

Educational Institution “Royal metropolitan University”

Department “Dental disciplines ”



SYLLABUS

in the discipline " **ORTHOPEDIC DENTISTRY**"
for students of specialty **560004 “BDS”**

Form of study	full-time
Course	5
Semester	9
Exam	10
Total credits according to the curriculum	
Total hours according to the curriculum	
Lectures	18
Practical classes	270
Independent work	135

Syllabus developer:
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Reviewed and approved at a meeting of the
Department of Dental Disciplines Department
Protocol No. ___ from “ ___ ” _____ 2024.
Head of the department Mamytova A.B.

(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	9	18	18	270				2

Annotation of subject3

The "Prosthodontics" course covers the theoretical and practical aspects of restoring lost teeth and addressing functional disorders of the stomatognathic system. Students will learn methods of diagnosis, treatment planning, and care for patients with missing teeth, as well as gain proficiency in the use of various prosthodontic devices, such as crowns, bridges, implants, and dentures. Special attention is given to modern materials and technologies, including CAD/CAM systems and 3D printing, which are actively used in dentistry.

The goal of the course is to provide students with a deep understanding of the principles of prosthodontic treatment, as well as to develop practical skills in the fabrication and placement of prosthetic restorations, considering both functional and aesthetic requirements. The course also emphasizes an individualized approach to patient care and collaboration with other specialists, such as oral surgeons and orthodontists.

Upon completion of the course, students will be prepared to perform comprehensive treatments for patients with various types of tooth loss, including restoration using implants and prosthetics, and will be able to effectively apply modern technological advancements in the field of dentistry.

Purpose and objectives of the discipline.

Purpose of the discipline:

The objective of the "Prosthodontics" course is to provide students with in-depth theoretical knowledge and practical skills in diagnosing, planning, and treating disorders of the stomatognathic system related to tooth loss or functional impairment. The course focuses on mastering prosthetic techniques, including the use of modern materials and technologies such as dental implants, crowns, bridges, and removable prostheses. Additionally, the course aims to develop students' ability to apply a comprehensive approach to patient care, addressing individual needs while ensuring high-quality aesthetic and functional outcomes in treatment.

Objectives of the discipline:

1. Mastering Theoretical Foundations: Study the basic principles and methods of prosthodontic treatment for disorders of the stomatognathic system, including prosthetics, implantation, and restoration of tooth function.

2. Developing Practical Skills: Acquire skills in planning and performing various types of prosthodontic treatments (crowns, bridges, removable dentures) based on the individual needs of the patient.

3. Learning Modern Materials and Technologies: Get familiar with new materials and technological methods, such as CAD/CAM systems, 3D printing, and their applications in prosthodontics.

4. Diagnosis and Treatment Planning: Develop the ability to diagnose defects in the dental arch and create individualized treatment plans with optimal prosthodontic solutions.

5. Functional and Aesthetic Restoration: Gain expertise in balancing functional and aesthetic aspects in tooth restoration, taking into account patient preferences and clinical indications.

6. Working in an Interdisciplinary Team: Cultivate the ability to collaborate effectively with other specialists (oral surgeons, orthodontists) to ensure a comprehensive approach to patient care.

7. Preventing Complications: Learn methods for preventing potential complications associated with prosthodontic treatments and implantations, as well as rehabilitation techniques for patients after treatment.

Planned results of mastering the academic discipline

1. Knowledge:

- Mastery of the theoretical foundations of prosthodontics, including the principles of diagnosis and treatment of dental arch defects.

- Understanding the classifications of dental arch defects and the indications for using different types of prostheses.

- Knowledge of modern materials for prosthetics, their characteristics, and areas of application.

- Understanding of current technologies in prosthodontics, including CAD/CAM systems, implantology, and 3D printing.

2. Skills:

- Ability to diagnose and develop treatment plans for patients with dental arch defects.

- Skill in selecting optimal prosthodontic methods (including crowns, bridges, implants, removable prostheses) based on the clinical situation.
- Competence in performing prosthodontic procedures, including the fabrication and placement of various types of prostheses.
- Ability to work with modern technologies (e.g., CAD/CAM) in the creation and installation of prosthodontic restorations.

3. Practical Skills:

- Ability to conduct a comprehensive patient examination, including assessing the condition of the stomatognathic system and developing an individualized treatment plan.
- Skills in the fabrication, installation, and fixation of prosthetic devices.
- Competence in using the latest technologies and materials to restore lost teeth and functions.
- Practical skills in working as part of an interdisciplinary team with other specialists (such as oral surgeons and orthodontists) to achieve the best treatment outcomes.

4. Critical Thinking and Decision-Making:

- Ability to analyze clinical cases and make evidence-based decisions about treatment methods, taking functional and aesthetic requirements into account.
- Ability to identify potential complications during treatment and take measures to prevent or correct them.

5. Ethics and Professionalism:

- Mastery of ethical principles and professional communication with patients, colleagues, and other specialists.
- Ability to consider patient preferences and design treatment plans that focus on high standards of quality and safety.

6. Readiness for Independent Professional Practice:

- Ability to independently diagnose, treat, and plan care for patients with disorders of the stomatognathic system in the field of prosthodontics.
- Readiness to apply new technologies and methods in clinical practice, as well as to engage in continuous professional development in the field of prosthodontics.

Contents of the academic discipline

№	Name chapters and topics of discipline (lectures and practical classes)	Auditory lessons				Total hours for classroom work	Used educational technologies, methods and methods of teaching	Models	Forms of current and border control academic performance
		Lectures	Seminars	Practical lessons	Laboratory works				
1	Biomechanics of the masticatory system	2		6		Lecture- presentation Practical lesson.		Oral questioning with reinforcement of material.	
2	Components of the masticatory system and their components	2		6		Lecture- presentation Practical lesson.		Oral questioning with reinforcement of material; Testing	
3	The concept of articulation and occlusion	2		6		Lecture- presentation Practical lesson.		Oral questioning with reinforcement of material; Testing.	

4	Sanitation of the oral cavity before prosthetics	2		6			Lecture- presentation Practical lessons:		Oral questioning with reinforcement of material;
5	Special preparation of the oral cavity for prosthetics	2		6			Lecture- presentation Practical lessons.		Oral questioning with reinforcement of material; Testing
6	Module №1			2		2	Testing by using the educational platform test.edu.kg		Individual student survey
7	Types and classification of dentition defects	2		6			Lecture- presentation Practical lesson:		Oral questioning with reinforcement of material
8	Basic principles of tooth preparation for orthopedic structures	2		6			Lecture- presentation Practical lesson:		Oral questioning with reinforcement of material Testing

9	Types and classification of dentition defects	2		6			Lecture- presentation Practical lesson:		Oral questioning of material
10	Prosthetics with various types of single crowns	2		2		4	Lecture- presentation Practical lesson:		Oral questioning of material
11	Module №2			2		4	Testing by using the educational platform test.edu.kg		Individual student survey

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 9

Theme of SIW	Task for SIW	Hours	Litreture	Dead line	Max points
-Modern computer technologies for orthopedic treatment of dental crown defects. -CAD-CAM systems in dentistry.	Making the a brief concept.	3	Abolmasov N.G. Orthopedic Dentistry: Textbook 2020	1	10
-Features of orthopedic treatment of elderly patients with removable and fixed dentures.	Making the glossary.	3	Phantom course in orthopedic dentistry: textbook Konovalov A.P., Trezubov V.N.2003	2	10
-Problems of restoring speech function (sound production)	Making a cross word. .	3	Orthopedic dentistry. Technology of therapeutic and preventive devices: Textbook for medical	3	10

during prosthetics for patients with missing teeth.			universities Fishchev S.B., Trezubov V.N.		
Aesthetics in orthopedic dentistry.	Presentation.	3	Orthopedic dentistry: Textbook Gavrilov E.I., Trezubov V.N., Zhulev E.N.	1	10
- The problem of tooth color in orthopedic dentistry. multimedia presentations (to choose from)	Makins MCQs.	3	Abolmasov N.G. Orthopedic Dentistry: Textbook 2020	1	10
- Types of locking retainers for removable dentures, indications for use.	Assay.	3	Orthopedic dentistry. Technology of therapeutic and preventive devices: Textbook for medical universities Fishchev S.B., Trezubov V.N.	1	10
- Modern methods of denture hygiene.	Report.	3	Orthopedic dentistry: Textbook Gavrilov E.I., Trezubov V.N., Zhulev E.N.	1	10
- Denture and speech function.	Makins MCQs.	2	Phantom course in orthopedic dentistry: textbook Konovalov A.P., Trezubov V.N.2003	1	10

Methodological recommendations for preparing independent work

In studying the discipline “Orthopedic dentistry” 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 orthopedic dentistry. 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

Abolmasov N.G. Orthopedic dentistry 2020

Gavrilov E.I., Trezubov V.N., Zhulev E.N. Orthopedic dentistry

Textbooks for further reading:

Abolmasov N.G. Orthopedic dentistry 2020

Gavrilov E.I., Trezubov V.N., Zhulev E.N. Orthopedic dentistry

Konovalov A.P., Trezubov V.N. Phantom course of orthopedic dentistry: textbook Nizhny Novgorod: NGMA Publishing House 2003

Mishnev L.M., Neznanova N.Yu., Fishchev S.B., Trezubov V.N. Orthopedic dentistry. Technology of therapeutic and preventive devices: Textbook for medical universities in St. Petersburg: SpetsLit 2003

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

No	Criteria	Assessment	Number of points
1	Structure	<ul style="list-style-type: none">- 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - 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.

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.