the formation of the following general cultural (GC), general professional (GP) and professional (PC) competencies in students:

Code	Content of competence	As a result of studying the discipline, students should:
PC-1	able to analyze socially significant problems and processes, to use in practice the methods	**To know:** socially significant problems in pharmacology and ready to analyze them and processes, use methods of natural sciences, mathematics and humanities in various types of professional and social activities;

	of the humanities, natural sciences, biomedical and clinical sciences in various types of professional and social activities.	**Be able to**: is able to analysis socially significant problems and processes, understand the connection between natural and fundamental disciplines for further development of clinical disciplines, understand the essence and social significance of the future profession; **To master:** use in practice the methods of humanities, natural sciences, biomedical and clinical sciences in various types of professional and social activities.
PC-26	Ability and willingness to conduct scientific research in the field of pharmacology, clinical pharmacology	**To know:** classification and characteristics of the main groups of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs; species dosage forms, doses of individual drugs, pharmaceutical and pharmacological incompatibility; **Be able to**: distinguish between the concepts of dosage form, medicinal substance, medicinal product, medicinal product, medicinal substances, biological active development (BAA) for digestion, homeopathic remedy; - analyze the effects of drugs to detect them pharmacological properties and the possibility of their use for therapeutic treatment; **To master:** collection, retrieval of information for medical purposes, use computer systems in medicine and healthcare.
PC-33	capable of working with medical and technical equipment, used in working with patients, be proficient in computer technology, obtain information from various sources, work with information in global computer networks, apply possibilities of modern information technologies for Solving professional problems.	**To know:** basic principles of laboratory and instrumental research used forassessment of the effectiveness and safety of drugs in practice, pharmacokinetic and pharmacogenetic parameters, assessment of drug interactions **Be able to**: use technical documentation when mastering laboratory and instrumental methods research; observe safety precautions when conducting research **To master:** skills for differentiated selection of laboratory and instrumental methods for assessing effectiveness and safety of drugs taking into account the principles of evidence-based medicine; skills of monitoring laboratory and instrumental studies when assessing the effectiveness and drug safety.

Compliance of LO with assessment methods and teaching methods

	LO	Teaching methods	Assessment methods

1 2	**LO1** - able to use basic knowledge of humanities, natural sciences, economics in professional activities. **LO4** - able to master and use information resources, computer equipment, medical devices for the solution of professional objectives.	1. Educational and role-playing. 2. Imitation and business games. 3. Individual work of the student. 4. Interactive learning	1. Oral survey 2. Blank test control. 3. Checking the completion of written homework. 4. Evaluation of tests. 5. Evaluation of the performance of abstracts and presentations. 6. Computer testing

Contents of the academic discipline

№	Module and topic №	Number of academic hours			Independent work
		total	Auditorium work		
			Lectures	Practical	
8th semester					
Module №1					
1.	Topic 1: Introduction to Clinical pharmacology. Pharmacotherapy	6	2	2	2
2.	Topic 2: Clinical pharmacokinetics and pharmacodynamics of drugs	4	2	2	
3.	Topic 3: Side effects medicines. Pharmacovigilance.	2	2		
4.	Topic 4: Interaction medicines, evaluation interactions.	2		2	
5.	Topic 5: Principles of rational use of drugs.	2		2	
6.	Topic 6: Clinical pharmacology medicines, used for arterial hypertension and principles of rational use antihypertensive funds				2

№	Module and topic №	Number of academic hours			Independent work
		total	Auditorium work		
			Lectures	Practical	
7.	Topic 7: Clinical pharmacology Local anesthetics. Features of application in dentistry.	4		2	2
8.	Topic 8: Clinical pharmacology medicines, used for bronchial obstruction	4			2
9.	Topic 9: Clinical pharmacology of drugs used for violations hemostasis. Clinical pharmacology anti-inflammatory and antiallergic funds.	2			2
10.	Topic 10: Clinical pharmacology antibacterial agents.	2			
11.	Topic 11: Current control	2		2	

Methodological recommendations for preparing for practical classes.

Practical classes are held after lectures and are explanatory, generalizing and reinforcing in nature. They can be carried out not only in the classroom, but also outside the educational institution.

During practical classes, students perceive and comprehend new educational material. Practical classes are systematic, regularly following each lecture or two or three lectures.

Practical classes are carried out according to the schedule of the educational process and independent work of students in the disciplines.

When preparing for practical classes, it is necessary to study in advance the methodological recommendations for its implementation. Pay attention to the purpose of the lesson, the main questions to prepare for the lesson, and the content of the topic of the lesson.

Before each practical lesson, the student studies the seminar lesson plan with a list of topics and questions, a list of references and homework on the material presented at the seminar. The following scheme of preparation for the seminar lesson is recommended for the student:

1. work through lecture notes;
2. read the basic and additional literature recommended for the section being studied;
3. answer the questions of the seminar lesson plan;
4. study the topic and select literature for writing abstracts, reports, etc.

Didactic materials for current, stage-by-stage and final control:

- questions for preparing for the module, for the test, for the exam

1. Rational use of drugs. WHO programs on rational use of drugs. Its role for clinical pharmacology

2. P drug conception. Benefits of his use.
3. Tasks of clinical pharmacology**.** General principles of drug therapy. WHO programs on rational use of drugs. The risk factors.
4. Criteria for selection of Personal drugs (efficacy, safety, suitability, cost)
5. Information, instruction and warning principles for patient. Its role for the rational pharmacotherapy
6. Subject, aim and tasks of clinical pharmacology. Subject, goal and tasks of clinical pharmacology.
7. Clinical pharmacokinetics, goals and objectives, the value for clinical practice.
8. The practical significance of the basic pharmacokinetic parameters: maximum concentration, total clearance, volume of distribution, half-life, area under the curve, concentration-time bioavailability.
9. Factors influencing the concentration of drug in plasma. The concept of chemical, biological and therapeutic equivalence of drugs. The main pharmacokinetics parameters used in the bioequivalence study of drugs. The reasons for the nonequivalence of therapeutic drugs.
10. Factors influencing the distribution of drugs. The value of a binding of drugs with plasma proteins. Free and bound fraction of the drug.
11. Factors affecting metabolism and excretion of drugs from the body. Practical value of parameters like half-life, renal and hepatic clearance, to determine the dosing regimen of drugs.
12. Clinical pharmacodynamics, goals and objectives, the value for clinical practice.
13. The action of drugs at a single and course application. The dependence between concentration and effect. The value of the parameters of therapeutic latitude and therapeutic index for rational pharmacotherapy.
14. Clinical-pharmacological approaches to the rational combination of drugs to improve the efficacy and safety of drug therapy.
15. The principles of rational combination of drugs. The interactions of drugs. The basis of mechanisms of the effect of single drugs on the pharmacokinetics and/or pharmacodynamics of other drugs.
16. The factors that increase the risk of negative drug interactions: patient age, comorbidities, polypharmacy, pharmacogenetic factors, etc., their prediction, prevention and correction.
17. Drug interactions: additive, synergistic, antagonistic. Drug-food interactions.
18. Predictable and unpredictable interaction of drugs.
19. Mechanisms of development of side effects of drug interaction. Minimizing the risk of undesirable drugs interactions. Route of administration, dosing regimen, duration of treatment and mode of abolition of drugs based on their interaction.
20. The interaction of drugs with food, alcohol, drugs, and nicotine. The value of the personal preferences of the patient (the use of herbal remedies, dietary supplements, etc.) to prevent side effects.
21. Information, instruction, warning the patient about the drug interaction, their implications for rational pharmacotherapy.
22. The concept of side effects. Modern problems of pharmacovigilance.

23. Classification of side effects. The factors that determine the origin, nature, form, severity, outcome of side effects.
24. Predictable and unpredictable side effects. The reasons for the development of side effects dependent on drugs and from the patient.
25. Toxicity of drugs and its manifestations (neuro-, hepato-, and nephrotoxicity, haemato-, cardiotoxicity, etc.).
26. Methods of detection and monitoring of side effects.
27. Clinical pharmacology of drugs used in anxiety disorders (general characteristic, interactions, side effects)
28. Clinical pharmacology of drugs used in sleeping disorders (general characteristic, interactions, side effects)
29. Prediction, prevention, diagnosis and correction of adverse reactions. Precautions while taking psychotropic drugs.
30. Clinical pharmacology of drugs used in anxiety disorders (general characteristic, interactions, side effects)
31. Clinical - pharmacological approaches to the selection of drugs for reduction and relief of pain in different clinical forms (acute and chronic) and severity (minor, moderate intensity, unbearable).
32. Defining the purpose of treatment. Principles for selection of analgesic drugs for relief of pain syndrome of different origin (postoperative, traumatic, musculoskeletal, articular, neuralgic pain, headache; in the terminal stage of neoplastic disease, the pain caused by spasm of smooth muscle organs, etc.).
33. Side effects of analgesics, their prediction, prevention and correction.
34. Information, instruction and warning of patients about the drugs used in pain syndrome.
35. Clinical-pharmacological approaches to the choice of appropriate drugs for the treatment of inflammatory diseases.
36. Non-steroidal anti-inflammatory drugs (NSAIDs). Comparative characteristics of the drugs side effects, interaction with drugs from other pharmacological groups, food and alcohol.
37. Rational use of gold preparations and cytostatics for the treatment of inflammatory diseases. Comparative characteristics of drugs, indication for use, side effects, interaction with drugs of other pharmacological groups, food and alcohol
38. Purpose, tactics and basic principles of treatment of inflammatory diseases depending on the stage and location of the inflammatory process.
39. Control the efficacy and safety of anti-inflammatory therapy: methods, timing and criteria. Safety assessment of anti-inflammatory drugs. Prediction, prevention, and treatment side effects of anti-inflammatory therapy.
40. Information, instruction and caution patients on the use of anti-inflammatory drugs.
41. Clinical-pharmacological approaches to the selection of drugs used in iron-deficiency anemia.
42. Define the purpose and tactics of treatment of iron deficiency anemia. The choice of optimal routes of administration and duration of drug therapy with iron medications.
43. One-component iron preparations: comparison, drug interactions with other pharmacological agents and food.

44. Combined iron preparations: comparison, interaction with other pharmacological agents, food.
45. Criteria for evaluating the effectiveness and safety of the treatment with iron preparations.
46. Prediction, prevention, and correction of the possible side effects of drugs used for the treatment of iron deficiency anemia.
47. Information, instruction and caution patients on the use of drugs used for the treatment of iron deficiency anemia.
48. Clinical pharmacology of drugs used in diabetes mellitus I type (insulin preparations), efficacy, safety, and suitability.
49. Clinical pharmacology of drugs used in diabetes mellitus II type (oral hypoglycemic drugs), safety, efficacy and suitaibility.
50. Clinical pharmacology of drugs used in bronchial asthma. Efficacy, safety and suitability of adrenergic agents for the treatments of BA
51. Clinical pharmacology of drugs used in bronchial asthma. Efficacy, safety and suitability of corticosteroids for the prophylaxis of BA
52. Clinical pharmacology of drugs used in bronchial asthma. General characteristics of drugs.
53. The main pharmacological groups of broncholytics, mechanism of action, therapeutic use, adverse reactions, contraindications. Rational drug choosing in COPD.
54. Clinical pharmacology of drugs used in community-acquired pneumonia. Definition of aim and tactics of treatment depending on pathogen (P-group, P-drug)
55. Clinical pharmacology of drugs used in arterial hypertension. Efficacy, safety and suitability of Diuretics and B-blockers in the treatment of arterial hypertension.
56. The principles of rational combination of drugs for antihypertensive therapy. Treatment strategies and choice of drugs in hypertension.
57. Clinical pharmacology of drugs used in arterial hypertension. Efficacy, safety and suitability of ACE inhibitors and Ca channel blockers in the treatment of arterial hypertension
58. The principles of rational combination of drugs for antihypertensive therapy.
59. Clinical pharmacology of drugs used in the treatment of coronary heart disease. Efficacy, safety and suitability of Nitrates and B-blockers in the treatment CHD. Information, instruction and warning.
60. Clinical pharmacology of drugs used in the treatment of congestive heart failure. Efficacy, safety and suitability of Glycosides in the treatment CHD. Information, instruction and warning.
61. Clinical pharmacology of drugs used in the treatment of congestive heart failure. Efficacy, safety and suitability of ACE inhibitors and ARB in the treatment CHD. Information, instruction and warning.
62. Clinical pharmacology of drugs used in the treatment of congestive heart failure. Efficacy, safety and suitability of Diuretics and B blockers in the treatment CHD. Information, instruction and warning.
63. Glycosides: Clinical pharmacology of drugs used in the treatment of congestive heart failure. Efficacy, safety and suitability. Information, instruction and warning.
64. Defining of treatment duration and dosage principles with hormonal contraceptives considering pharmacokinetic characteristics of drugs

65. Penicillins, comparing characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage
66. Cephalosporins, comparing characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage
67. Macrolides, comparing characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage.
68. Aminoglicosides, comparing characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage.
69. Carbapenems, comparing characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage.
70. Tetracyclines, comparing characteristics between drugs, indication for use, drug interaction, side effects.
71. Chloramfenicol, general characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage.
72. Lincosamides, common characteristics between drugs, indication for use, drug interaction, side effects. Pediatric usage.
73. Fluoroquinolones, common and comparative characteristics between drugs, indication for use, drug interaction, side effects.
74. Clinical pharmacology of drugs used in Peptic Ulcer disease. Definition of aim and tactics of treatment (P-group, P-drug)
75. Clinical pharmacology of drugs used in Thyroid gland diseases. Definition of aim and tactics of treatment (P-group, P-drug)
76. FDA pregnancy categories (A,B,C,D,X)
77. Clinical pharmacology of drugs used in eclampsia and pre-eclampsia Definition of aim and tactics of treatment (P-group, P-drug)
78. Clinical pharmacology of drugs used in urinary tract infection. Definition of aim and tactics of treatment depending on type of infection (P-group, P-drug)
79. Surgical site infection. Perioperational antimicrobial prophylaxis. Aims and tactics of prophylaxis in different localization.
80. Clinical pharmacology of drugs used in community-acquired pneumonia. Definition of aim and tactics of treatment depending on pathogen (P-group, P-drug)
81. Resistance to antimicrobial therapy. Mechanism of resistance.
82. Clinical pharmacology of anthelmintic drugs. Definition of aim and tactics of treatment (P-group, P-drug).
83. Sedative drugs: Pharmacodynamic, pharmacokinetics. Usual Dose. Main Effects. Indications, contraindications. Side Effects. Interactions.
84. Clinical pharmacology of drugs used in protozoal infections.
85. Antimalarial Drugs: General characteristic, pharmacodynamics, pharmacokinetics. Classification. Usual Dose. Main Effects. Indications, contraindications. Side Effects. Interactions.
86. Antiviral drugs. General characteristic, pharmacodynamics, pharmacokinetics. Classification. Usual Dose. Main Effects. Indications, contraindications. Side Effects. Interactions.
87. Classification of anti fungal drugs. General characteristic, pharmacodynamics, p
h
a
r

Side Effects. Interactions.

88. Treatments for rheumatoid arthritis (goals). General characteristic, pharmacodynamics, pharmacokinetics. Classification.

89. Treatments for **GOUT.** General characteristic, pharmacodynamics, pharmacokinetics. Classification.

90. Medicamentous treatment in elderly age. Pharmacokinetics in the elderly. Pharmacodynamics in the elderly.

91. Polypharmacy in elderly age. Drugs adverse reactions and contraindications in elderly age. Considerations for effective treatment in the elderly.

92.

93. Clinical pharmacology of drugs used in pregnancy, breast-feeding and pediatrics.

94. FDA pregnancy categories (A,B,C,D,X).

95. Clinical pharmacology of glucocorticosteroids (GCSs).

96. Characteristics of an "Ideal" Hypnotic.

97. Clinical pharmacology of drugs used in sleeping disorders (general characteristic, interactions, side effects

98. Clinical pharmacology of drugs used in Peptic Ulcer disease. Definition of aim and tactics of treatment (P-group, P-drug).

99. H_2 Blockers**,** mechanism of action, therapeutic use. Usual Dose. Indications, contraindications. Side Effects. Interactions.

100. Proton pump inhibitors: mechanism of action, therapeutic use. Usual Dose. Indications, contraindications. Side Effects. Interactions.

1. **1.10. Literature:**

1. Bertram G. Katzung, Todd W. Vanderah. LANGE Basic and Clinical Pharmacology 15th Edition (2021)
2. Lippincott Illustrated Reviews: Pharmacology (Karen Whalen) 7th Edition (2019)
3. Morris J. Brown, Pankaj Sharma, Fraz A. Mir, Peter N. Bennet. Clinical Pharmacology 12th edition (2019)

Additional:

1. Trevor A. J., Katzung B. G., Knuidering-Hall M. Pharmacology Examination and Board Review. – 12th ed.
2. Pharmacological classification of drugs with Doses and Preparations 5th edition (2014)
3. International guidelines.
4. https://www.msdmanuals.com (Professional version)
5. https://pubmed.ncbi.nlm.nih.gov

Monitoring and evaluation of learning outcomes

Each module is assessed using a 100-point system. The maximum score is 100. A student is allowed to take the final test if he has a total score in the discipline of 60 points or more.

The results of the modules are added up and the average score is displayed.

Scoring Policy	**Modul 1**	**Modul 2**
Attendance	20 points	20 points
Classroom work (activity in discussions, during oral questioning, working with a glossary, etc.)	40 points	40 points
Independent work: essay, report	20 points	20 points
Total by module (testing)	20 points	20 points
Total by discipline:	100 points	100 points

Evaluation criteria:

Criteria for assessing the practical lesson:

- an **"excellent"** grade is given to a student if he has knowledge of the discipline in the full scope of the program and comprehends the discipline sufficiently deeply; independently, in a logical sequence and exhaustively answers all questions, emphasizing the most essential, is able to analyze, compare, classify, generalize, concretize and systematize the studied material, highlight the main thing in it;
- - a **"good"** rating: the student has knowledge of the discipline almost in full of the program (there are knowledge gaps only in some sections); independently and partly with leading questions, gives complete answers to the ticket questions; does not always highlight the most significant, but at the same time does not make serious mistakes in the answers;
- - **a "satisfactory"** grade is given in cases where the student has the basic knowledge of the discipline; shows difficulty in answering independently, uses imprecise formulations; in the process of answering, errors are made regarding the substance of the questions;
  - an **"unsatisfactory"** grade is given in cases where the student has not mastered the required minimum knowledge of the subject and is unable to answer the questions on the ticket even with additional leading questions from the teacher.

Criteria for assessing the performance of laboratory work

- **A grade of "5"** is given if the student completes the work in full in compliance with the required sequence of experiments and measurements; independently and rationally installs the necessary equipment; conducts all experiments under conditions and modes that ensure correct results and conclusions are obtained; complies with the requirements of labor safety rules; correctly and accurately completes all entries, tables, graphs, and calculations in the report.
- **A "4"** rating is given if the requirements for a "5" rating are met, but two or three shortcomings were made, no more than one minor error and one shortcoming.
- **A rating of "3"** is given if the work is not completed in full, but the volume of the completed part is such that it allows you to obtain correct results and conclusions: if errors were made during the experiment and measurements**.**
- **A rating of "2"** is given if the work is not completed completely and the volume of the completed part of the work does not allow one to draw correct conclusions: if experiments, measurements, calculations, observations were carried out incorrectly**.**

Evaluation criteria for the report and presentation

№	**Criteria**	**Assessment**	Number of points

1	**Structure**	- the number of slides corresponds to the content and duration of the speech (for a 7-minute speech it is recommended to use no more than 10 slides) - presence of a title slide and a conclusion slide	till 2 points
2	**Visibility**	- Good quality illustrations, clear images, text is easy to read - means of visualization of information are used (tables, diagrams, graphs, etc.	till 4 points
3	**Design and customization**	- the design of the slides corresponds to the theme, does not interfere with the perception of the content, the same design template is used for all presentation slides.	till 2 points
4	**Content**	- the presentation reflects the main stages of the research (problem, goal, hypothesis, progress, conclusions, resources. - contains complete, understandable information on the topic of work - spelling and punctuation literacy	till 6 points
5	**Performance requirement**	- the speaker is fluent in the content, presents the material clearly and competently - the speaker answers questions and comments from the audience freely and correctly - the speaker strictly fits within the framework of the regulations	till 6 points
	Maximum score		**20 points**

Evaluation criteria for notes:

- **the "excellent"** rating is given to the student if the completeness of the use of educational material, the logic of presentation (the presence of schemes, the number of semantic connections between concepts), clarity (the presence of drawings, symbols, etc.; accuracy of execution, readability of the summary, literacy (terminological and spelling);
- **the "good**" rating is given to the student if the use of educational material is not complete, it is not sufficiently logical to present (the presence of schemes, the number of semantic connections between concepts), clarity (the presence of drawings, symbols, etc.; accuracy of execution, readability of the summary, literacy (terminological and spelling), lack of related sentences;
- **the "satisfactory**" rating is given to the student if the use of educational material is not complete, it is not sufficiently logical to present (the presence of schemes, the number of semantic connections between concepts), clarity (the presence of drawings, symbols, etc.; accuracy of execution, readability of the summary, literacy (terminological and spelling), lack of independence during compilation can be traced;
- **the "unsatisfactory"** rating is given to the student if the use of educational material is not complete, there are no schemes, the number of semantic connections between concepts, there is no clarity (presence of drawings, symbols, etc.; accuracy of

execution, readability of the summary, terminology and spelling errors, lack of independence in drafting were made.

Evaluation criteria for Crossword:

the score **"excellent"** is given to the student if the crossword fits successfully into any figure or image, all the words of the crossword correspond to the topic, the questions are clearly formulated, there are no spelling, grammatical and speech errors;

the grade **"good"** is given to the student if the crossword fits enough into any figure or image, all the words of the crossword correspond to the topic, the questions are clearly formulated, spelling, grammatical and speech errors are present;

- the **"satisfactory"** rating is given to the student if the crossword does not fit into any figure or image, not all words of the crossword correspond to the topic, the questions are not formulated clearly enough, spelling, grammatical and speech errors are present;
- the **"unsatisfactory"** rating is given to the student if the crossword puzzle is not executed or does not fit into any figure or image, most of the words of the crossword puzzle do not correspond to the topic, the questions are not clearly formulated, spelling, grammatical and speech errors are present.

Criteria for assessing test tasks

RATING SCALE 20 QUESTIONS

"5" - from 18 to 20 correct answers out of 20 test questions;
"4" - from 15 to 17 correct answers out of 20 test questions;
"3" - from 11 to 14 correct answers out of 20 test questions;
"2" - from 0 to 10 correct answers out of 20 test questions.

RATING SCALE 15 QUESTIONS

"5" - up to 10% errors on test questions;
"4" - up to 20% errors on test questions;
"3" - up to 30% errors on test questions;
"2" - more than 30% of errors on test questions.

RATING SCALE 10 QUESTIONS

"5" - from 9 to 10 correct answers out of 10 test questions;
"4" - from 7 to 8 correct answers out of 10 test questions;
"3" - from 6 to 7 correct answers out of 10 test questions;
"2" - from 0 to 5 correct answers out of 10 test questions.

Evaluation criteria for exam:

- the **"excellent"** rating is given to the student, with the number of correct answers from 90 and above;
- the **"good"** rating is given to the student, with the number of correct answers from 76 to 89;
- the **"satisfactory"** rating is given to the student, with the number of correct answers from 60 to 75;
- the **"unsatisfactory**" rating is given to the student if he gave up to 59 correct answers inclusive.

Academic discipline policy:

- compulsory attendance at classes;

- active participation of the student in practical classes;
- preliminary preparation and completion of homework;
- high-quality and timely completion of tasks under CDS;
- participation in all types of control (current, milestone, final);
- one lateness to classes and/or leaving before their end for any reason is considered as one missed lesson that cannot be restored;
- unacceptable: the use of cell phones during classes, deception and plagiarism, late submission of assignments, failure to comply with chain of command and rules of conduct.