

Course: Dental Implantology I

Course coordinator: prof.dr.sc. Zoran Kovač, dr.med.dent.

Department: Department of Oral Surgery

Study: University Integrated Undergraduate and Graduate Study of Dental Medicine

Year of Study: 5th

Academic Year: 2026/2027

IMPLEMENTATION PLAN OF THE COLLEGE

Information about the course (brief description of the course, general instructions, where and in what form classes are organized, necessary supplies, instructions on attendance and preparation for classes, obligations of students, etc.):

Course coordinator: Prof. Zoran Kovač, DMD, PhD

Course collaborators: Asst. prof. Marko Blašković, DMD, PhD

The course **Dental Implantology I** is a mandatory course in the fifth year (10th semester) of the University Integrated Undergraduate and Graduate Study of Dental Medicine and consists of 10 hours of lectures and 5 hours of seminars (**1.0 ECTS**). The course is conducted in the premises of the Faculty of Dental Medicine.

Objectives: Dental implantology is part of the specialist program in oral surgery and the task of the course is to familiarize students with today's possibilities of implant prosthetic rehabilitation of the oral cavity. The use of osseointegrating implants has enabled the stabilization and retention of complete dentures, primarily in the lower jaw, so the dentist must be familiar with the indications for dental implantation and present it to the patient within all other options. Also, the aim of the course is to introduce the student to the possibilities in the production of fixed prosthetic replacements after the placement of dental implants in shortened dental arches and in the case of loss of the front tooth due to trauma or embryo aplasia. The aim of the course is to describe to the student all the problems of dental implantology and to warn the student about uncritical approaches that are seen on a daily basis, and result in failures. The goal is therefore to argue that dental implantology

requires teamwork between a doctor of dental medicine and a specialist in oral surgery, dental prosthetics and periodontology.

Requirements for enrolment in the course: Passed the exam in the course Oral Surgery I.

Expected learning outcomes for the course: Upon completion of the course, the student will be able to present a clinical examination; analyze radiological images and identify the indication/contraindication for implant prosthetic rehabilitation; explain the concept of osseointegration, all phases and terms of individual phases of implant prosthetic rehabilitation: from the surgical procedure to the creation of a prosthetic suprastructure, as well as possible intraoperative and postoperative complications of dental implant placement; compare methods for implant placement. evaluation of success in dental implantology, as well as implant maintenance procedures and peri-implant disease.

The content of the course is as follows: Historical overview of the development of dental implantology in the world and in Croatia, internal and transdental implants, jaw atrophy, experimental model, indications and contraindications for the use of modern dental implants, the concept of osseointegration, dates of implementation of individual surgical phases, patient preparation and dates of prosthetic suprastructure production, equipment and implant systems, surgical procedure and presentation of clinical cases, materials in the dental implantology, implant shape and surface, micro and macro interlocking, mobile prosthetic suprastructure, occlusion and gnathological aspects of dental implantology, fixed prosthetic suprastructure, implant maintenance, periimplant diseases.

Teaching: Classes are conducted in the form of lectures and seminars.

Possibility of teaching in a foreign language: None.

Student obligations: Students are required to attend classes and are allowed to miss a maximum of 20% of classes. In case of absence, students are required to bring a doctor's note.

Assigned reading:

Sethi A, Kaus T. Practical implantology. Quintessence books, Media view. Zagreb, 2009.

Lindhe J. Clinical Periodontology and Dental Implantology. Globus Publishing House, Zagreb, 2010.

Geistlich myGuide. (<https://www.geistlich-myguide.com>)

Additional reading:

Shafie H. Clinical and Laboratory Manual of Implant Overdentures. Blackwell & Munksgaard, 2007.

Drago C, Peterson T. Implant Restorations: A Step-by-Step Guide. Blackwell & Munksgaard, 2007.

Al-Faraje L. Surgical complications in oral implantology. Etiology, Prevention, and Management.; Quintessence, Chicago, 2011.

Exam (method of taking the exam, description of the written/oral/practical part of the exam, method of scoring, evaluation criteria):

Student assessment is carried out in accordance with the current Ordinance on Studies of the University of Rijeka. Student assessment is carried out using ECTS (A-F) and the number system (1-5). Assessment in the ECTS system is performed by absolute distribution.

Students can earn a maximum of 50 grade points during classes, and 50 grade points at the final exam.

Out of the maximum 50 grade points that can be earned during class, a student must collect a minimum of 25 grade points to take the final exam.

Students who score less than 25 points (F grade category) must re-enroll in the course.

Of the 50 grade points that can be earned during classes, 30 points can be earned through seminars, and 20 points through activities on the Geistlich myGuide platform.

Students who have earned more than 25 points during classes must take the final exam where they can achieve a maximum of 50 points.

The final exam is written (up to 50 grade points).

Assessment in the ECTS system is carried out by absolute distribution, i.e. on the basis of the final achievement:

excellent (5) A - 90 to 100%

very good (4) B - 75 to 89.9%

good (3) C - 60 to 74.9%

sufficient (2) D - 50 to 59.9%

insufficient (1) F - 0 to 49.9%

Other notes (related to the course) important for students:

Any use of someone else's text or other form of copyrighted work, as well as the use of ChatGPT or any other tool whose functionality is based on artificial intelligence technology, without a clear and unambiguous indication of the source, is considered a violation of someone else's copyright and the principle of academic integrity and represents a serious violation of student obligations, which entails disciplinary responsibility and disciplinary measures in accordance with the Ordinance on Disciplinary Responsibility of Students.

Consultation time: Thursdays from 10 a.m. to 11 a.m. with prior notice via e-mail.

Teaching content and all information related to the course, as well as exam dates, can be found on the website of the Department of Oral Surgery.

List of lectures (with titles and explanations):

P1. A historical overview of the development of dental implantology.

Learning outcomes: Explain the development of dental implantology. Define the concept of osseointegration.

P2. The basic structure of the implant.

Learning outcomes: Explain the design and basic parts of dental implants. Explain the different types of dental implants. Define the difference between submerged and non-submerged implants. Define platform switching.

P3. Indications/contraindications for implant prosthetic therapy.

Learning outcomes: Define the correct indications/contraindications for implant prosthetic rehabilitation.

P4. Clinical examination and radiological diagnostics in dental implantology.

Learning outcomes: Explain clinical examination in implant prosthetic rehabilitation. Analyze appropriate radiological images.

P5. Surgical procedure of dental implantation.

Learning outcomes: Explain all phases of the surgical procedure. Define possible intraoperative and postoperative complications of dental implant placement.

P6. Prosthetic-guided implant placement planning.

Learning outcomes: Define the importance of prosthetic-guided implantology. Explain all phases of planning implant prosthetic therapy.

P7. Prosthetic solutions in dental implantology.

Learning outcomes: To define prosthetic possibilities in dental implantology. Define mobile and fixed suprastructures on dental implants. Explain the gnathological aspects of dental implantology.

P8. Impressions in implant prosthetics.

Learning outcomes: Explain impression procedures in dental implantology. Define the basic impression materials.

P9. Alveolar bone regeneration.

Learning outcomes: Define the concepts of osteoconduction, osteoinduction and osteogenesis. Explain the division and types of bone grafts.

P10. Soft tissue augmentation.

Learning outcomes: To define indications for soft tissue augmentation in dental implantology. Explain the types of soft tissue grafts.

List of seminars (with titles and explanations):

S1. Factors influencing osseointegration.

Learning outcomes: Explain the internal and external factors that affect the biological process of osseointegration.

S2. Materials in dental implantology.

Learning outcomes: Explain modern materials used in dental implantology.

S3. Screw-retained or cemented prosthetics restorations.

Learning outcomes: Explain the advantages and disadvantages of screw-retained or cemented prosthetics on implants.

S4. Surgical techniques of bone regeneration.

Learning outcomes: Explain existing bone regeneration techniques. Define membranes and explain the types of membranes.

S5. Surgical techniques of soft tissue augmentation.

Learning outcomes: Explain soft tissue augmentation techniques in dental implantology.

TEACHING SCHEDULE (for the academic year 2026/27)

Date	Lectures (time and place)	Seminars (time and place)	Exercises (time and place)	Teacher
05.03.2027.	L1-5 14:00 –17:45 Lecture Room, Krešimirova 42			Asst. prof. Marko Blašković
12.03.2027.	L6-8 14:00 –16:15 Lecture Room, Krešimirova 42			Prof. Zoran Kovač
19.03.2027.	L9-10 14:00 –15:30 Lecture Room, Krešimirova 42			Asst. prof. Marko Blašković
26.03.2027.		S1 14:00 –14:45 Lecture Room, Krešimirova 42		Prof. Zoran Kovač
02.04.2027.		S2 14:00 –14:45 Lecture Room, Krešimirova 42		Prof. Zoran Kovač
09.04.2027.		S3 14:00 –14:45 Lecture Room, Krešimirova 42		Prof. Zoran Kovač
16.04.2027.		S4 14:00 –14:45 Lecture Room, Krešimirova 42		Prof. Zoran Kovač
23.04.2027.		S5 14:00 –14:45 Lecture Room, Krešimirova 42		Prof. Zoran Kovač

List of lectures and seminars:

	LECTURES (lecture topic)	Number of hours of classes	Venue
L1	A Historical Overview of the Development of Dental Implantology	1	Krešimirova 42
L2	The basic structure of the implant	1	Krešimirova 42
L3	Indications/Contraindications in Dental Implantology	1	Krešimirova 42
L4	Clinical Examination and Radiological Diagnostics in Dental Implantology	1	Krešimirova 42
L5	Surgical procedure of dental implantation	1	Krešimirova 42
L6	Prosthetic-guided implant placement planning	1	Krešimirova 42
L7	Prosthetic solutions in dental implantology	1	Krešimirova 42
L8	Impressions in implant prosthetics	1	Krešimirova 42
L9	Alveolar bone regeneration	1	Krešimirova 42
L10	Soft tissue augmentation	1	Krešimirova 42
	Total number of lecture hours	10	

	SEMINARS (seminar topic)	Number of hours of classes	Venue
S1	Factors influencing osseointegration	1	Krešimirova 42
S2	Materials in Dental Implantology	1	Krešimirova 42
S3	Screw-retained or cemented prosthetic restorations	1	Krešimirova 42

S4	Surgical techniques of bone regeneration	1	Krešimirova 42
S5	Surgical techniques of soft tissue augmentation	1	Krešimirova 40
	Total number of seminar hours	5	

	EXAM DATES (final exam)
1.	29.04.2027.
2.	10.06.2027.
3.	13.07.2027.