Wrocław, 29.09.2025 r.

UNIWERSYTET MEDYCZNY
IM. PIASTÓW ŚLĄSKICH WE WROCŁAWIU

Department of Prosthetic Dentistry
26 Krakowska St., 50-425 Wrocław
Head: Associate professor Dr Edward Kijak DMD, MSc, PhD

Schedule of PRACTICAL CLASSES for III year students of Dentistry English Division 2025/2026, winter semester

Place of classes: Phantom Room no 109, Department of Dental Prosthetics, ul. Krakowska 26, 1st floor

No.	DATE	TOPIC	Student's work	Demonstration by a technician
1	02.10.	**1.A. Organization of the course.** • Discussion of the Department's rules and regulations, dividing the students into subgroups, discussing the program of exercises and lectures, presentation of the course program and introducing the safety and hygiene instructions and the rules of operating equipment and tools. **1.B. Introduction to fixed prosthetic restorations.** **Theory:** • Definition of a prosthetic crown; indications and contraindications, classification of prosthetic crowns; clinical and laboratory stages of making different crowns; general principles of tooth preparation for different types of crowns; prevention of complications during treatment; methods of securing the vital tooth after preparation; • Types of temporary crowns; methodology for creating temporary crowns; materials used for temporary crowns (individual and fabricated).	**Practical activities:** • Metal and porcelain fused to metal crowns crowns – I clinical stage. • Materials, tools, stages • Impression of the lower dental arch with silicone for temporary crown • Preparation of tooth 36 or 46 for a full metal crown with equigingival margin. • Making a temporary crown for the abutment 36 or 46 tooth. • Partial Test	
2	09.10.	**Esthetic crowns** **Theory:** • Types of preparation with margin depending on the type of crown; materials used to make porcelain-fused-to-metal crowns (PFM crowns). • Instrumentation; steps in making PFM crowns • Materials and impression methods used in constructing crowns • Sectional models	**Practical activities:** • Preparation of tooth 25 or 15 for a PFM crown; • Two-layer lower impression with silicone elastomer and casting of a sectional model. • An impression of the upper dental arch with alginate and pouring of a plaster cast. • Partial test.	*Casting of a sectional model*
3	16.10.	**Esthetic crowns- continuation** **Theory:** • Materials used for all-ceramic crowns • Preparation of the tooth for an all-ceramic crown (steps, tools) • Recording of central occlusion with maintained supporting zones	**Practical activities:** • Preparation of tooth 12 or 22 for an all-ceramic crown • Registration of the central occlusion • Mounting the casts on the articulator. • Partial test.	
4	23.10.	**Prosthetics crowns - laboratory stages of making different types of crowns** **Theory:** • Methods of shaping a wax pattern (wax dipping method, etc.). • Principles of casting used in prosthodontics – investment (refractory) materials, casting rings, sprues and sprue channels, preparation of the investment mold, methods of alloy melting and mold casting, and common casting process errors.	**Practical activities:** • Fabrication of a wax pattern for a crown on tooth 36 or 46. • Casting of a metal crown for tooth 36. • Partial test.	*Making the sprue cone and casting funnels and investing in the investment (refractory) compound.*
5	30.10.	**Prosthetic crowns - cementation** **Theory:** • Cementation of crowns - temporary and permanent cements used to set prosthetic crowns	**Practical activities:** • **Prosthetic crowns - 1st Thematic Colloquium.**	*Finishing and adjustment of cast crowns: removal of the sprue, mechanical finishing, fitting and polishing.*

6	06.11.	**Prosthetic bridges** **Theory:** • Definition; indications and contraindications; types of prosthetic bridges; materials used for prosthetic bridges; Types of pontics in prosthetic bridges, principles of bridges designing and the clinical and laboratory stages of fabricating prosthetic bridges.	**Practical activities:** • Preparation of teeth 14 and 17 for a bridge 14 vv 17: 17 for a full metal crown with equigingival margin and 14 for a PFM crown with equigingival margin. • Impression of the upper dental arch with silicone elastomer. • Pouring a sectional plaster model. • Partial test.	
7	20.11.	**Prosthetic bridges - modeling** **Theory:** • Methods of fabricating prosthetic bridges depending on the material used: monolithic and veneered bridges (investment materials, principles of casting, materials used for veneering, and techniques for bonding the veneering material to the metal coping).	**Practical activities:** • Registration of the central occlusion • Mounting the casts on the articulator. • Modeling of a full metal crown on tooth 17, metal coping for a crown on tooth 14 and a pontic. • Partial test	
8	27.11.	**Prosthetic bridges - modeling - continuation** **Theory:** • Special types of bridges - adhesive, AET - indications and contraindications, materials and methods of creating special bridges. • Luting cements for temporary and permanent prosthetic bridges; principles of bridge cementation.	**Practical activities:** • Continuation of modeling of full metal crown on tooth 17, metal coping for crown on tooth 14 and the pontic. • Prosthetic bridges - II Thematic colloquium	
9	04.12.	**Posts and cores** **Theory:** • Types of posts and cores – prefabricated and custom-made, one-piece and multi-piece; indications and contraindications. • Tooth preparation for a custom post-and-core – required instruments and the indirect and direct techniques. • Two-layer impressions – single-stage and two-stage techniques. • Principles and methods of protecting teeth prepared for a post.	**Practical activities:** • Preparation of the root of tooth 23 – shaping the supporting surface, root canal and anti-rotational chamber for fabrication of a custom post-and-core using acrylic resin. Hands-on fabrication of the posts. • Two-layer impressions – single-stage and two-stage techniques. • Partial test.	
10	11.12.	**Posts and cores- continuation** **Theory:** • Impression materials; techniques and types of impressions used in the fabrication of post-and-core. • Cements and principles of cementation of custom post-and-core.	**Practical classes**: • Preparation of the root of tooth 21 for placement of a standard fiberglass post. Insertion of the post and reconstruction of the tooth's coronal core with a standard matrix. • **Posts and cores - III Thematic colloquium**.	
11	18.12.	**Mucosa-supported partial dentures** **Theory:** • Definition of a mucosa-supported partial denture; indications and contraindications for its fabrication; clinical and laboratory stages in the fabrication of such dentures. • Impression materials; standard impression trays; custom impression trays. • Occlusion rims: definition, construction and extension. • Dental surveyor: construction, applications and principles of survey analysis. • Construction of a wrought wire clasp: materials and principles of positioning (definition and characteristics of the retentive surface). • Principles of artificial tooth arrangement in mucosa-supported partial dentures.	**Practical activities:** • Anatomical impressions, pouring of casts, fabrication of the occlusion rim. • Registration of the occlusion • Arrangement of the artificial teeth. • Partial test	
12	08.01.	**Facebows, articulators**	**Practical activities:** • Mounting the casts in the articulator • Arrangment of the artificial teeth	
13	15.01.	**Partial dentures - control of try-in dentures** **Theory:** • Methods of fabricating acrylic partial dentures; conversion of wax to acrylic – flasking and polymerization – common errors. • Finishing and adjustment of the completed dentures.	**Practical activities:** • Continuation of tooth arrangement, bending of wrought wire clasps. • Flasking and polymerization of partial dentures. • **Partial dentures- IV Thematic colloquium.**	
14	22.01.	**Thermoforming sheets** **Theory:** • Types of thermoforming sheets and materials used for their fabrication; principles of fabricating thermoforming appliances.	**Practical activities:** • Casting plaster models • Vacuum-forming sheets over plaster models	*Thermoforming sheets over plaster models*
15	29.01.	**Credit of the semester material**	• Course credit.	

Requirements for obtaining the credit:

In the event of a Rector's decision, the course credit may be obtained in a remote (online) form.

1. Positive grade from the supervising assistant in the theoretical knowledge from classes and lectures. The form of assessment (oral examination, written test or multiple-choice quiz) is at the discretion of the class instructor.
2. Positive grade for acquisition of practical skills from the supervising assistant, based on independently performed phantom (preclinical) work.
3. If the theoretical or practical material is failed twice, the student must obtain credit for this material from the Head of the Department within 14 days of the second failure.
4. Preclinical phantom work required for completion of the 3rd year (annual standard):

- **prosthetic crowns:**

- Preparation of tooth 36 or 46 for a full cast metal crown with a equigingival margin; preparation of tooth 25 or 15 for a PFM crown; fabrication of a temporary crown on the tooth 36 or 46 after preparation; preparation of tooth 12 or 22 for an all-ceramic crown; impression taking with elastomeric materials; impression taking with alginate materials; determination and registration of the occlusion; mounting the casts in the articulator; waxing (wax pattern) of the crown for tooth 36 or 46; fabrication of the sprue pin and sprue cone.

- **prosthetic bridges:**

-preparation of teeth 14 and 17 for bridge fabrication; impression of the dental arch with silicone elastomer; casting of a sectional plaster model; waxing of the crowns and the bridge pontic.

- **posts and cores:**

-preparation of the root of tooth 23 for a custom post-and-core; fabrication of the post and core in acrylic resin using the indirect technique; cementation of a standard fiberglass post and reconstruction of the coronal core using a standard matrix.

- **partial acrylic dentures:**

-knowledge of clinical and laboratory steps in the performance of partial acrylic dentures; anatomical impressions, pouring of casts, fabrication of the occlusion rim, registration of the occlusion and mounting of the casts, arrangement of the artificial teeth; knowledge of how to use a dental surveyor; principles of Construction of a wrought wire clasp.

- **thermoforming sheets:**

- casting plaster models, vacuum-forming sheets over plaster models.

5. All practical work on phantoms and phantom models is carried out individually, with one of each type performed by each student.

Obligatory literature:

1. S.F. Rosenstiel, M.F. Land & J.Fujimoto: Contemporary Fixed Prosthodontics, Mosby, 2003

2. B.G.N. Smith, L.C.Howe: Planning and Making Crowns and Bridges, Informa Healthcare, 2007

Recommended literature:

1. H.T.Shillingburg, S.Hobbo & LD Whitsett: Fundamentals of Fixed Prosthodontics, Quintessence Publishing 1997

2. Journal: Dental and Medical Problems.

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Schedule of LECTURES of Prosthetics Dentistry for III year Students of Dentistry English Division 2025/2026 - winter semester

LECTURES WILL BE PERFORMED USING DISTANCE LEARNING METHODS AND TECHNIQUES

DATE: **THURSDAY 12.30- 14.00**

Teacher: Piotr Napadłek, DMD, MSc, PhD

Data	Topic
02.10.2025	Basic and auxiliary materials used in prosthetic dentistry.
09.10.2025	General principles of designing prosthetic restorations.
16.10.2025	Posts and cores: indications, contraindications, methods of fabrication.
23.10.2025	Prosthetic crowns: indications, contraindications, classification of crowns.
30.10.2025	Prosthetic crowns: clinical and laboratory procedures.
06.11.2025	Prosthetic bridges. Indications, contraindications, principles of designing.
20.11.2025	Removable partial dentures.
27.11.2025 (godz.12.30-13.15)	Non-mucosa-supported partial dentures – skeletal dentures: structure of the denture and dental surveyor analysis.