

**Educational Institution “Royal metropolitan University”**

**Department “of Dental Disciplines”**



**SYLLABUS**

in the discipline "**STANDARD OF DIAGNOSTICS** ”

|   |           |
|---|-----------|
| Form of study                             | full-time |
| Course                                    | 5         |
| Semester                                  | 9         |
| Total credits according to the curriculum | 2         |
| Total hours according to the curriculum   | 60        |
| Lectures                                  | 18        |
| Practical classes                         | 18        |
| Independent work                          | 24        |

Syllabus developer:  
Dr Anum Shamim

Reviewed and approved at a meeting of the  
Department of Stomatology  
Protocol No. \_\_\_ from “\_\_\_” \_\_\_\_\_ 2024.  
Head of the department Mamytova A.B

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(signature)

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**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 |             |                   |
| 5      | 5        | 18    | 18                   | 18                | 12                                   | 12   | 60          | 2                 |

**Annotation of subject**

**In the 5th year of the Bachelor of Dental Surgery (BDS) program, the syllabus for “Standards of Diagnostic” typically involves advanced diagnostic methods, interpretation of results, and clinical decision-making to accurately diagnose dental and oral health conditions. Here’s an overview of the key areas often covered:**

**1. Diagnostic Techniques in Dentistry**

- **Overview of diagnostic procedures and their importance in dental practice.**
- **Types of diagnostic approaches (clinical examination, radiographic techniques, laboratory tests).**

**2. Clinical Examination and Patient History**

- **Systematic approach to taking comprehensive medical and dental history.**
- **Extraoral and intraoral examination techniques.**
- **Recognizing symptoms and signs of common and uncommon oral**

**Contents of the academic discipline • Systematic approach to taking comprehensive medical and dental history.**

- **Extraoral and intraoral examination techniques.**
- **Recognizing symptoms and signs of common and uncommon oral diseases.**

**3. Radiographic Diagnostics**

- **Types of radiographs (intraoral, extraoral, panoramic, cephalometric).**
- **Techniques for taking high-quality radiographs.**
- **Interpretation of radiographic findings (detection of caries, bone loss, cysts, tumors, impacted teeth).**

#### **4. Advanced Imaging Techniques**

- **Cone Beam Computed Tomography (CBCT) and its applications in dentistry.**
- **MRI and CT scans for complex cases.**
- **3D imaging in implant planning and orthodontics.**

#### **5. Diagnostic Aids in Periodontology**

- **Probing depths and periodontal charting.**
- **Use of diagnostic tests in periodontics (e.g., microbial tests, enzyme assays).**
- **Recognizing clinical features of periodontal diseases.**

#### **6. Diagnostic Methods in Endodontics**

- **Diagnostic tests specific to endodontics (e.g., pulp vitality tests).**
- **Radiographic assessment for periapical lesions.**
- **Identification of complex root canal anatomies.**

#### **7. Diagnostic Standards for Oral Pathology**

- **Recognizing and diagnosing oral lesions and tumors.**
- **Biopsy techniques and histopathological examination.**
- **Immunohistochemistry and molecular diagnostic techniques in oral pathology.**

#### **8. Laboratory Diagnostic Tests**

- **Blood tests and their role in diagnosing systemic conditions affecting oral health.**
- **Salivary diagnostics and their applications in detecting diseases.**
- **Microbiological tests for infections and conditions like candidiasis, herpes, etc.**

#### **9. Diagnostic Criteria for Oral Cancer and Premalignant Conditions**

- **Clinical features of premalignant lesions (leukoplakia, erythroplakia).**
- **Oral cancer screening techniques and diagnostic markers.**
- **Role of imaging and biopsy in oral cancer diagnosis.**

#### **10. Temporomandibular Joint (TMJ) Diagnostics**

- **Diagnostic procedures for TMJ disorders (clinical examination, imaging).**
- **Use of MRI and CBCT for TMJ assessment.**
- **Differentiating TMJ disorders from other orofacial pain conditions.**

#### **11. Diagnosis in Pediatric Dentistry**

- **Diagnostic approach for pediatric patients.**
- **Recognizing developmental anomalies and genetic conditions.**
- **Diagnosis of early childhood caries and preventive strategies.**

#### **12. Diagnostic Protocols for Medically Compromised Patients**

- **Modifications in diagnostic procedures for patients with systemic diseases.**
- **Evaluation of oral manifestations of systemic diseases.**
- **Identifying oral side effects of common medications in systemic disease management.**

#### **13. Clinical Case Discussions and Diagnostic Decision-Making**

- **Case-based learning to enhance diagnostic reasoning.**
- **Interpreting findings and developing a differential diagnosis.**
- **Formulating treatment plans based on diagnostic outcomes.**

#### **Practical/Clinical Components**

- **Hands-on training in clinical examination and diagnostic procedures.**
- **Radiographic interpretation and case discussions.**
- **Preparing diagnostic reports for various cases.**

#### **Recommended Resources**

- **Textbook of Oral Diagnosis by Anil Govindrao Ghom.**
- **Diagnostic Imaging in Dentistry by David MacDonald.**
- **Relevant research papers and articles on recent advancements in diagnostic methods.**

**This syllabus provides a foundation in the standards of diagnostics, preparing students to make informed clinical decisions. Specific course content may vary based on university guidelines.**

| № | Name<br>chapters and topics<br>of discipline<br>(lectures and<br>practical classes) | Auditory lessons |          |                   |                  | Total hours for classroom<br>work | Used educational<br>technologies, methods and<br>methods of teaching | Models | Forms of current and<br>border control<br>academic performance           |
|---|---|------------------|----------|-------------------|------------------|-----------------------------------|--|--------|--|
|   |   | Lectures         | Seminars | Practical lessons | Laboratory works |                                   |  |        |  |
| 1 | Introduction<br>standard of<br>diagnostics  | 2                |          | 2                 |                  | 4                                 | Lecture-<br>presentation<br><br>Practical lesson.                    |        | Oral questioning<br>with<br>reinforcement of<br>material.                |
| 2 | ADDITIONAL<br>METHODS IN THE<br>DIAGNOSIS AND<br>TREATMENT OF<br>DENTAL DISEASES    | 2                |          | 2                 |                  | 4                                 | Lecture-<br>presentation<br><br>Practical lesson.                    |        | Oral questioning<br>with<br>reinforcement of<br>material;                |
| 3 | X-RAY<br>EXAMINATION OF<br>DENTAL PATIENTS  | 2                |          | 2                 |                  | 4                                 | Lecture-<br>presentation<br><br>Practical lesson.                    |        | Oral questioning<br>with<br>reinforcement of<br>material;                |
| 4 | MODERN METHODS<br>OF X-RAY  | 2                |          | 2                 |                  | 4                                 | Lecture-<br>presentation<br><br>Practical lessons:                   |        | Oral questioning<br>with<br>reinforcement of<br>material;<br><br>Testing |

|   |  |   |  |   |  |   |   |  |  |
|---|--|---|--|---|--|---|---|--|--|
| 5 | <b>Modul #1</b>  |   |  | 2 |  | 2 | Testing by using the educational platform test.edu.kg |  | Writing control work                             |
| 6 | ONCOLOGICAL ALERTNESS IN DENTAL PATIENTS   | 2 |  | 2 |  | 4 | Lecture-presentation<br>Practical lessons.            |  | Oral questioning with reinforcement of material; |
| 7 | ADDITIONAL RESEARCH METHODS IN THE DIAGNOSIS AND TREATMENT OF ALLERGOLOGICAL DENTAL DISEASES | 2 |  | 2 |  | 4 | Lecture-presentation<br>Practical lesson:             |  | Oral questioning with reinforcement of material  |
| 8 | STUDY OF VASCULAR BED, RHEOGRAPHY, DOPPLER, POLAROGRAPHY                                     | 2 |  | 2 |  | 4 | Lecture-presentation<br>Practical lesson:             |  | Oral questioning with reinforcement of material  |
| 9 | <b>Modul #2</b><br><b>Passing credits.</b>   |   |  | 2 |  | 2 | Testing by using the educational platform test.edu.kg |  | Writing control work                             |

### **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.

### **Plan for organizing student independent work**

Thematic plan for student independent work (SWS)

*Semester 3*

| <b>Theme of SIW</b>   | <b>Task for SIW</b>         | <b>Hours</b> | <b>Literature</b>  | <b>Dead line</b> | <b>Max points</b> |
|---|-----------------------------|--------------|--|------------------|-------------------|
| STUDY OF VASCULAR BED, RHEOGRAPHY, DOPPLER, POLAROGRAPHY      | Making the a brief concept. | 3            | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1                | 10                |
| ADDITIONAL RESEARCH METHODS IN THE DIAGNOSIS AND TREATMENT OF | Making the glossary.        | 3            | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br>•<br>Diagnostic  | 2                | 10                |

|   |                            |   |  |   |    |
|---|----------------------------|---|--|---|----|
| ALLERGOLOGICAL DENTAL DISEASES  |                            |   | Imaging in Dentistry by David MacDonald.   |   |    |
| STUDY OF FUNTIONAL TEST IN DIAGNOSIS AND TREATMENT OF DENTAL DISEASES | Making a cross word. .     | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 3 | 10 |
| X-RAY EXAMINATION OF DENTAL PATIENTS                                  | Presentation.              | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1 | 10 |
| ADDITIONAL METHODS IN THE DIAGNOSIS AND TREATMENT OF DENTAL DISEASES  | Preparation of test tasks. | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1 | 10 |
| ONCOLOGICAL ALERTNESS IN DENTAL PATIENTS                              | Assay.                     | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1 | 10 |
| ADDITIONAL METHODS IN THE DIAGNOSIS AND TREATMENT OF DENTAL DISEASES  | Report.                    | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1 | 10 |
| STUDY OF VASCULAR BED, RHEOGRAPHY, DOPPLER, POLAROGRAPHY              | Makins MCQs.               | 3 | Textbook of Oral Diagnosis by Anil Govindrao Ghom.<br><br>•<br>Diagnostic Imaging in Dentistry by David MacDonald. | 1 | 10 |



## **Methodological recommendations for preparing independent work**

In studying the discipline “General and Clinical Biochemistry” the following types of independent work of students are used:

- study of theoretical material from lecture notes and recommended textbooks, educational literature, reference sources;
- independent study of some theoretical issues not covered in lectures, with writing abstracts and preparing presentations;

Students are invited to read and meaningfully analyze monographs and scientific articles on stomatology. The results of working with texts are discussed in practical classes.

To develop independent work skills, students complete assignments, independently turning to educational, reference and scientific-methodological literature. Testing the completion of assignments is carried out both in practical classes with the help of students’ oral presentations and their collective discussion, and with the help of written independent work.

**An abstract** is a brief written summary of the content of a scientific work on a given topic. This is an independent research work where the student reveals the essence of the problem under study with elements of analysis on the topic of the essay.

Presents various points of view, as well as his own views on the problems of the topic of the essay. The content of the abstract should be logical, the presentation of the material should be of a problem-thematic nature.

Requirements for writing an abstract:

The volume of the abstract can range from 9-10 printed or handwritten pages.

Main sections: table of contents (outline), introduction, main content, conclusion, bibliography.

The text of the abstract must contain the following sections:

- title page indicating: name of the university, department, topic of the abstract, full name of the author and full name of the teacher
- introduction, relevance of the topic.
- main section.
- conclusion (analysis of the results of the literature search); conclusions.
- the list of literary sources must have at least 10 bibliographic titles, including network resources.

The text part of the abstract is drawn up on a sheet of paper in the following format: indentation at the top – 2 cm; left indent – 3 cm; indentation on the right – 1.5 cm; bottom indent – 2.5 cm; text font: Times New Roman, font height – 14, space – 1.5; page numbering is at the bottom of the sheet. There is no number on the first page.

The abstract must be completed competently in compliance with the culture of presentation. There must be references to the literature used, including periodical literature for the last 5 years.

Abstract evaluation criteria:

- relevance of the research topic;
- correspondence of the content to the topic;
- depth of material elaboration;

- correctness and completeness of development of the questions posed;
- the significance of the findings for further practical activities;
- correctness and completeness of the use of literature;
- compliance of the abstract design with the standard;
- quality of communication and answers to questions when defending an abstract.

**A report** is a type of brief but informative message about the essence of the issue under consideration, various opinions about the subject being studied. In some cases, it is allowed to present the author's own point of view within the framework of thematic issues.

Requirements for the report:

The volume of the abstract should not exceed five printed pages.

A quality report has four main structural elements:

- Introduction;
- Introduction (at this stage the speaker must interest the audience, formulate the relevance and novelty of the research, emphasize the importance and purpose of the work performed.)
- The main part (it talks about the research methods used, the work done, and analyzes the results obtained);
- Conclusion (summarizing the results of the work).

The text part of the report is drawn up on a sheet of the following format:

- indentation at the top – 2 cm; left indent – 3 cm; indentation on the right – 1.5 cm; bottom indent – 2.5 cm;
- text font: Times New Roman, font height – 14, space – 1.5;
- page numbering is at the bottom of the sheet. There is no number on the first page.

Criteria for evaluation:

- timeliness of submission;
- compliance with requirements;
- depth of material elaboration;
- relevance of the content to the topic;
- correctness and completeness of use of the source.

**A crossword** is a puzzle task; its essence is to fill in intersecting rows of cells (vertically and horizontally) with words that can be solved according to the given list of definitions of the meaning of these words (questions).

Requirements for crossword design:

Crossword type – classic;

- the presence of unfilled cells in the crossword puzzle grid is not allowed;
- random letter combinations and intersections are not allowed;
- the hidden words must be nouns in the nominative case;
- two-letter words must have two intersections;
- abbreviations are not allowed;
- reductions are not allowed;
- all texts must be written legibly;
- each sheet must contain the author's surname;

- the crossword picture must be clear;
- grids of all crossword puzzles must be completed in two copies: with words filled in and only with position numbers;

Answers to the crossword puzzle are published separately, they are intended to check the correctness of the crossword puzzle solution.

**Criteria for evaluation:**

- originality of design;
- timeliness of submission;
- crossword volume;
- clarity of question formulation;
- aesthetics of work.

**References:**

**Main textbooks**

<https://www.goodreads.com/book/show/3083806-assessing-older-persons>

<https://www.goodreads.com/book/show/7785072-aging-and-the-life-course>

**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.

| <b>Scoring Policy</b>  | <b>Modul 1</b> | <b>Modul 2</b> |
|--|----------------|----------------|
| 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.

### Evaluation criteria for the report and presentation

| № | Criteria                        | Assessment  | Number of points |
|---|---------------------------------|---|------------------|
| 1 | <b>Structure</b>                | <ul style="list-style-type: none"> <li>- 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)</li> <li>- presence of a title slide and a conclusion slide</li> </ul>  | till 2 points    |
| 2 | <b>Visibility</b>               | <ul style="list-style-type: none"> <li>- Good quality illustrations, clear images, text is easy to read</li> <li>- means of visualization of information are used (tables, diagrams, graphs, etc.</li> </ul>  | till 4 points    |
| 3 | <b>Design and customization</b> | <ul style="list-style-type: none"> <li>- 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.</li> </ul>   | till 2 points    |
| 4 | <b>Content</b>                  | <ul style="list-style-type: none"> <li>- the presentation reflects the main stages of the research (problem, goal, hypothesis, progress, conclusions, resources.</li> <li>- contains complete, understandable information on the topic of work</li> <li>- spelling and punctuation literacy</li> </ul>            | till 6 points    |
| 5 | <b>Performance requirement</b>  | <ul style="list-style-type: none"> <li>- the speaker is fluent in the content, presents the material clearly and competently</li> <li>- the speaker answers questions and comments from the audience freely and correctly</li> <li>- the speaker strictly fits within the framework of the regulations</li> </ul> | till 6 points    |
|   | <b>Maximum score</b>            |   | <b>20 points</b> |

### 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.

**Help:** For advice on completing independent work (SIW/SIWT), their delivery and defense, as well as for additional information on the material covered and all other questions that arise regarding the course being taught, please contact the teacher Mon, Sat.