

University of Zagreb School of Dental Medicine

Integrated Undergraduate and Graduate Study Program in Dental Medicine

Academic Year 2025/2026

Course Title

Fixed Prosthodontics II

Department/Chair Delivering the Course

Department of Fixed Prosthodontics

Department Address

University of Zagreb School of Dental Medicine, Gundulićeva 5, HR-10000 Zagreb

Course Status

Mandatory course

Year of Study

5th year

Semester

Winter and summer semester

Number of ECTS Credits

7 ECTS

Course Leader

Prof. Marko Jakovac, PhD, jakovac@sfzg.hr

Other Teaching Staff Involved

Prof. Marko Jakovac, PhD, jakovac@sfzg.hr

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Senior Assistant Dr. Vladimir Prpić, PhD, vprpic@sfzg.hr

Number of Teaching Hours

Type	Winter Semester	Summer Semester	Total
Lectures	15	-	15
Seminars	-	-	-
Practical Classes	45	60	105
Total	60	60	120

1 hour = 45 minutes

Course Aims and Objectives

The aim of the course Fixed Prosthodontics II is to provide students with the knowledge and skills required for clinical practice in fixed dental prosthodontics. Understanding the biomechanics of the stomatognathic system, dental and auxiliary materials, laboratory procedures, correct diagnosis of partial edentulism, planning preprosthetic and prosthetic therapy, and executing prosthetic treatments are essential competencies. This program encourages students to develop competence in selecting optimal therapeutic solutions and appropriate restorative materials. Special emphasis is placed on abutment tooth evaluation, bridge planning, bridge statics, and fundamental knowledge necessary for clinical practice. Students will acquire skills in tooth preparation for multi-unit restorations and fabricating combined prostheses with or without precision attachments tailored to specific clinical situations. Particular attention will be given to the prosthetic rehabilitation of the aesthetic zone, partial crowns, veneers, and intracoronary restorations. Students will gain fundamental knowledge of implant-supported therapy and replacement of a limited number of teeth with preserved supporting structures. They will be introduced to advancements in the field and the paradigm shift from analog to digital fixed prosthodontic therapy. Interdisciplinary approaches in prosthetic treatment will be supported and emphasized throughout the course.

Course Enrollment Requirements

Passing the exam in Fixed Prosthodontics I is a prerequisite for enrolling in and taking the exam in Fixed Prosthodontics II.

Program Learning Outcomes Supported by This Course

- ☒ Knowledge, skills, and competences related to professionalism, ethics, and law
- ☐ Knowledge, skills, and competences related to communication and social skills
- ☒ Knowledge, skills, and competences related to basic knowledge and literature research

- ☒ Knowledge, skills, and competences related to collecting clinical data
- ☒ Knowledge, skills, and competences related to diagnosis and treatment planning
- ☒ Knowledge, skills, and competences related to therapy and maintaining oral health
- ☒ Knowledge, skills, and competences related to preventive measures and health promotion

Expected Learning Outcomes

Knowledge

- Describe laboratory procedures for fixed prosthodontic restorations (casting, sintering, heat-pressing, printing, milling)
- Explain the concept of prosthetic therapy on implants
- Compare types of precision attachments used in fixed-removable prostheses (telescopic systems, bars, balls, etc.)
- Describe the oral rehabilitation significance of crowns and bridges
- Define types of longevity and complications in fixed prosthodontic therapy

Skills

- Perform tooth preparation for fixed prosthodontic restorations
- Plan bridge prosthetic therapy
- Identify cases requiring splint therapy

Competences

- Plan and execute therapy with fixed prosthodontic restorations
- Propose treatment options for partial edentulism in elderly patients

Course Content

Lecture Topics – Winter Semester

Topic	Hours
Introduction to bridges; Indications and contraindications; Classification of bridges; Bridge components	1
Bridge planning and assessment of potential abutment teeth	1

Bridge statics	1
Aesthetic parameters in fixed prosthodontic therapy	1
Factors influencing material selection for multi-unit fixed restorations	1
Partial crowns and veneers	1
Temporary and immediate bridges	1
Inlay bridges	1
Crowns and bridges in combined prosthodontic restorations	1
Prosthetically guided implant therapy	1
Implant-supported therapy in partial edentulism	1
Oral rehabilitative significance of crowns and bridges	1
Comparison of digital and analog workflows in fixed prosthodontics	1
Gerontological aspects of fixed prosthodontic treatment of partial edentulism	1
Types of restoration longevity; Complications during the functional period of prosthetic therapy	1

1 hour = 45 minutes

Practical Exercises

Winter Semester

- Clinical exercises in fixed prosthodontics – 45 hours

Summer Semester

- Clinical exercises in fixed prosthodontics – 60 hours

1 hour = 45 minutes

Student Obligations

Students are required to attend classes and complete all assigned tasks.

Student Progress Monitoring

Knowledge is assessed during each teaching unit.

Method of Examination

Upon completion of the course and fulfillment of all requirements as defined by the course regulations, the student takes the exam. The exam is conducted after the designated semester and consists of written, practical, and oral components. After passing the written part, the student proceeds to the practical exam under the supervision of the examiner. The practical exam includes an initial patient examination (anamnesis, clinical examination, radiographic analysis) and prosthetic treatment planning. The second part includes the execution of one clinical phase in fixed prosthodontic therapy. The oral exam assesses theoretical knowledge and its clinical application. The examiner evaluates the student upon completion.

Exam Dates

Regular Summer Exam Dates: 11.06., 09.07.

Autumn Exam Dates: 27.08., 10.09.

Mandatory Literature

- Čatović, Komar, Čatić i sur. Klinička fiksna protetika Krunice. Zagreb: Medicinska naklada;2015.

Additional Literatur

- Jakovac M. Protocol. Quintesence Int. Berlin, 2024. 700 p.
- Mehulić K i sur. Dentalni materijali. Zagreb: Medicinska naklada; 2017.
- Mehulić K i sur. Dentalna medicina – vodič za praktičare. Zagreb: Medicinska naklada; 2020.
- Jakovac M, Kranjčić J. Pretklinička i laboratorijska fiksna protetika. Zagreb: Stega tisak; 2020.
- Mehulić K. Keramički materijali u stomatološkoj protetici. Zagreb: Školska knjiga d.o.o.;2010.
- Živko-Babić J, Jerolimov V. Metali u stomatološkoj protetici. Zagreb: Školska knjiga d-o-o-; 2005. Additional Literature