



Course: Preclinical removable prosthodontics

Course Coordinator: Vlatka Debeljak, DMD, PhD, Full Professor

Course Collaborators: Davor Vučinić, DMD; Ana Domitrović, DMD

Department: Department of Prosthodontics

Study program: University Integrated Undergraduate and Graduate Study of Dental Medicine

(in English)

Study year: 3rd

Academic year: 2024/2025

SYLLABUS

Course description (a brief description of the course, general instructions, where and in what form the lessons are organized, necessary equipment, instructions for attendance and preparation for classes, student obligations, etc.):

The Preclinical Removable Prosthodontics course is a mandatory course at the 3rd year of the Integrated Undergraduate and Graduate University Study of Dental Medicine, and consists of 30 academic hours of lectures, 15 academic hours of seminars and workshops, and 60 academic hours of preclinical exercises. The course is held in the premises of the pre-clinical training room at Krešimirova 42.

Course instructor is Vlatka Debeljak, DMD, PhD, Full Professor and associates are Davor Vučinić, DMD and Ana Domitrović DMD.

Preclinical Removable Prosthodontics course explains and teaches students about basic biomedical and technological knowledge and skills about clinical and laboratory dental work in the conventional therapy with partial and completely edentulous patients. Students, also, need to learn knowledge and skills of removable prosthodontics clinical and laboratory work, with emphasis on successful integration of that clinical and laboratory work. During the course students need to be prepared to perform clinical procedures on the real patients. Gaining knowledge and skills of this course, students perceive the complexity of prosthetic therapy that depends largely on the success of the clinical phase of the work, but also on the successfully completed laboratory phases. The Preclinical Removable Prosthodontics course is conducted continuously during the 6th semester in the form of lectures, seminars and exercises - 105 academic hours (L30 + S15 + P60). During the seminar, students actively participate in presentations and discussions related to a particular theoretical unit. During preclinical exercises, the teacher demonstrates and supervises the students in performing practical tasks. Two mandatory colloquia will be held during the class, and a written test will be held at the end of the class. By completing all teaching activities and attending mandatory colloquiums and the final exam, the student acquires 6.5 ECTS points.



Course content:

Introduction to the course, definition, purpose and scope of the profession (acquaintance with the area of work of removable prosthodontics, prosthodontics' office and laboratory of dental medicine), Clinic workplace, equipment and instruments in a prosthodontics' office. Ledge of the upper and lower complete dentures; anatomical (preliminary) impression, trays and impression materials. Construction and analysis of an anatomical models. Types of stones, borders and fabrication of the custom tray. Factors of the retention and stabilization of the complete dentures; custom tray, functional impression of the upper and lower jaws. Pouring of the functional model after functional impression. Bite rims- materials and fabrication. Vertical and horizontal relation of the upper and the lower jaw. Types of articulators, mounting of casts at ocludator, non-adjustable articulator, semiadjustable articulator, quick mount face bow, kinematic facebow- what is his purpose, what is the difference to quick mount facebow. Clinical procedure during bite recording at edentulous jaws; Occlusal plane. Setup of the teeth; basic rules; selection of the front teeth- shape, color, height, width, material, preparation of casts for teeth setup. Occlusion- difference between natural teeth and complete dentures, appearance of artificial and natural teeth (dimensions, cusps, choice of posterior teeth, materials for artificial teeth). Marking of casts and setup of posterior teeth; setup by Gysi, lingualised setup, balanced occlusion. Completion of waxing, investing, packing, pressing, polymerization, materials for processing, procedures of processing. Complications during dentures wearing, inflammation of mucosa by Newton, residual ridge resorption, relining, laboratory relining. Final lecture, reparation of denture fractures, indications for complete denture with metal base. Classification of partial edentoulism. Elements of removable partial denture and partial denture base. Elements of retention: clasps, types of clasps (material)- wire and cast clasp. Elements for retention: types of attachments, bar clasp, telescopic crowns. Elements for transfer and allocation of loading, types of occlusal rests, thickness, types of preparation for occlusal rests. Elements for stabilization of partial dentures, axis of rotation and stabilization. Parallelizing, dental parallelometer. Planning of partial denture and phases of work for different Kennedy classes- most frequent solutions and types of planning, relationship of jaws, centric relation and centric occlusion. Clinical and laboratory procedures for fabrication of partial denture with metal base. Fabrication of metal base-phases, materials, sandblasting, try in of base-further clinical procedures. Bite recording and teeth setup at partial dentures-teeth setup at laboratory, fabrication of wire clasps. Procedures of processing of partial dentures, laboratory performance. Handover of denture to patient, activation of clasps, corrections, instructions. Fabrication of partial denture with attachments- clinical and laboratory phases. Cover dentures, removable dentures on implants, telescopic system

Correlativity and correspondence:



The Preclinical Removable Prosthodontics course follows the Materials in Dental Medicine course, and it is necessary to take the Materials in Dental Medicine course first.

Approach to learning and teaching in the subject:

During the lectures, the student should follow all clinical and laboratory phases of making fixed prosthodontic restorations. At the seminars, concepts related to the production of removable prosthodontic restorations should be gradually adopted. This will ultimately lead to the integration of theoretical knowledge and practical skills that will be acquired during preclinical practicals, and train the student to work on the clinical course Mobile Prosthodontics. During the practicals, students should learn basic clinical and laboratory techniques and methods related to the production of all types of removable prosthodontic restorations.

Attending classes

Attendance at all forms of teaching is mandatory. A student may be excused for missing a total of 30% of classes. Classes are held at the prescribed time and it is not possible to enter after the teacher has entered. It is not allowed to bring food and drinks to the class and unnecessary entering/leaving the class. It is forbidden to use mobile phones during class as well as during tests. Absences from seminars and practicals must be made up in agreement with the group teacher.

Seminar paper

Seminar paper must be created using a computer (with spelling and grammar checked) and submitted first in electronic form. Only after an agreement with the assistant - group teacher will the paper be printed and/or presented publicly. Copies of other people's papers are not allowed, but the use of certain parts is allowed with proper citing the source.

Academic integrity

Respect for the principle of academic integrity is expected from both teachers and students in accordance with the Code of Ethics of the University of Rijeka (http://www.uniri.hr/hr/propisi_i_dokumenti/eticki_kodeks_svri.htm).

Contacting teachers

Contact with teachers is made in the time provided for it (consultations). Students will receive all information related to the course in the introductory lecture and will be able to find it on the bulletin board and on the website of the Department of Dental Prosthetics.

Assigned reading:

Filed J, Storey C. Removable Prosthodontics at a glance. Wiley-Blackwell. 2020.

Optional/additional reading:

Carr AB, McGivney GP, Brown DT. McCracken's Removable Partial Prosthodontics 11th ed., Elsevier Mosby, 2006.



COURSE TEACHING PLAN:

The list of lectures (with topics and descriptions):

- 1. Introduction to the course, definition, purpose and scope of the profession**
Expected learning outcomes:
Analyze the objectives of the course Preclinical removable prosthodontics.
Describe the scope of the profession of dental prosthodontics.
- 2. Complete denture overview. Ledge of the upper and lower complete dentures**
Expected learning outcomes:
Explain the procedures for the laboratory production of partial and complete dentures.
Analyze and adopt the anatomical structures of the denture base
- 3. Preliminary Edentulous Impressions, custom trays and impression materials.**
Expected learning outcomes:
Describe the choice of impression materials and impression techniques.
Differentiate the choice of technique, possible complications and procedures for preventing them.
- 4. Analyse of diagnostic casts.**
Expected learning outcomes:
Describe and explain the creation and application of models in mobile prosthetics.
Differentiate and describe types of stones, borders and fabrication of the custom tray.
- 5. Final Impressions for Complete Dentures**
Expected learning outcomes:
Describe the purpose and application of an individual tray, the choice of material for making it and methods of taking an impression.
- 6. Boxing and Pouring Final Impression**
Expected learning outcomes:
Define the specifics of the definitive model. Analyze the structures on the working model.
- 7. Recording Maxillo-mandibular Relationships**
Expected learning outcomes:
Describe the specifics and changes in relationships after tooth loss. Analyze the relationship between occlusion and temporomandibular joints.
- 8. Clinical procedure during bite recording at edentulous jaws; Occlusal plane.**
Expected learning outcomes:
Describe the methods of determining interjaw relationships, advantages and disadvantages
- 9. Articulators-distribution, face-bow transfer, choice of articulators. Transferring working models to the articulator.**
Expected learning outcomes:



Describe and justify the use of dental articulator in mobile prosthodontics.

10. Selecting and Setting Denture Teeth (selecting anterior teeth).

Expected learning outcomes:

Analyze the jaws and faces in relation to the shape, color and position of the teeth. Describe types of artificial teeth and their characteristics.

11. Selecting Posterior Teeth Form (statics).

Expected learning outcomes:

Describe the rules of static prostheses and their application in the setting of lateral teeth.

12. Philosophies of Denture Occlusion

Expected learning outcomes:

Describe the concepts of occlusion and their relationship with the morphology of artificial teeth.

13. Molding of the base of complete prostheses in wax, investment in a cuvette and possibilities of polymerization. Polymerization and definitive treatment of complete dentures

Expected learning outcomes:

Describe the polymerization methods of complete dentures and the cuvette procedure.

14. Reparation of denture fractures; Residual ridge resorption, relining, laboratory relining.

Expected learning outcomes:

Describe the causes and methods of repairing complete dentures. List the types of procedures for relining complete dentures and the materials with which they are used.

15. Final lecture, indications for complete denture with metal base.

Expected learning outcomes:

Describe the process of making a complete prosthesis. Define the indications for making a complete prosthesis with a metal base.

16. Classification of partial edentulism: Kennedy, Eichner, functional classification with respect to the load (dental, mucosal), specific loading.

Expected learning outcomes:

Perform a topographical analysis of partial edentulism according to different criteria. Connect with the design of the prosthesis.

17. Preparation of the mouth and teeth for partial dentures

Expected learning outcomes:

Describe all the procedures that precede the beginning of the creation of partial dentures.

18. Impression procedures of partially edentulous jaws.

Expected learning outcomes:



Describe and interpret the choice of materials and techniques for the impression of partially edentulous jaws. Define the choice of technique, possible complications and procedures for preventing them.

19. Partial denture base – choice of shape and material.

Expected learning outcomes:

Describe the possibilities of creating a partial prosthesis in relation to the topography of the jaw.

20. Elements for retention of partial dentures - clasps

Expected learning outcomes:

Describe the types of clasps and their use.

21. Elements for retention of partial dentures – attachments, crossbar, telescopic systems

Expected learning outcomes:

Describe different means of retention and stabilization and analyze their advantages and disadvantages.

22. Elements for stabilisation of partial dentures – occlusal rest seat.

Expected learning outcomes:

Describe the role of occlusal rest seat.

23. Surveying

Expected learning outcomes:

Describe the purpose of surveying, survey devices, methods of surveying and the relationship with the planned design of the prosthesis.

24. Planning of partial denture

Expected learning outcomes:

Connect the parts of the prosthesis and their joint application with the aim of the most effective planning.

25. Stabilisation of partial dentures

Expected learning outcomes:

Describe the stabilization of the prosthesis and analyze the types of means for stabilization.

26. Planning of partial denture and phases of work for different Kennedy classes- most frequent solutions and types of planning, relationship of jaws, centric relation and centric occlusion, most frequent solutions depending on Eichner classification.



Expected learning outcomes:

Analyze different topographical situations in the upper and lower jaw and the possibilities of their prosthetic management.

27. Fabrication of metal base-phases, materials, sandblasting, try in of base-further clinical procedures.

Expected learning outcomes:

Explain the procedure of making a metal base-phases.

28. Factors of occlusion and tooth set in partial dentures.

Expected learning outcomes:

Analyze the specifics of occlusion and articulation in partial edentulism.

29. Technical processing and delivery of finished partial denture

Expected learning outcomes:

Describe the types of abrasives for the final processing of dentures and their application.
Describe the procedures when handing over the prosthesis to the patient.

30. Reparatue and relining of partial dentures

Expected learning outcomes:

Describe the reasons that lead to the need for partial denture repair. Explain the procedures of relining of the partial dentures.

The list of practicals with descriptions:

Practicals within the Preclinical removable prosthodontics course are performed in the preclinical exercise room. Before accessing the exercises, students are required to acquire theoretical knowledge that they will perform practically. During the exercises, the student will independently, under the supervision of the teacher, carry out fabrication of custom trays with light polymerizing acrylics. Jaws relationship-height, centric relation, occlusal plane, bite recording and determination of occlusal plane on the phantom. Setup of the frontand posterior teeth. Processing, polymerization apparatus-programming-laboratory.Polymerization, remount procedure, polishing of dentures-laboratory

Students' obligations:

Students are obliged to regularly attend and actively participate in all forms of classes with the practical performance of all prescribed tasks.

Assessment (exams, description of written / oral / practical exam, the scoring criteria):



Student evaluation is carried out according to the valid Rulebook on Studies of the University of Rijeka. The students' work will be evaluated during the course and in the final exam. Students are graded using the ECTS (A-F) and numerical system (1-5). Grading in the ECTS system is carried out by absolute distribution.

During the semester and the exam, students will be able to collect a maximum of 100 grade points (a maximum of 70 grade points during classes and a maximum of 30 grade points during the final exam). During classes, a student can collect a maximum of 70 grade points ; 50 grade points on colloquims, 10 grade points on seminar paper and 10 grade points during practicals with a continuous knowledge check. Students who do not pass one of the colloquia (less than 50% of the test solved) will be given one remedial colloquium.

Students who accumulate less than 35 grade points during the semester are graded F (fail).

Evaluation of the colloquium with 25 evaluation points (2 x 25)

Colloquy 25 questions = 25 points

A student must have 50% correct answers to pass. Each further answer is multiplied by the coefficient 1 and the number of points on the colloquium is obtained.

Seminar paper (up to 10 grade points)

Elements that are taken into account when evaluating the oral presentation of the seminar paper: adherence to the given time, clarity of presentation, wit and originality of the presentation and the form of the presentation.

Elements that are taken into account when evaluating the written seminar paper: the quality of the treatment of the topic (structure, style, accuracy, etc.), extensiveness, the form of the submitted material and the literature used.

Evaluation of practicals (up to 10 grade points)

Average grade for each practicals (5-1)	Total average grade of all practicals	Numbr of grade points
5	4,5- 5	10
4	3,5- 4,49	8
3	2,50- 3,49	6



2	2- 2,49	5
1	0- 1,99	0

The final exam is written and covers the material determined by the course plan and program. A maximum of 30 evaluation points can be collected on the final exam. It is necessary to solve at least 50% of the final exam to obtain a positive final grade. The final grade of the exam is formed according to the total activity of the student, i.e. from the grade points collected during the semester and the grade points on the final exam.

Evaluation of the written part of the final exam with 30 marks

Exam 60 questions = 30 points

In order to pass, a student must have 50% correct answers - each further answer is multiplied by the coefficient 0.5 and the number of points on the exam is obtained (30/80).

Formation of the final grade:

Points earned on the written part of the final exam are added to the grade points earned during the semester. Based on the total sum of points, students are evaluated as follows:

A (5) – 90-100 % grade points

B (4) – 75-89.9 % grade points

C (3) – 60-74.9 % grade points

D (2) – 50-59.9 % grade points

F (1) – 0-49.9 % grade points

The numerical grading system is compared with the ECTS system as follows: A - excellent (5), B - very good (4), C - good (3), D - sufficient (2), F-insufficient (1).

Other important information regarding to the course:

Any use of another's text or other form of author's work, as well as the use of ChatGPT or any of another tool whose functionality is based on artificial intelligence technology, without clear and unambiguous citation of sources, is considered a violation of someone else's copyright and the principle of academic integrity and represents serious violation of student obligations, which entails disciplinary responsibility and disciplinary measures accordingly



Rulebook on disciplinary responsibility of students.

Consultation time: by agreement.

COURSE SCHEDULE (for the academic year 2024/2025)

Date	Lectures (time and place)	Seminars (time and place)	Practicals (time and place)	Instructor
10.03.2025.	L1, L2 9.30-11.00 Krešimirova 42			Vlatka Debeljak, PhD, Professor
11.03.2025.	L3, L4 16.00-17,30 Krešimirova 42			Vlatka Debeljak, PhD, Professor
12.03.2025.	L5, L6, L7, L8 08.00-11.00 Krešimirova 42			Vlatka Debeljak, PhD, Professor
12.03.2025.	L9, L10 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
17.03.2025.			P1 8.00-11.00 Krešimirova 42	Davor Vučinić, DMD
18.03.2025.			P2 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
17.03.2025.	L11, L12 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
18.03.2025.	L13, L14 16.00-17.30 online			Vlatka Debeljak, PhD, Professor
24.03.2025.			P3 8.00-11.00 KrešimiroPa 42	Ana Domitrović, DMD



25.03.2025.	L15, L16 16.00-17.30 online			Vlatka Debeljak, PhD, Professor
26.03.2025.	L17, L18 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
31.03.2025.			P4 8.00-11.00 Krešimirova 42	Davor Vučinić, DMD
01.04.2025.	L19, L20 16.00-17.30 online			Vlatka Debeljak, PhD, Professor
02.04.2025.	L21, L22 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
07.04.2025.			P5 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
08.04.2025.			P6 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
08.04.2025.	L23, L24 16.00-17.30 online			Vlatka Debeljak, PhD, Professor
09.04.2025.	L25, L26 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
14.04.2025.			P7 8.00-11.00 Krešimirova 42	Davor Vučinić, DMD
15.04.2025.	L27, L28 16.00-17.30 online			Vlatka Debeljak, PhD, Professor
28.04.2025.			P8 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
28.04.2025.		S1, S2 16.00-17.30 online		
29.04.2025.	L29, L30 11.00-12.30 online			Vlatka Debeljak, PhD, Professor
05.05.2025.			P9	Davor Vučinić, DMD



			8.00-11.00 Krešimirova 42	
06.05.2024.			P10 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
06.05.2025.		S3, S4 16.00-17.30 online		Vlatka Debeljak, PhD, Professor
07.05.2025.		S5, S6 11.00-12.30 online		Vlatka Debeljak, PhD, Professor
12.05.2025.			P11 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
12.05.2025.		S7, S8 16.00-17.30 online		Vlatka Debeljak, PhD, Professor
13.05.2025.		S9, S10 11.00-12.30 online		Vlatka Debeljak, PhD, Professor
19.05.2025.			P12 8.00-11.00 Krešimirova 42	Davor Vučinić, DMD
20.05.2025.			P13 8.00-11.00 Krešimirova 42	Ana Domitrović, DMD
20.05.2025.		S13, S14 16.00-17.30 online		Vlatka Debeljak, PhD, Professor

List of lectures, seminars and practicals:

	LECTURES (Topics)	Teaching hours	Location/Lecture room
L1	Introduction to the course, definition, purpose and scope of the profession	1	Krešimirova 42
L2	Complete denture overview. Ledge of the upper and lower complete dentures	1	Krešimirova 42
L3	Preliminary Edentulous Impressions, custom trays and impression materials.	1	Krešimirova 42
L4	Analyse of diagnostic casts.	1	Krešimirova 42



L5	Final Impressions for Complete Dentures	1	Krešimirova 42
L6	Boxing and Pouring Final Impression	1	Krešimirova 42
L7	Recording Maxillo-mandibular Relationships	1	Krešimirova 42
L8	Clinical procedure during bite recording at edentulous jaws; Occlusal plane.	1	Krešimirova 42
L9	Articulators-distribution, face-bow transfer, choice of articulators. Transferring working models to the articulator.	1	online
L10	Selecting and Setting Denture Teeth (selecting anterior teeth).	1	online
L11	Selecting Posterior Teeth Form (statics).	1	online
L12	Philosophies of Denture Occlusion	1	online
L13	Molding of the base of complete prostheses in wax, investment in a cuvette and possibilities of polymerization. Polymerization and definitive treatment of complete dentures	1	online
L14	Reparation of denture fractures; Residual ridge resorption, relining, laboratory relining.	1	online
L15	Final lecture, indications for complete denture with metal base.	1	online
L16	Classification of partial edentoullism: Kennedy, Eichner, functional classification with respect to the load (dental, mucosal), specific loading.	1	online
L17	Preparation of the mouth and teeth for partial dentures	1	online
L18	Impression procedures of partially edentulous jaws.	1	online
L19	Partial denture base – choice of shape and material.	1	online
L20	Elements for retention of partial dentures - clasps	1	online
L21	Elements for retention of partial dentures – attachments, crossbar, telescopic systems.	1	online
L22	Elements for stabilisation of partial dentures – occlusal rest seat.		
L23	Milling	1	online
L24	Planning of partial denture	1	online
L25	Stabilisation of partial dentures	1	online
L26	Planning of partial denture and phases of work for different Kennedy classes- most frequent solutions and types of planning, relationship of jaws, centric relation and centric occlusion, most frequent solutions depending on Eichner classification.	1	online



L27	Fabrication of metal base-phases, materials, sandblasting, try in of base-further clinical procedures.	1	online
L28	Factors of occlusion and tooth set in partial dentures.	1	online
L29	Technical processing and delivery of finished complete denture	1	online
L30	Reparature and relining of partial dentures	1	online
TOTAL TEACHING HOURS		30	

	SEMINARS (Topics)	Teaching hours	Location/Lecture room
S1	Ledge of the upper and lower complete dentures; soft tissues, hard tissue	1	online
S2	Anatomical (preliminary) impression, functional impressuion; trays and impression materials	1	online
S3	Factors of the retention and stabilization of the complete dentures	1	online
S4	Vertical and horizontal relation of the upper and the lower jaw	1	online
S5	Setup of the teeth; basic rules; selection of the front teeth- shape, color, height, width, material, preparation of casts for teeth setup	1	online
S6	Completion of waxing, investing, packing, pressing, polymerization, materials for processing, procedures of processing.	1	online
S7	Relining and rebasing the complete denture	1	online
S8	The reasons of partial edentolous, and classification of partial edentolous.	1	online
S9	Elements of removable partial denture and partial denture base.	1	online
S10	Planning of partial denture	1	online
S11	Dental parallelometer	1	online
S12	Elements of retention: clasps, types of clasps (material)- wire and cast clasp	1	online
S13	Possibility of aesthetic retention partial denture.	1	online
S14	The aparature and the instruments at the dental laboratory.	1	online
S15	Complications during construction of partial denture	1	online
TOTAL TEACHING HOURS		15	



	PRACTICALS (Topics)	Teaching hours	Location/Lecture room
P1	Preclinical workplace, equipment and instruments	4	Krešimirova 42
P2	Demonstration of working on a simulator Practical work on the simulator - work ergonomics	4	Krešimirova 42
P3	Visit to the laboratory of dental medicine, workplace, appliances and instruments for work	4	Krešimirova 42
P4	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P5	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P6	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P7	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P8	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P9	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P10	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P11	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P12	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P13	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P14	Practical work on the simulator - work ergonomics	4	Krešimirova 42
P15	Practical work on the simulator - work ergonomics	4	Krešimirova 42
	TOTAL TEACHING HOURS	60	

	FINAL EXAM DATES
1.	10.06.2025.
2.	01.07.2025.
3.	02.09.2025.

	Lectures	Seminars	Practicals	Total
Total number	30	15	60	105
On-line	22	15	0	37
Percentage	73	100	0	37