

**MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION
OF THE REPUBLIC OF UZBEKISTAN**

**MINISTRY OF HEALTH
OF THE REPUBLIC OF UZBEKISTAN**

TASHKENT STATE MEDICAL UNIVERSITY

	 <p>"APPROVED" Vice-Rector for Academic Affairs of Tashkent State Medical University K.N. Kharov</p> <p style="text-align: right;">20__</p>
--	--

SYLLABUS FOR FACULTY ORTHOPEDIC DENTISTRY 1

SUBJECT
For full-time study

Field of knowledge:	900 000	- Healthcare and Social Welfare
Field of education:	910 000	- Healthcare
Educational programs:	60910100	- Dentistry <i>(by specializations)</i>

SUBJECT SYLLABUS

Faculty _____

Dentistry 1 educational program

Subject name:	Faculty Orthopedic Dentistry 1
Subject type:	Compulsory
Subject code:	15606
Year:	2025-2026
Semester:	5-6
Form of education:	Full-time
Types of classes and hours allocated per semester:	
Lectures	18 (10 hours in 5th semester, 8 hours in 6th semester)
Practical classes	72 (35 hours in 5th semester, 37 hours in 6th semester)
Laboratory classes	90 (45 hours in 5th semester 45 hours in 6th semester)
Seminars	
Independent study	
Number of credits:	6.0 (3.0 credits in 5th semester, 3.0 credits in 6th semester)
Assessment method:	100-point scale
Language of instruction:	Uzbek, Russian

Subject objectives (SO) (the objectives of the subject are formulated in terms of its importance in training family doctors)

SO1

Prerequisite knowledge required for the subject

- 1.
- 2.
- ...

Learning outcomes (LO) (learning outcomes are formulated taking into account the professional competencies that a family doctor should possess)

In terms of knowledge:

LO1

LO2

...

In terms of skills:

LO5

LO6

...

Course Content (The topics of lectures and practical classes are designed based on the professional competencies that a family doctor should possess)

Class format: lecture (L)

- L1** Partial destruction of tooth crown. Classification of hard tissue damage. Etiology, pathogenesis, clinical presentation. International classification of dental defects, letter designation for cavity locations. Black's classification of cavities. ICDAS according to Melikevich. Types of prostheses that restore the anatomical shape of teeth.
- L2** Examination methods for tooth crown erosion. Preparation of the oral cavity for orthopedic restoration of crown defects. Classification of inlays. Veneers. Preparation criteria for inlays and veneers, specifics of clinical and laboratory stages.
- L3** Indications for treating crown defects with artificial crowns. Types of artificial crowns. Clinical requirements for artificial crowns. Rules for preparing tooth hard tissues for various crowns. Clinical and laboratory stages for different types of crowns. The importance of artificial intelligence in the production of modern artificial crowns. Possible errors and shortcomings in the preparation of artificial crowns, resulting complications, and their elimination.
- L4** Clinical presentation of complete crown loss and indications for orthopedic treatment. Classification of root-supported dentures. Preparation of the gingival area and root canal, requirements for roots. Dental prostheses used for complete crown erosion in single-rooted and multi-rooted teeth with parallel and non-parallel canals. Root-supported teeth according to Kopeykin and Bekmetov, "post and core inside the inlay," "post and core with main guide canal" and others.
- M5** Possible errors and shortcomings in the preparation of artificial crowns, inlays, veneers, and root-supported dental prostheses, complications arising from them, and their elimination.
- M6** Classification of partial defects of the dental arch and its clinical condition. Division of the dental arch into groups of independently functioning teeth. Functional load on the periodontium. Deformation of the dental arches. Disruption of aesthetic norms, speech and chewing functions. Special preparation (therapeutic, surgical, orthopedic, orthodontic) for prosthetic treatment of partial dental defects in the oral

- cavity. Methods for correcting occlusal disorders in secondary deformation of the dental arch.
- M7** Selection of abutment teeth for the fabrication of bridge prostheses. Odontoparodontogram. Formulation of diagnosis. Determination of the types of abutment and pontic (body) parts of bridge prostheses.
- M8** Methods for determining central occlusion in various groups of partial dental arch defects. Facial arch.
- M9** Clinical and laboratory stages of manufacturing soldered and cast bridge prostheses. The concept of parallelometry. Aesthetic bridge prostheses: zirconia dioxide, glass-ceramic, and combined bridge prostheses. Delivery of bridge prostheses. Errors and complications in the manufacture of bridge prostheses and their elimination. Use of intraosseous implants for fixing non-removable prostheses.

Form of training: practical training (A)

- A1** Defects of the crown portion of the tooth, their classification. Melikevich Index (TChYuPI). Types of inlays. Principles of cavity preparation for inlays, considering the influence of masticatory forces. Preparation methods and sequence.
- A2** Clinical and laboratory stages of metal inlay production. Direct and indirect methods of inlay preparation. Comparative characteristics of both methods.
- A3** Clinical and laboratory stages of manufacturing porcelain, opaque composite materials, plastic, as well as combined inlays. Comparison of aesthetic inlays with fillings. Features of veneer preparation, production stages. Raw materials used.
- A4** Indications for treating crown defects with artificial crowns. Types of artificial crowns. Clinical requirements for artificial crowns. General clinical and laboratory stages of artificial crown preparation.
- A5** Indications and contraindications for stamped metal crowns. Criteria for proper tooth preparation for an artificial crown made by the metal stamping method. Clinical and laboratory stages of stamped crown fabrication. Types of crown stamping (external, combined stamping). Laboratory lesson.
- A6** Clinical and laboratory stages of preparing cast crowns. Tooth preparation for cast crowns. Replacing wax with metal.
- A7** Specific aspects of impression taking. Morphology of the gingival sulcus, the concept of "gingival pocket." Methods of retracting the gingival sulcus, exposing the prepared margin. Techniques for double-layer impressions. Specific features of tooth preparation for metal-ceramic and metal-plastic crowns. Margin designs, their position relative to the gingiva. Margin preparation for combination crowns.
- A8** Tooth preparation for porcelain crowns. Rules for applying porcelain layers. Characteristics of laboratory stages in preparing press-ceramic crowns. Clinical and laboratory stages of preparing zirconium dioxide and plastic crowns. The importance of artificial intelligence in the preparation

of zirconium dioxide crowns. Features of color selection for aesthetic crowns. Laboratory lesson.

- A9** Trying on crowns on prepared natural teeth in the mouth. Requirements for properly prepared crowns. Final processing of metal and aesthetic crowns. Assessment of the quality of crown polishing. Cementing metal and other types of crowns and patient instructions. Possible errors and shortcomings in the clinical and laboratory stages of preparing inlays and crowns, as well as complications arising from them.
- A10** Clinical presentation of the oral cavity in cases of complete loss of the tooth crown, types of prosthetics. Requirements for roots. Classification of post and core structures. Restoration with post and core structures. Kopeykin's method of preparing post and core teeth for parallel canals with one and two roots. Direct and indirect methods of preparing post and core tooth designs. Laboratory lesson.
- A11** Methods for preparing reinforced structures for multi-root teeth with non-parallel canals: reinforced tooth according to Bekmetov, "reinforced inlay within an inlay," "reinforced tooth with main guide canal," and others. Laboratory lesson.
- A12** Types of standard posts. Direct method of fabricating mesh post structures using a set of standard anchor posts and composites for multi-root teeth with non-parallel canals. Errors and shortcomings that can occur during the clinical and laboratory stages of fabricating post structures, as well as complications arising from them.
- A13** Classification of partial defects in the dental arch and its clinical condition. Division of the dental arch into groups of independently functioning teeth. Emergence of functional and non-functional groups of teeth. Functional load on the periodontium. Deformation of dental arches. Disruption of aesthetic norms, speech, and masticatory functions. Changes in the temporomandibular joint associated with tooth loss.
- A14** Special preparation (therapeutic, surgical, orthopedic, orthodontic) for prosthetic treatment of partial defects of teeth in the oral cavity. Leveling the occlusal surface by increasing the interalveolar height. Smoothing the occlusal surface by shortening the teeth. Methods for correcting occlusal disorders in deformed dental arches.
- A15** Selection of abutment teeth for bridge prostheses fabrication. Clinical and theoretical principles for determining the number of abutment teeth during treatment with bridge prostheses (7 principles). Odontoparodontogram.
- A16** Determining centric occlusion. Determination of centric occlusion in groups 1-3 of partial dental defects and dentist's approach using various devices for centric occlusion of the remaining teeth.
- A17** Clinical and laboratory stages of fabricating soldered bridge prostheses. Types of bridge prosthesis pontics and their specific applications.

- A18** Methods of producing combined models. 3D printing of models.
- A19** Orthopedic treatment of partial tooth defects with cast bridge prostheses. The concept of parallelometry. Clinical and laboratory stages of fabricating cast bridge prostheses.
- A20** Clinical and laboratory stages of fabricating combined bridge prostheses (metal-ceramic, metal-acrylic, zirconia-ceramic). Step-by-step application of ceramic material to the metal framework. Pressing acrylic onto the metal framework. Selecting the shade of the veneering material.
- A21** Indications for press-ceramic, zirconium dioxide, and composite bridge prostheses, features of their clinical and laboratory stages. The role of artificial intelligence in the preparation of zirconium dioxide bridge prosthetics. The final laboratory stage includes color correction, glazing, processing, and fixing. Cementing of bridge prostheses.
- A22** Types of implantation. Application of intraosseous implants for fixing non-removable prostheses. Types, classifications, and components of implants.
- A23** Specific features of the clinical and laboratory stages of bridge prostheses supported by dental implants. Methods of taking impressions from dental implants.
- A24** Delivery of bridge prostheses. Errors (technical, clinical) and complications in the fabrication of bridge prostheses, their elimination. Correction of occlusal relationships. Prevention methods.

N	Independent Learning (IL)	hour
0		s
1	Methods for determining the Melikevich index. Comparative assessment of tooth defect restoration using composites and inlays.	3
2	Shaping the inlay from wax on the model.	3
3	Veneers and lumineers. Their description, classification, and application. Specifics of tooth preparation for veneers.	3
4	Types of artificial crowns and comparative characteristics of raw materials used for their preparation.	4
5	Comparative characteristics of cast and pressed metal artificial crowns and differences in their clinical and laboratory stages.	4
6	Shaping artificial coatings on wax models. Methods and criteria for tooth preparation for artificial coatings. Effect of tooth hard tissue preparation on periodontal tissue.	4
7	Morphology of the gingival margin, concepts of "gingival pocket" and "gingival sulcus." Retraction methods, techniques for creating a shoulder in the cervical area of the tooth. Types of shoulders.	4
8	CAD-CAM technology, its development, advantages and disadvantages compared to traditional methods.	4

- 9 Potential errors and shortcomings in the clinical and laboratory stages of preparing inlays and crowns, as well as resulting complications. Their prevention. 4
- 10 Classifications of partial damage to the tooth crown. Its etiology, pathogenesis, and clinical presentation. Functional characteristics of anterior incisors and posterior molars. 4
- 11 Methods of preparing post and core structures for single and multi-rooted canals. 4
- 12 Comparative characteristics of standard and custom post and core designs. Psychotherapeutic preparation of patients before orthopedic dental procedures. 4
- 13 Disruption of aesthetic norms and functions associated with tooth loss and functional changes in the periodontium and temporomandibular joint. 3
- 14 Special preparation using modern methods for restoring partial defects of the dental arch using bridge prostheses. 3
- 15 Components and classifications of bridge prostheses. Selection of abutment teeth for the fabrication of bridge prostheses. 3
- 16 Instrumental methods for determining the lower 1/3 of the face. Working with the face bow. 4
- 17 Comparative characteristics of materials used for the fabrication of bridge prostheses. 4
- 18 Methods of preparing combined models and rules for mounting them on an articulator. 4
- 19 Methods of fabricating metal bridge prostheses and their comparative evaluation. Types of parallelometers. 4
- 20 Criteria and methods for selecting tooth shade for aesthetic prostheses. 4
- 21 Specific features of fabricating aesthetic bridge prostheses. 4
- 22 Use of endosseous implants for fixed prostheses. Types, classifications, and components of dental implants. 4
- 23 Specific features of clinical and laboratory stages of implant-supported bridge prostheses. Methods of taking impressions for dental implants. 4
- 24 Methods of occlusal adjustment in the final stage of fabricating aesthetic dental prostheses. 4

No

List of practical skills

1. Wax-up of anatomical shapes of upper and lower jaw teeth.
2. Taking impressions using alginate impression material.

3. Taking impressions using silicone impression material.
4. Pouring dental stone models.
5. Preparing tooth structure for a pressed crown.
6. Preparing tooth structure for a metal-ceramic crown.
7. Preparing tooth structure for a zirconia crown.
8. Ability to fix the coating with cement.
9. Taking an impression from the root canal for a post-and-core structure.
10. Ability to fix a post-and-core structure in the root canal.

Main literature

- 1 Akbarov A.N., Khabilov N.L., Arslanov O.U., Usmonov F.K., Ziyadullaeva N.S. Fixed Dental Prosthetics, Textbook. Tashkent, 2018.
- 2 Akbarov A.N., Khabilov N.L., Arslanov O.U., Usmonov F.K., Ziyadullaeva N.S. Prosthetics with Fixed Dental Prostheses, Textbook. Tashkent, 2018.
- 3 Irsaliev Kh.I., Rakhmonov Kh.Sh., Khabilov N.L., Safarov M.T., Rakhmatullaev F.T. Propedeutics of Orthopedic Dentistry, Textbook. Tashkent, 2006.
- 4 Irsaliev Kh.I., Nigmatov R.N., Khabilov N.L. Orthopedic Dentistry, Textbook. Tashkent, 2011.

Additional literature

- 1 Paraskevich V.L. Dental Implantology, Study Guide. Kazan. 2006.
- 2 Herbert Shillingburg. Fundamentals of Fixed Prosthodontics. USA. 2012.
- 3 Abolmasov N.G., Abolmasov N.N., Bichkov V.A., Al-Hakim A. Orthopedic Dentistry, Textbook. Moscow. 2011.
- 4 Gurel G. Ceramic Veneers. Moscow. Dentist's Alphabet, 2007.
- 5 Zhulev E.N. Clinical Diagnosis and Orthopedic Treatment of Periodontal Diseases. Study Guide. N. Novgorod. 2003.
- 6 Iordanishvili A.K. Clinical Orthopedic Dentistry. Textbook. Moscow. 2007.
- 7 Lebedenko I.Yu., Erigeva V.V., Markova B.P. Guide to Practical Classes in Orthopedic Dentistry. Moscow. 2007.
- 8 Lebedenko I.Yu., Ibragimov T.I., Ryakhovsky A.N. Functional and Instrumental Research Methods in Orthopedic Dentistry. Textbook. Moscow. 2003.
- 9 Lebedenko I.Yu., Kalamkarova S.Kh. Orthopedic Dentistry: Algorithms for Diagnosis and Treatment. Textbook. Moscow. 2008.
- 10 A.I. Abdurakhmanov, O.R. Kurbanov Materials and Technologies in Orthopedic Dentistry. Textbook. Moscow. 2008.
- 11 I.V. Aristarkhov. Orthopedic Dentistry. Textbook. Moscow. 2006.
- 12 E.N. Zhulev, N.V. Kuryakina, N.E. Mitin. Orthopedic Dentistry. Phantom Course. Moscow. 2011.
- 13 Kh.A. Kalamkarov. Selected Lectures on Orthopedic Dentistry. Moscow. 2007.
- 14 Lectures on Orthopedic Dentistry. Edited by T.I. Ibragimov. Moscow. 2010.
- 15 Orthopedic Dentistry. Edited by V.N. Kopeykin, M.Z. Mirgazizov. Moscow.

2001.

- 16 V.N. Trezubov et al. Orthopedic Dentistry. Moscow. 2010.
- 17 V.N. Trezubov et al. Orthopedic Dentistry. Applied Materials Science. Textbook. Moscow. 2014.
- 18 V.N. Trezubov, A.S. Shcherbakov, L.M. Mishnev. Orthopedic Dentistry. Propedeutics and Fundamentals of the Special Course. Textbook. Moscow. 2014.

Criteria for monitoring student's academic performance in the subject Assessment criteria

100-point system	5-point system	To receive points, the student's knowledge level must meet the following requirements:
90-100	5	<ul style="list-style-type: none"> - can fully explain the essence and content of the subject; - maintain scientific accuracy and logical coherence when presenting topics in the subject, avoiding scientific errors and confusion; - have a clear understanding of the theoretical or practical significance of the subject materials; - demonstrate the ability to think independently within the framework of the subject; - provide clear and concise answers to given questions; - have well-prepared notes; - complete independent assignments fully and accurately; - master all practical skills and abilities; - apply theoretical knowledge in various situations; - use a systematic approach and maintain consistency.
70-89.9	4	<ul style="list-style-type: none"> - understand the essence and content of the subject, avoid scientific and logical confusion when presenting topics; - comprehend the practical significance of the subject content; - complete tasks and assignments given in the subject within the curriculum framework; - correctly answer questions related to the subject; - have carefully prepared notes on the subject; - fully complete independent assignments in the subject; - strive to master all practical skills and abilities;
60-69.9	3	<ul style="list-style-type: none"> - have a general understanding of the subject; - cover topics in the subject narrowly and allow some confusion in presentation; - lack fluency in expression; - provide vague and confusing answers to questions on the subject; - have poorly structured notes on the subject.

0-59.9 2

- show no preparation for classes in the subject;
- has no understanding of the subject;
- if it is evident that the text on the subject has been plagiarized from others;
- if serious errors and inconsistencies are present in the subject text;
- if questions related to the subject are not answered;
- does not know the subject.

Information about the subject instructor

Authors:

Full names of lecturers:

Akbarov A.N.
 Ziyodullayeva N.S.
 Nigmatova N.R.
 Xabilov D.N.

Full names of practical class instructors:

Ziyodullayeva N.S.
 Nigmatova N.R.
 Yarasheva N.I.
 Tillaxodjayeva M.M.
 Xabilov D.N.
 Ibragimov A.X.
 Shoahmedova K.N.
 Yuldashev O.T.

E-mail:

E-mail: nigorazstom@yandex.ru
E-mail: n.nigmatova@yandex.ru
E-mail: k_shoakhmedova90@mail.ru
E-mail: nigorazstom@yandex.ru
E-mail: n.nigmatova@yandex.ru
E-mail: k_shoakhmedova90@mail.ru
E-mail: Narizo4ka@mail.ru
E-mail: madina91@gmail.com

Organization:

TDTU

Reviewers:

Ahmedov A.A. Head of the Department of Orthopedic Dentistry and Orthodontics at SamDTU, PhD, Associate Professor
 Aliyeva N.M. Associate Professor of the Department of Propedeutics of Orthopedic Dentistry at TDTU

This Syllabus was approved by the minutes of the meeting No. ____ of the Educational and Methodological Council of TDTU dated _____ 20__.

This Syllabus was approved by the minutes of the meeting No. ____ of the Department of dated _____ 20__.

Head of the Educational and Methodological Department

Azizova F.X.

Dean of the Faculty

Murtazayev S.S.

Head of Department

Akbarov A.N.