



Sveučilište u Rijeci • Fakultet dentalne medicine
University of Rijeka • Faculty of Dental Medicine

Course: Restorative dental medicine II

Course Coordinator: Prof. Alen Braut, PhD, DMD

Department: Endodontics and restorative dentistry

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

Study year: 4th

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.):

Restorative dental medicine II is a mandatory course on the Integrated undergraduate and graduate university study Dental medicine on the fourth year of study. The course is comprised of 8 hours of lectures, 25 hours of seminars and 90 hours of clinical practicals (9ECTS). The course is held in the premises of the Clinical hospital centre Rijeka and the Faculty of dental medicine, University of Rijeka.

The aim of the course is to acquire basic knowledge and clinical skills in the field of restorative dentistry. The goal is to introduce the students to modern materials used for temporary and permanent cavity restoration. Special attention is given to mastering the necessary clinical skill during clinical practicals.

Course contents:

Advanced techniques in restorative dentistry. Recognition and management of dental pain.

Treatment planning in pregnant patients and patients with systemic disease. Placement of root canal posts.

Class:

Class is held in the form of lectures, practicals and seminars. Teachers will discuss with students about specific tasks on each practical. During the course one mandatory colloquium needs to be passed successfully in order to attend the final exam.

By completing all the tasks and passing the mandatory colloquium and final exam students acquire 9 ECTS points.

Assigned reading:

Mouth GJ, Hume WR, Ngo HC, Wolff MS. Preservation and restoration of tooth structure. 3rd edition. Wiley Blackwell. 2016.

Optional/additional reading:

Textbook of Operative Dentistry: N.Garg, A.Garg. The Health Sciences Publisher, New Delhi, London, Philadelphia, Panama; 3rd Ed. 2015.

COURSE TEACHING PLAN:

The list of lectures (with topics and descriptions):

L1 Minimally invasive dental medicine

Learning outcomes: Define contemporary minimally invasive treatment procedures applied to hard dental tissues

L2 Advancements in diagnostics of diseased hard dental tissues

Learning outcomes: Define new diagnostic procedures for identifying diseased hard dental tissues

L3 Advancements in aesthetic dental materials

Learning outcomes: Define the composition and working procedures with contemporary aesthetic restorative materials

L4 Restorative procedures in medically compromised patients

Learning outcomes: Define the specific treatment procedures performed during pregnancy and in patients with systemic disease (diabetes, blood diseases, cardiovascular and immune diseases)

L5 Dentine sensitivity, pulpal response to irritation

Learning outcomes: Define dental pain that is not caused by pulpal or periodontal disease. Explain the materials and treatment procedures.

L6 Root canal posts

Learning outcomes: Explain the use of root canal posts, the indications and contraindications of use.

L7 Cast, ceramic and composite indirect restorations (inlay, onlay, overlay)

Learning outcome: Define restorative procedures in cases of severe loss of hard dental tissues

L8 Advancements in restorative dental medicine

Learning outcomes: Discuss new advancements in diagnostics and treatment procedures in restorative dental medicine

The list of seminars with descriptions:

S1 Local anesthesia in dental medicine

Learning outcomes: Define local anesthetics in dental medicine: composition, dosage, treatment effect and pharmacokinetics.

S2 Local anesthesia techniques in the maxilla

Learning outcomes: List and describe techniques of local anesthesia in the maxilla

S3 Local anesthesia techniques in the mandibula

Learning outcomes: List and describe techniques of local anesthesia in the mandibula

S4 Minimally invasive restorative treatment

Learning outcomes: Define minimally invasive technique in restorative dentistry

S5 Indirect pulp capping

Learning outcomes: Describe indirect pulpal capping procedures and the material used.

S6 Direct pulp capping

Learning outcomes: Describe direct pulpal capping procedures and the material used.

S7 Coronal restoration of endodontically treated teeth – Case report

Learning outcomes: Evaluate and comment the treatment procedure of restoring endodontically treated teeth – direct/indirect restorations

S8 Atypical cavity preparations and direct coronal restoration – case report

Learning outcomes: Evaluate and comment cavity preparations that are not prepared on typical locations of carious lesions

Seminars (S9-S18) are based on case reports that students have completed on clinical practicals.

S9 Class I composite restoration – Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S10 Class II composite restoration – Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S11 Class III composite restoration – Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S12 Class IV composite restoration – Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S13 Treatment of noncarious lesions – Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S14 Application of bioactive materials in restorative dental medicine - Case report

Learning outcomes: Analyze new materials in the field of restorative dental medicine, document with photographs the treatment procedures and present them

S15 Composite veneers– Case report

Learning outcomes: Describe and present the restorative procedure: Cavity preparation, restoration placement, finishing and polishing. Document phases with photographs and present them.

S16 Non complicated dental crown trauma and treatment procedures

Learning outcomes: Differentiate, comment and categorize procedures of dental trauma diagnosis and treatment

S17 Complicated dental crown trauma and treatment procedures

Learning outcomes: Differentiate, comment and categorize procedures of dental trauma diagnosis and treatment

S18 New advancements in restorative dental medicine

Learning outcomes: Define contemporary diagnostic and treatment procedures in restorative dental medicine

On clinical practicals in the VII and VIII semester the student conducts dental examinations, diagnostic procedures, treatment planning and treatment procedures under the supervision of clinical practicals supervisors.

P1- P15 Dental examination, dental status, treatment planning, minimally invasive procedures, treatment of caries lesions – Caries media, Caries profunda.

Learning outcomes:

Analyze the patient of informed consent

Conduct dental examination and diagnostic procedures

Educate patients about oral hygiene procedures

Planning of treatment procedures

Establish working field isolation

Cavity preparation

Identification and handling of restorative materials

Material selection depending on indications

Students' obligations:

Students are obliged to regularly attend, actively participate and complete assignments in all forms of teaching.

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 VII and VIII semesters and the final exam, students will be able to collect a maximum of 100 grade points (a maximum of 50 grade points during the semesters and a maximum of 50 grade points during the final exam).

During the V, VI, VII, VIII and IX semesters, a student can collect a maximum of 50 grade points (Table 1).

Table 1. Assessment of student activities on the course Restorative dental medicine

	Assessment	Max Grade Points
Colloquium	Colloquium (end of VII semester)	20
Seminars	Seminar presentation (VII/VIII semester)	10
Practicals	Theoretical knowledge + task completion	20
E	Total	50

Assessment of practicals/colloquia/seminars

Practicals

Practicals supervisors will evaluate theoretical knowledge and practical work on the patient (refers to clinical exercises). The average grade will be used for the final scoring. An insufficient grade (C) is considered as absence from the practical. Two insufficient grades, as well absence from 3 practicals in a single semester will result in immediate failure of the semester and the student will have to re-enroll in the semester next year. Every insufficient grade must be compensated with a colloquium held by the practical supervisor who gave the grade.

During clinical practicals in the VII and VIII semester students must perform 5 positively graded tasks per semester (10 in total). In order for a completed task to receive a full grade it needs to include cavity

preparation along with restoration placement as well as finishing and polishing of the placed restoration. The student can not advance to a higher semester if all tasks from the previous one have not been completed.

Students will be graded based on their theoretical knowledge and practical work as shown in Table 2.

Grade on practicals (A-C)	Grade on practicals (5-1)	Average grade on practicals (5-1)	Grade points
A	5	4,5- 5	20
A/B	4	3,5- 4,49	17
B	3	2,50- 3,49	13,5
B/C	2	2- 2,49	10
C	1	0- 1,99	0

Colloquia

On the course Restorative dental medicine II students take 1 written colloquium. The passing grade for colloquium is 50%.

Students who do not pass the colloquium will be given one more term to pass the colloquium on which they can receive a maximum grade of 50%. The grade points on each colloquia are determined by multiplying the percentage of correct answers in decimal form with the maximum number of grade points. Passing the colloquium is a mandatory condition in order to attend the final exam.

Seminars

Students must actively participate in seminars.

During the VII and VIII semester students have to give an oral presentation (PowerPoint) about a given seminar subject. Seminar subjects are essential material for the final exam.

Final Exam

Before taking the final exam the student must provide his Evidence booklet to prove all necessary tasks have been completed. The final exam is written and includes material determined by the course plan and program. A maximum of 50 grade points can be collected on the final exam. The grade points are determined by multiplying the percentage of correct answers in decimal form with the maximum number of grade points. The passing grade for the final exam is 50%.

The final grade is formed according to the total activity of the student, i.e. from the grade points collected during the semesters and the grade points on the final exam. In order to receive a final grade the final exam must be successfully completed.

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 evaluation 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:

Retaking the course:

In case of re-enrolling the course the students have the same responsibilities as the first time attendees and are obliged to regularly attend, actively participate and complete assignments in all forms of teaching.

Consultation with teachers are possible but have to be scheduled in advance via email.

COURSE SCHEDULE (for academic year 2024/2025)

Date	Lectures (time and place)	Seminars (time and place)	Practicals (time and place)	Instructor
VII semester				
29.9.2025.	L1 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
30.9.2025.		S1 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
2.10.2025.			P1 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
6.10.2025.	L2 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
7.10.2025.		S2 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
9.10.2025.			P2 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
13.10.2025.	L3 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
14.10.2025.		S3 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
16.10.2025.			P3 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
20.10.2025.	L4 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD

21.10.2025.		S4 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
23.10.2025.			P4 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
27.10.2025.	L5 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
28.10.2025.		S5 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
30.10.2025.			P5 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
3.11.2025.	L6 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
4.11.2025.		S6 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
6.11.2025.			P6 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
10.11.2025.	L7 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
11.11.2025.		S7 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
13.11.2025.			P7 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
17.11.2025.	L8 (13.15 -14.00) Krešimirova 40			Prof. Alen Braut, PhD, DMD
20.11.2025.			P8 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
25.11.2025.		S8 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
27.11.2025.			P9 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
2.12.2025.		S9 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
4.12.2025.			P10 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
9.12.2025.		S10 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
11.12.2025.			P11 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
16.12.2025.		S11 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
18.12.2025.			P12 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
23.12.2025.		S12 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
8.1.2026.			P13 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
13.1.2026.		S13 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
15.1.2026.			P14 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD

20.1.2026.		S14 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
22.1.2026.			P15 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
VIII semester				
24.2.2026.		S15 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
26.2.2026.			P1 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
3.3.2026.		S16 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
5.3.2026.			P2 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
10.3.2026.		S17 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
12.3.2026.			P3 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
17.3.2026.		S18 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
19.3.2026.			P4 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
24.3.2026.		S19 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
26.3.2026.			P5 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
31.3.2026.		S20 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
2.4.2026.			P6 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
7.4.2026.		S21 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
9.4.2026.			P7 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
14.4.2026.		S22 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
16.4.2026.			P8 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
21.4.2026.		S23 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
23.4.2026.			P9 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
28.4.2026.		S24 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
30.4.2026.			P10 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
5.5.2026.		S25 (12.30 – 13.15) Krešimirova 40		Prof. Alen Braut, PhD, DMD
7.5.2026.			P11 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD

14.5.2026.			P12 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
21.5.2026.			P13 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD
28.5.2026.			P14 (8.00-10.15) Krešimirova 40	Elvis Božac, PhD, DMD

List of lectures, seminars and practicals:

	LECTURES (Topics)	Teaching hours	Location/Lecture room
L1	Minimally invasive dental medicine	1	Lecture room Krešimirova 42
L2	Advancements in diagnostics of diseased hard dental tissues	1	Lecture room Krešimirova 42
L3	Advancements in aesthetic dental materials	1	Lecture room Krešimirova 42
L4	Restorative procedures in medically compromised patients	1	Lecture room Krešimirova 42
L5	Dentine sensitivity, pulpal response to irritation	1	Lecture room Krešimirova 42
L6	Root canal posts	1	Lecture room Krešimirova 42
L7	Cast, ceramic and composite indirect restorations (inlay, onlay, overlay)	1	Lecture room Krešimirova 42
L8	Advancements in restorative dental medicine	1	Lecture room Krešimirova 42
	TOTAL TEACHING HOURS	8	

	SEMINARS (Topics)	Teaching hours	Location/Lecture room
VII and VIII Semester			
S1	Local anesthesia in dental medicine	1	Lecture room Krešimirova 42
S2	Local anesthesia techniques in the maxilla	1	Lecture room Krešimirova 42
S3	Local anesthesia techniques in the mandibula	1	Lecture room Krešimirova 42
S4	Minimally invasive restorative treatment	1	Lecture room Krešimirova 42
S5	Indirect pulp capping	1	Lecture room Krešimirova 42
S6	Direct pulp capping	1	Lecture room Krešimirova 42
S7	Coronal restoration of endodontically treated teeth – Case report	1	Lecture room Krešimirova 42
S8	Atypical cavity preparations and direct coronal restoration – case report	1	Lecture room Krešimirova 42
S9	Class I composite restoration – Case report	2	Lecture room Krešimirova 42
S10	Class II composite restoration – Case report	2	Lecture room Krešimirova 42
S11	Class III composite restoration – Case report	2	Lecture room Krešimirova 42
S12	Class IV composite restoration – Case report	2	Lecture room Krešimirova 42
S13	Treatment of noncarious lesions – Case report	2	Lecture room Krešimirova 42
S14	Application of bioactive materials in restorative dental medicine - Case report	2	Lecture room Krešimirova 42
S15	Composite veneers– Case report	2	Lecture room Krešimirova 42
S16	Non complicated dental crown trauma and treatment procedures	1	Lecture room Krešimirova 42
S17	Complicated dental crown trauma and treatment procedures	1	Lecture room Krešimirova 42
S18	New advancements in restorative dental medicine	1	Lecture room Krešimirova 42
	TOTAL TEACHING HOURS	25	

	PRACTICALS (Topics)	Teaching hours	Location/Lecture room
VII Semester			
P1-15	Dental examination, dental status, treatment planning, minimally invasive procedures, treatment of caries lesions – Caries media, Caries profunda.	15x3	Clinical practicum 1, Krešimirova 40
VII Semester			
P1-15	Dental examination, dental status, treatment planning, minimally invasive procedures, treatment of caries lesions – Caries media, Caries profunda.	14x3	Clinical practicum 1, Krešimirova 40
TOTAL TEACHING HOURS		87	

	Colloquium terms
1.	9.6.2026.
2.	23.6.2026.
3.	14.7.2026.
4.	8.9.2026

Course				
Class form	Lectures	Seminars	Practicals	Total
Total number of hours	8	25	87	120
Hours online	0	0	0	0
% online class	0%	0%	0%	0%

Exam term dates stated in the table above may differ from dates, which are published in the summary exam dates table. The table is posted on the Faculty web site under the site - Study under the name "Exam terms" and contains the actual final exam terms of all courses.