



Educational objectives

- C1. Student should know clinical and laboratory stages in fixed dentures performing: posts, crowns and prosthetic bridges.
C2. Student should have knowledge concerning complete removable dentures performing (according to wrocławska and classical method).
C3. Student should have knowledge concerning partial removable dentures performing.

Education result for course in relation to verification methods of the intended education result and the type of class:

Number of detailed education result	Student who completes the course knows/is able to	Methods of verification of intended education results	Form of didactic class *
C.W23.	the equipment of a dentist's office and the instruments used in dental procedures	short structured questions, yes/no or matching answer tests	MC,L
C.W28.	the basic clinical procedures for dental hard tissue reconstruction and endodontic treatment as well as methods and technical and laboratory procedures for application of dental prostheses	short structured questions, yes/no or matching answer tests	MC,L
C.U12.	recreate anatomical occlusal conditions and perform occlusion analysis;	direct observation of the student demonstrating the skill during the practical assessment of individual work made individually	MC
C.U13.	design dental prostheses in accordance with the principles of their preparation in a laboratory	direct observation of the student demonstrating the skill during the practical assessment of individual work made individually	MC

* L- lecture; SE- seminar; AC- auditorium classes; MC- major classes (non-clinical); CC- clinical classes; LC- laboratory classes; CSC- classes in simulated conditions; PCP- practical classes with patient; FLC- foreign language course; PE- physical education; VP- vocational practice; DSS- directed self-study; EL- E-learning

Student's amount of work (balance of ECTS points):

Student's workload (class participation, activity, preparation, etc.)	Student Workload
1. Number of hours of direct contact:	120
2. Number of hours of distance learning:	30
3. Number of hours of student's own work:	30
4. Number of hours of directed self-study	
Total student's workload	180
ECTS points for course	6

Content of classes:

Lectures

- Basic and auxiliary materials used in prosthetic dentistry.
- General principles of designing dental restorations.
- Crown-root inlays. Indications and contraindications of the execution methods.
- Prosthetic crowns. Indications, contraindications and division of crowns.
- Prosthetic crowns. Clinical and laboratory implementation.
- Prosthetic bridges. Indications, contraindications, principles of designing.
- Removable partial dentures.
- Non-settling partial dentures - skeletal dentures. Construction of the denture, parallelometer analysis.
- Skeletal dentures - principles of design. Distribution of clamps, connectors and supports.



10. Complete dentures. Classification of a prosthetic base and clinical requirements.
11. Complete dentures - Classical and Wrocław method.
12. Repairs of the dentures
13. CAD/CAM SYSTEMS in prosthodontics
14. Biofunctional Prosthetic System
15. 3D PRINTING in prosthodontics

Classes

Winter semester

1. Prosthetics crowns

- Organizational matters: division of students into subgroups, providing the program of exercises and lectures, applicable textbooks and regulations of the exercises.
- A mandibular impression taking with the use of putty body addition silicone elastomer.
- Preparing of 36 tooth for cast all-metal crown.
- Partial Test

2. Prosthetics crowns

- Continuation of grinding of tooth 36 for crown made of metal, stepped and gingival
- Making a protective crown for the pillar of tooth 36.
- Partial Test.

3. Prosthetics crowns

- Upper alginate impression taking.
- An impression of the lower dental arch with silicone elastomer and casting of a composite model.
- An impression of the upper dental arch with alginate mass and casting of a plaster model.
- Partial Test

4. Prosthetics crowns

- Determining the occlusion
- Preparing a lower sectioned cast and mounting the working casts on the articulator.
- Partial test

5. Prosthetics crowns

- Dental technician demonstration of mandibular impression taking with the use of addition silicone elastomer prepared by putty-wash impression technique.
- Making a provisional crown for 36 tooth of wax.
- Partial test

6. Prosthetics crowns

- Preparation of a dental wax pattern to produce an all-metal crown
- Continuation of modeling crown for 36 tooth of wax making a stud and a casting cone
- Partial test

7. Prosthetics crowns

- Casting the crown of tooth 36 from metal.
- Adjustment of cast crowns (trimming the casting funnel, mechanical treatments, adjusting and polishing).
- Prosthetic crowns - I Colloquium

8. Prosthetics bridges

- Preparing of 17 and 14 teeth for a metal-ceramic bridge fabrication.
- Partial test

9. Prosthetics bridges

- Taking a silicone impression of the prepared teeth.
- Preparing a maxillary working cast./ Preparing working casts.
- Centric Relation recording (CR).
- Mounting the working casts on the articulator.

10 Prosthetics bridges



- Preparing of 17 and 14 teeth for a metal-ceramic bridge fabrication.
 - Making a provisional bridge for 17 and 14 teeth.
 - Partial test
11. **Prosthetics bridges**
- Continuation of preparing of 17 and 14 teeth for a metal-ceramic bridge fabrication
 - Continuation of making a provisional bridge for 17 and 14 teeth.
 - Prosthetics bridges- II Colloquium
12. **Posts**
- Restoration of the root canal treated 23 tooth with a prefabricated (standard) post.
 - Partial test
13. **Posts**
- Restoration of the root canal treated 23 tooth with an individual cast post and core.
 - Preparation of a pattern made of self-curing acrylic resin to produce an individual post and core
 - Partial test
14. **Posts**
- Posts- III Colloquium
15. **Credit of the subject**

Summer semester

1. **Organization classes, Description of the Wrocław and Classical method - clinical and laboratory stages.**

Clinical stage I.

- Organization of classes
- Clinical stage I - Diagnostic procedures: patient interview and examination (extra and intraoral) ; Clinical and laboratory procedures in complete dentures performing, anatomical impression, customized tray performing for edentulous maxilla and basic plate performing for edentulous mandible.
- Laboratory stage I - casting of plaster model
- Evaluation of completed work
- Partial test

2. **Laboratory stage I of Wrocław method**

- Laboratory stage I continuation - Flasking of the upper denture, functional impression of the mandible, flasking of the lower denture.
- Evaluation of completed work
- Partial test

3. **Clinical and laboratory stage II of Wrocław method**

- Clinical stage II: Review of Herbst tests for maxilla and mandible, functional impression for maxilla; Adjusting the base plate for the mandible.
- Laboratory stage II :preparing the base plate for the maxilla.
- Evaluation of completed work
- Partial test

4. **Laboratory stage II and Clinical stage III of Wrocław method**

- Laboratory stage II: preparation of occlusal checkbite/ templates for the maxilla and mandible
- Clinical stage III: determining the height of the occlusion, the color of the teeth and the orientation lines
- Evaluation of completed work
- Partial test

5. **Complete the material**

- Edentulous - I Colloquium
- Laboratory classes.

6. **Laboratory stage III - model articulation**



- Sphincters and articulators
- Theories and principles of setting artificial teeth
- Laboratory stage III - mounting of models with occlusal checkbite /templates in the articulator
- Evaluation of completed work
- Partial test

7. Laboratory stage - arrangement of teeth

- Arrangement of artificial teeth according to Gysi and flat-cusp teeth according to Wrocław method.
- Laboratory stage III - continuation of setting artificial teeth/ arrangement artificial teeth according to Gysi
- Evaluation of completed work
- Partial test

8. Laboratory stage - arrangement of teeth , Clinical stage IV-VI

- Laboratory stage III - Arrangement of artificial teeth according to Gysi
- Clinical stage IV-VI: Control of trial dentures. Establishment of the posterior palatal seal, prosthetic relief
- Evaluation of completed work
- Partial test

9. Complete the material

- Edentulous - I Colloquium
- Laboratory classes.

10. Introduction to skeletal dentures. Principles of support and skeletal prosthesis design

- Organization of classes, required textbooks
- Discussing the structure and principles of using the parallel-meter
- Denture insertion trajectory.
- Design of the periodontal support.
- Design of the upper denture plate and demonstration of the possibility of it's reduction.
- Mandibular wing prosthesis support and design of the sublingual arch.
- Parallelometric analysis of the model.
- Partial test

11. Basic principles of clamp design

- Relationship of the lateral walls of the teeth to the analyzer (inferior and superior angular surfaces, greatest convexity of the tooth, greatest convexity of the alveolar process, dental and alveolar arcade, orientation lines, first and second area of the stop teeth).
- Buckle surfaces (retentive, classic guide, active guide, passive guide, stabilizing, intermediate and insertion).
- Features of the buckle surface: length, width, depth, degree of countersinking
- Determination on a model using a parallelometer:
 - (a) the greatest intrinsic and relative convexity of the selected tooth.
 - (b) determination of the I and II area of the retaining teeth.
 - (c) Practical search and determination of the type of bracket surfaces.
- Written test

12. Basic principles of clamp design

- Classification and designing of: clamps, independent, dependent, and group clamps, major and minor connectors, rest and rest seats for the skeletal dentures.
- Design of retention, guide and stabilizing arms.
- Types of retention arms and directional attaching function of retention arms.
- Design of placement and number of clamps.
- Design of clamps for specific teeth and their arrangement on the model.
- Parallelometric analysis of the model and design of the denture.
- Written test



13. Design of a frame denture, Thermoforming sheets.
- Individual designing of frame dentures
 - Frame dentures- III Colloquium / oral form
 - Taking anatomical impressions with alginate masses on phantom models
 - Casting plaster models and pulling thermoformable sheets.

14. Thermoforming sheets
- Pressing thermoformable sheets on plaster models
 - Written test

15. Credit of the subject
- Credit of the subject

Basic 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 Healthcar 2007
3. A.B. Carr, G.P. McGinvey, D.T.Brown: McCracken's Removable Partial Prosthodontics. St. Louis: Mosby 2004

Additional literature and other materials

1. H.T.Shillingburg, S.Hobbo & LD Whitsett: Fundamentals of Fixed Prosthodontics, Quintessence Publishing 1997
2. R.G. Craig, J.M. Powers: Restorative Dental Materials. Mosby 2002
3. Hayakawa: Principles and Practices of Complete Denture. Quintessence Publ. Co Ltd.

Preliminary conditions:

Passing the exam in preclinical dentistry after the 2nd year of study .

Conditions to receive credit for the course:

Credit	Criteria for courses ending with a credit ³
	<p>By decision of the Rector, obtaining the credit for a course may performed by distance education techniques.</p> <ol style="list-style-type: none"> 1. The credit for passing the theoretical knowledge from classes and lectures with the leading assistant. Oral answer or written test. 2. Reciving a credit for practical skills from the teaching assistant according to the individually performed work on phantoms. 3. <u>Phantom works necessary for obtanining 3rd year credit (annual standard)</u> <p>prosthetic crowns:</p> <ul style="list-style-type: none"> - Grinding of tooth 36 for crown made of metal stepped and gingival ; making a protective crown for the pillar of tooth 36; taking an impression by using silicone elastomer; taking an impression by using alginate mass; determining and recording occlusion; setting models in an articulator, modeling the crown of 36 tooth from wax, making a stud and casting cone, <p>prosthetic bridges:</p> <ul style="list-style-type: none"> -preparing of 14 and 17 teeth for bridge fabrication; impression of dental arch with silicone elastomer; casting of foldable plaster model; modeling of crowns and bridge span. <p>crown and root inlays:</p> <ul style="list-style-type: none"> -working of the tooth for the crown-root inlay; modeling of the crown-root inlay with wax using the indirect method; making of a standard fiberglass inlay, reconstruction of the stump of the crown of the tooth with the help of quick-polymerizing material <p>clinical and laboratory steps in the performance of complete dentures according to the Wrocław and classic methods:</p>



	- making an customized tray; making functional impression for maxilla and mandible, rules for arrangement of artificial teeth according to Gysi and flat-topped teeth according to the Wrocław method knowledge of how to use a parallelometer principles of designing clamps pressing thermoformable sheets on the plaster models 4. All manual works on phantoms and phantom models are made individually, one of each.
Unit realizing the course:	Department of Prosthetic Dentistry
Unit address:	Krakowska st.25, 50-425 Wrocław
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Person responsible for the course:	Associate professor Dr Edward Kijak DMD, MSc, PhD
Telephone:	71 78 40 277
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List of persons conducting specific classes:

Name and surname	Degree/scientific or professional title	Discipline	Performed profession	Form of classes
Natalia Grychowska	DMD, MSc	Medical science	dentist	MC,L
Błażej Gajos	DMD	-	dentist	MC
Piotr Napadtek	DMD, PhD	Medical science	dentist	MC,L

Date of Syllabus development

07.07.2021r.

Uniwersytet Medyczny we Wrocławiu
WYDZIAŁ
LEKARSKO-STOMATOLOGICZNY
DZIEKAN

prof. dr hab. Marcin Mikulewicz

Dean's signature:

Syllabus developed by
Associate professor Dr Edward Kijak DMD, MSc, PhD
Amadeusz Kuźniarski DMD

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KATEDRA I ZAKŁAD
PROTETYKI STOMATOLOGICZNEJ
adiunkt

dr hab. n. med. Edward Kijak

Signature of Head of teaching unit