Sveučilište u Rijeci
University of Rijeka

Sveučilište u Rijeci • Fakultet dentalne medicine
University of Rijeka • Faculty of Dental Medicine
Krešimirova 40/42 • 51000 Rijeka • CROATIA
Phone : + 385 51 559 200; 559 202, 559 203

Course: Clinical orthodontics
Course Coordinator: Doc.dr.sc. Magda Trinajstić Zrinski, dr. med. dent, spec. orthod, doc.dr.sc. Višnja Katić, dr.med.dent., spec. orthod
Course Collaborators: Prof.dr.sc. Stjepan Špalj; Doc.dr.sc. Barbara Mady Maričić, titular assistant prof; Dr.sc. Vjera Perković, titular assistant; Doris Šimac, titular teaching assistant
Department: Department of orthodontics
Study program: University Integrated Undergraduate and Graduate Study of Dental Medicine (in English)
Study year: 5.
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 Clinical Orthodontics course is a mandatory course in the fifth year of the Integrated undergraduate and graduate program of Dental Medicine and consists of 30 hours of lectures, 60 hours of practicals and 30 hours of seminars, a total of 120 hours **(6 ECTS)**. The course is conducted in the practicum of the Department of Orthodontics, in lectures and through the course e-college on the Merlin platform.

The aim of the course is for the student of dental medicine to become familiar with the ways of occurrence and development of malocclusions, to master skills of interceptive and preventive procedures, and acquire knowledge about the possibilities and methods of orthodontic therapy.

The content of the course is as follows:
Orthodontic anamnesis; Orthodontic clinical examination; Analysis of dentition; Predictive analyzes of space in mixed dentition; Dentoalveolar discrepancy; Dentodental discrepancy; Analysis of occlusion on the model and the patient; Functional analysis in all three dimensions on the patient; Photography in orthodontics; X-rays - types, cephalometric analysis; Morphofunctional harmony in orthodontics; Assessment of the need for therapy using Index of need for orthodontic therapy (IOTN); Frequency, etiology, characteristics, distribution,recognition on the model and the patient, malocclusion therapy options (class I, class II/1 malocclusions, class II/2, class III, transverse malocclusions, vertical malocclusions); Harmful impact of premature tooth loss on development of dentition; Impact of dental trauma on dentition development; Congenital anomalies of the dentofacial complex; The influence of anomalies in the number, shape and structure of teeth on the development of the dentition and the possibilities of therapy; Preventive measures in orthodontics; Interceptive measures in orthodontics and interceptive orthodontic devices; Myofunctional orthodontic therapy; Physiology of mineralized tissues and reaction to applied force; Types of forces and displacements in orthodontics, adverse effects of orthodontic therapy; Principles of biomechanics in orthodontics; Functional devices; Mobile devices; Fixed devices; Extraoral devices; Retention and relapse, retention devices; Protocol oral hygiene in orthodontics; Therapy plan, patient cooperation and motivation.

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Conducting classes:
Classes are held in the form of lectures, exercises and seminars per week during the 9th and 10th semester. During the practicals the teacher evaluates the student readiness to perform. During the seminar, the teacher evaluates student preparation for presenting the discussed topic and moderates the discussion. During classes mandatory exam will be held and at the end of classes the final exam. Completing all student activities, passing exam and the final exam 6 ECTS points are earned.

Course Coordinators:

Doc.dr.sc. Magda Trinajstić Zrinski
Doc.dr.sc. Višnja Katić

Course Collaborators:

Prof.dr.sc. Stjepan Špalj
Doc.dr.sc. Barbara Mady Maričić
Dr.sc. Vjera Perković
Doris Šimac

Assigned reading:

William R. Proffit, Henry Fields, Brent Larson, David M. Sarver: Contemporary Orthodontics 6th edition. 2018.

Optional/additional reading:

1. Nanda R. Biomechanics and esthetic strategies in clinical orthodontics. St. Louis: Elsevier Saunders; 2005.
2. McNamara JA Jr, Burdon WL. Orthodontics and dentofacial orthopedics. Ann Arbor: Needham Press Inc; 2001.
3. Bishara SE. Textbook of orthodontics. Philadelphia: WB Saunders Company; 2001.

COURSE TEACHING PLAN:

The list of lectures (with topics and descriptions):

P1. Orthodontic anamnesis and first examination
Learning outcomes:
Define, describe and take the patient's orthodontic anamnesis; define, describe and perform clinical orthodontic examination of the patient.
P2. Public health aspect of malocclusion
Learning outcomes:
Describe and determine the need for orthodontic therapy in the public health system in Croatia, the reasons of providing and seeking malocclusions, preventive and economic aspect of malocclusions.
P3. Dental photography - principles of photographing and processing photographs
Learning outcomes:

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Describe the need and method of photographing (intraoral, extraoral, calibration) as well as beards and presentations

P4. Analysis of symmetries and asymmetries

Learning outcomes:

Analyze the symmetry of the face and head

Analyze dental arches in transverse, sagittal and vertical planes, model analysis

P5. Anomalies in the number and position of teeth

Learning outcomes:

Define, numerate and analyze occlusion on the embedded model and patient; Define, recognize and determine the influence of anomalies in the number, shape and structure of teeth on the development of the dentition, to state the possibilities of therapy

P6. Impacted teeth

Learning outcomes:

Etiology, diagnosis and therapeutic approach

P7. Crowding

Learning outcomes:

Define and describe the frequency, etiology, characteristics and distribution of crowding, recognize it on the model and the patient, list therapy options

P8. Spacing

Learning outcomes:

Define and describe the frequency, etiology, characteristics and distribution of spacing, recognize it on the model and in the patient, indicate the possibilities of therapy

P9. Transverse malocclusions

Learning outcomes:

Define and describe the frequency, etiology, characteristics and division of crossbite, list the diagnostic ones procedures, recognize the anomaly on the model and the patient, state the possibilities of therapy

P10. Vertical malocclusions - open and deep bite

Learning outcomes:

Define and describe the frequency, etiology, characteristics of vertical malocclusions, list diagnostic procedures, recognize malocclusion on the model and the patient, state the possibilities of therapy

P11. Class II/1 malocclusion

Learning outcomes:

Define and describe the frequency, etiology, characteristics and division of class II/1, specify diagnostic procedures, recognize malocclusion on the model and the patient, list the possibilities of therapy

P12. Class II/2 malocclusion

Learning outcomes:

Define and describe the frequency, etiology, characteristics and division of class II/2, state the diagnostic procedures, recognize malocclusion on the model and the patient, state the possibilities of therapy

P13. Class III malocclusions

Learning outcomes:

Define and describe the frequency, etiology, characteristics and division of class III malocclusions, list the diagnostic ones procedures, recognize malocclusion on the model and the patient, list therapy options

P14. Congenital anomalies

Learning outcomes:

Define and describe congenital anomalies

P15. Orthodontic aspect of trauma and tooth extraction

Learning outcomes:

Determine the impact of dental trauma on the development of dentition; Describe the harmful impact of premature tooth loss on development dentition

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P16. Bone biology and physiology of tooth movement
Learning outcomes:
Describe the physiology of mineralized tissues and the reaction to applied force
P17. Types of tooth displacement and character of orthodontic forces
Learning outcomes:
List and describe the types of forces and displacements in orthodontics
P18. The concept of bony and non-bony anchorage
Learning outcomes:
Define the anchorage and describe the procedures and devices for securing the anchorage
P19. Working properties of materials
Learning outcomes:
Define the sources of forces in orthodontics, elasticity and plasticity
P20. Dentofacial orthopedics - skeletal effects of orthodontic forces
Learning outcomes:
Amount, direction and age of skeletal effects of orthodontic forces; Description, recognition and mechanism of devices with which we achieve skeletal effects
P21. Side effects of orthodontic therapy
Learning outcomes:
Define the harmful effects of orthodontic forces and therapy
P22. Principles of operation and effect of mobile devices (panel, functional)
Learning outcomes:
State the capabilities and limitations of mobile devices; List and describe modified plate and functional ones devices and their effect (Schwarz plate, reduced activator, bionator, twin block,
Fränkle)
P23. Principles of operation and effect of fixed devices (segmental, continuous)
Learning outcomes:
List and describe the elements of segmental and continuous fixed devices; Describe the installation of a fixed device; State the stages in therapy; List and describe segmental fixed devices (Quad helix, transpalatal arch, lingual arch, lip bumper, Nance)
P24. Alveolar envelope - limitations of orthodontic therapy
Learning outcomes:
Describe the characteristics of the alveolar ridge, dentoalveolar compensation and the limits of orthodontic therapy.
P25. Assessment of the right time to start orthodontic therapy
Learning outcomes:
State how the right time to start therapy is defined, compare the therapy plan and cooperation and motivation of the patient; Define the importance of informed consent in orthodontics
P26. Management of eruption and serial extraction
Learning outcomes:
Describe the ways of guiding the eruption of teeth and the development of occlusion, the order of extraction in serial extraction
P27. Malocclusions, orthodontic therapy and temporomandibular disorders
Learning outcomes:
Diagnostics of temporomandibular disorders, role of occlusion, malocclusion and orthodontic therapy in etiology of disorders, treatment.
P28. Obstructive sleep apnea and orthodontics
Learning outcomes:
Recognize the signs and symptoms of obstructive sleep apnea and the connection with orthodontics
P29. Orthodontic therapy with thermoplastic splints - aligners

Learning outcomes:
Define the possibilities and limitations of malocclusion therapy with splints.

P30. Final conversation

Learning outcomes:
Summarizing knowledge about orthodontics.

The list of seminars (with topics and descriptions):

S1. Oral hygiene protocol in orthodontics and prophylaxis

Learning outcomes:
Get to know prophylaxis methods and oral hygiene protocols necessary to maintain the health of the oral cavity during orthodontic therapy.

S2. Biological maturity and psychological maturity, patient cooperation during therapy

Learning outcomes:
Define and describe social and behavioral development, stages of emotional and cognitive development, evaluate skeletal age and other parameters of developmental maturity. Assess the patient's cooperation during therapy

S3. Dental photography

Learning outcomes:
Know how to take and analyze extraoral and intraoral photographs.

S4. Functions and parafunctions, functional analysis

Learning outcomes:
Know how to list and recognize parafunctions and perform function analysis as part of an orthodontic clinical examination.

S5. Analysis of tooth position and occlusion, shape and symmetry of dental arches

Learning outcomes:
Define malpositions of teeth and types of malocclusions on diagnostic models. Know how to analyze the shape and symmetries within the dental arches with the use of orthocross and Schmut plate.

S6. Dento-dental discrepancy and Spee curve analysis

Learning outcomes:
Measure and explain the meaning of dento-dental discrepancy according to Bolton and the possibility of correction. Define and describe the appearance of the Spee curve in an individual case.

S7. Dento-alveolar discrepancy and predictive analyzes in mixed dentition

Learning outcomes:
Measure and explain the meaning of dento-alveolar discrepancy according to Lundstrom. Be able to describe the measurements of dento-alveolar discrepancy according to Nance. Define, describe the importance and know how to carry out prediction analysis on an individual case.

S8. Problem-based learning - case studies

Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy

S9. Problem-based learning - case studies

Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy

S10. X-ray cephalometric analysis – definition of points and reference lines, as well as size and position of jaws

Learning outcomes:
Define the anatomical and projection points and reference lines necessary for the analysis of the LL cephalogram. Know how to define, measure and interpret the parameters needed to determine the size and position of the jaws.

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S11. X-ray cephalometric analysis of growth pattern, position of incisors and soft tissues
Learning outcomes:
Know how to define, measure and interpret the parameters necessary to determine the growth pattern, position of incisors and soft tissues.
S12. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S13. Assessment of orthodontic therapy needs (clinical indexs and quality of life) and planning therapy
Learning outcomes:
Define indexs for assessing the need for orthodontic therapy. Define a list of orthodontic problems and possible therapeutic solutions. Define the criteria by which the HZZO pays for orthodontic therapy.
S14. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S15. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S16. Therapy of non-skeletal problems in children - crossbite and reverse overbite
Learning outcomes:
Define crossbite and reverse overbite, etiology and possible therapeutic solutions.
S17. Therapy of non-skeletal problems in children - bad habits, eruption, space, trauma
Learning outcomes:
Know how to recognize unsuitable habits and suggest possible therapeutic solutions and myofunctional exercises. Define the problems of eruption, lack of space and trauma as etiological factors of the occurrence of malocclusions and state possible therapeutic solutions.
S18. Extraction therapy and approximate enamel reduction
Learning outcomes:
Explain the indications, purpose and implementation of extraction therapy and alternatives to extraction.
S19. Therapy of skeletal transverse problems in children
Learning outcomes:
Know the therapeutic options for skeletal transversal problems.
S20. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S21. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S22. Therapy of class II skeletal problems in children
Learning outcomes:
Know the therapeutic possibilities and limits for skeletal class II correction in children.
S23. Therapy of class III skeletal problems in children
Learning outcomes:
Know the therapeutic options for skeletal Class III correction in children, the right time for therapy, options and limits of therapy.
S24. Therapy of combined vertical and sagittal skeletal problems in children
Learning outcomes:
To know the therapeutic possibilities of combined vertical and sagittal problems in children.

S25. Comprehensive therapy with a fixed continuous device - installation of the device, leveling phase
Learning outcomes:
Know the methods of placing the appliance, the duration, tooth displacements and the types of alloys and shapes of the arches used in the stage leveling and the behavior of the patient with a fixed device.
S26. Comprehensive therapy with a fixed continuous device - guidance phase, IMGV
Learning outcomes:
Know the duration of teeth movement, types of orthodontic arches and mechanics in the guidance phase. Describe the types of IMGV. Know how to instruct the patient in orthodontic therapy in handling the device.
S27. Comprehensive therapy with a fixed continuous device - termination phase, removal appliances, additional periodontal procedures.
Learning outcomes:
Know the duration of tooth movement, the types of orthodontic arches in the finishing phase and the methods of removing the appliance additional periodontal procedures.
S28. Retention, changes due to growth and aging, relapse
Learning outcomes:
Explain the causes of recurrence of orthodontic anomalies and ways to prevent them. Know changes in the dentition after orthodontic therapy that occur due to growth and aging.
S29. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy
S30. Problem-based learning - case studies
Learning outcomes:
Presentation of the list of orthodontic problems and proposed therapy

The list of practicals with descriptions:

Practicals from the Clinical Orthodontics course are performed in the clinic at the Clinic for Dental Medicine of the Hospital center Rijeka. Before accessing the exercises, students are required to acquire theoretical knowledge and basics practical skills on models in pre-clinical exercises. During clinical exercises, students will work on patients to practically perform the acquired knowledge in the daily casuistry of the orthodontic office. Analyzes and therapy planning will be carried out on real and virtual models and computers in dedicated biometric software.

Students' obligations:

Students are obliged to regularly attend and actively participate in all forms of classes. Exams, seminar, the presentation of the case report and the final exam are mandatory.
Student can miss 30% of classes exclusively due to health reasons, which is justified by a doctor's note. Attendance at lectures is mandatory. Compensation is mandatory and is performed in addition to the agreement with the course coordinator. If a student misses more than 30% of classes (justified or non-justified), he cannot continue following the course and lose the possibility of appearing for the final exam. In that case, collected points are 0 ECTS and rate is F.

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

ECTS credit rating system:
Student evaluation is carried out according to the valid **Rulebook on studies of the University of Rijeka**.
Students work will be evaluated during classes and at the final exam. Out of the total
100 grade points, a student can earn 50 points during classes and another 50 points on the exam.
Grading of students is done using ECTS (A-F) and numerical system (5-1). Grading in ECTS
to the system is performed by absolute distribution.

Students who obtain from **0 to 24.9%** of the grade points, that could be obtained during
classes through forms of continuous monitoring and evaluation, are graded F (failed) and they cannot acquire ECTS credits and must re-enroll in the course.
The student acquires grade points by actively participating in classes, completing assigned tasks and
going out to exams in the following way:

I. During the class, the following are assessed (maximum 50 points):
a) exam (up to 30 points)
b) case presentations (up to 10 points)
c) seminar paper (up to 10 points)

a) Exam (up to 30 points)
During classes, all students are obliged to participate in the exam, which earns them a maximum of 30 points, the percentage of resolution is multiplied by a weight of 0.3. The limit is 50% resolution.

c) Seminar (up to 10 points)

b) Presentation of the case (up to 10 points)
The evaluation of the presented seminar paper and the case presentation carries 10 evaluation points each (range from 0-10), and is converted into grade points as follows:

grade	grade points
2	4
2-3	5
3	6
3-4	7
4	8
4-5	9
5	10

Final exam (total 50 grade points)
The final exam consists of a practical and an oral part. Both are scored equally.

Who can take the final exam:
Students who achieved 25% or more grade points that could have been obtained during classes through forms of continuous monitoring and evaluation of students.

Who cannot take the final exam:
Students who, during classes, achieved from 0 to 24.9% of the grade points that could have been obtained during classes through forms of continuous monitoring and evaluation of students are graded F (failed), cannot acquire ECTS points and must re-enroll in the course .

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The final exam carries **50 grade points** (range 0-50) and consists of a practical and a theoretical part.

Success in the practical and theoretical part of the final exam is converted into grade points as follows:

grade	grade points
2	12,5
2-3	15
3	17
3-4	19
4	21
4-5	23
5	25

The above-mentioned scale evaluates the practical and theoretical parts separately, and their sum gives the total grade of the final exam.
In order to pass the final exam and the final evaluation (including the addition of previously achieved evaluation points during classes), the student must be positively evaluated on both the practical and theoretical parts of the final exam and achieve a minimum of 25 evaluation points (50%).

Grading in the ECTS system is done by absolute distribution, that is, based on the final achievement:
A – 90 - 100% points
B – 75 -89.9 %
C – 60 -74.9 %
D -- 50 - 59.9%
F – 0 - 49.9%

Grades in the ECTS system are translated into a numerical 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: Wednesday at 14:00

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COURSE SCHEDULE (for the academic year 2024/2025)

Date	Lectures (time and place)	Seminars (time and place)	Practicals (time and place)	Instructor
02.10.2024.	P1 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
02.10.2024.	P2 (13:15-14:00) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
03.10.2024			V1 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
09.10.2024.	P3 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
09.10.2024.	P4 (13:15-14:00) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
10.10.2024.			V2 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
16.10.2024.	P5 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Višnja Katić
16.10.2024.	P6 (13:15-14:00) Krešimirova 42			Doc.dr.sc. Višnja Katić
17.10.2024.			V3 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
23.10.2024.		S1 (12:30-13:15) Krešimirova 42		Dr.sc. Vjera Perković
23.10.2024.		S2 (13:15-14:00) Krešimirova 42		Dr.sc. Vjera Perković
24.10.2024.			V4 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
30.10.2024.		S3 (12:30-13:15) Krešimirova 42		Dr.sc. Vjera Perković
30.10.2024.		S4 (13:15-14:00) Krešimirova 42		Dr.sc. Vjera Perković
31.10.2024.			V5 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
06.11.2024.		S5 (12:30-13:15) Krešimirova 42		Doc.dr.sc. Barbara Mady Maričić
06.11.2024.		S6 (13:15-14:00) Krešimirova 42		Doc.dr.sc. Barbara Mady Maričić
07.11.2024.			V6 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
13.11.2024.	P7 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
13.11.2024.	P8 (13:15-14:00)			Doc.dr.sc. Barbara Mady Maričić

	Krešimirova 42			
14.11.2024.			V7 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
20.11.2024.	P9 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
20.11.2024.	P10 (13:15-14:00) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
21.11.2024.			V8 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
27.11.2024.	P11(12:30-13:15) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
27.11.2024.	P12 (13:15-14:00) Krešimirova 42			Doc.dr.sc. Barbara Mady Maričić
28.11.2024.			V9 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
04.12.2024		S7 (12:30-13:15) Krešimirova 42		Doc.dr.sc. Barbara Mady Maričić
04.12.2024		S8 (13:15-14:00) Krešimirova 42		Doc.dr.sc. Barbara Mady Maričić
05.12.2024.			V10 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
11.12.2024.		S9 (12:30-13:15) Krešimirova 42		Prof.dr.sc. Stjepan Špalj
11.12.2024.		S10 (13:15-14:00) Krešimirova 42		Prof.dr.sc. Stjepan Špalj
12.12.2024.			V11 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
18.12.2024.	P13 (12:30-13:15) Krešimirova 42			Prof.dr.sc. Stjepan Špalj
18.12.2024.	P14 (13:15-14:00) Krešimirova 42			Prof.dr.sc. Stjepan Špalj
19.12.2024.			V12 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
08.01.2025.		S11 (12:30-13:15) Krešimirova 42		Doc.dr.sc. Magda Trinajstić Zrinski
08.01.2025.		S12 (13:15-14:00) Krešimirova 42		Doc.dr.sc. Magda Trinajstić Zrinski
09.01.2025			V13 (12:30-14:00)	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.

			Krešimirova 40	
15.01.2025.		S13 (12:30-13:15) Krešimirova 42		Prof.dr.sc. Stjepan Špalj
15.01.2025.		S14 (13:15-14:00) Krešimirova 42		Prof.dr.sc. Stjepan Špalj
16.01.2025.			V14 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
22.01.2025.	P15 (12:30-13:15) Krešimirova 42			Doc.dr.sc. Magda Trinajstić Zrinski
22.01.2025.		S15 (13:15-14:00) Krešimirova 42		Doc.dr.sc. Magda Trinajstić Zrinski
23.01.2025.			V15 (12:30-14:00) Krešimirova 40	Prof.dr.sc. Stjepan Špalj Matea Badnjević, dr. med. dent.
25.02.2025.	P16 (12:30-13:15) Krešimirova 40			Doc.dr.sc. Barbara Mady Maričić
25.02.2025.	P17 (13:15-14:00) Krešimirova 40			Doc.dr.sc. Barbara Mady Maričić
26.02.2025.			V16 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
04.03.2025.	P18 (12:30-13:15) Krešimirova 40			Doc.dr.sc. Barbara Mady Maričić
04.03.2025.	P19 (13:15-14:00) Krešimirova 40			Doc.dr.sc. Barbara Mady Maričić
05.03.2025.			V17 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
11.03.2025.	P20 (12:30-13:15) Krešimirova 40			Prof.dr.sc. Stjepan Špalj
11.03.2025.	P21 (13:15-14:00) Krešimirova 40			Prof.dr.sc. Stjepan Špalj
12.03.2025.			V18 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
18.03.2025.		S16 (12:30-13:15) Krešimirova 40		Dr.sc. Vjera Perković
18.03.2025.		S17 (13:15-14:00) Krešimirova 40		Dr.sc. Vjera Perković

19.03.2025.			V19 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
25.03.2025.		S18 (12:30-13:15) Krešimirova 40		Doc.dr.sc. Barbara Mady Maričić
25.03.2025.		S19 (13:15-14:00) Krešimirova 40		Doc.dr.sc. Barbara Mady Maričić
26.03.2025.			V20 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
01.04.2025.		S20 (12:30-13:15) Krešimirova 40		Prof.dr.sc.Stjepan Špalj
01.04.2025.		S21 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
02.04.2025.			V21 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
08.04.2025.	P22(12:30-13:15) Krešimirova 40			Doc.dr.sc. Magda Trinajstić Zrinski
08.04.2025.		S22 (13:15-14:00) Krešimirova 40		Doc.dr.sc. Magda Trinajstić Zrinski
09.04.2025.			V22 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
15.04.2025.	P23 (12:30-13:15) Krešimirova 40			Prof.dr.sc.Stjepan Špalj
15.04.2025.		S23 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
16.04.2025.			V23 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
22.04.2025.	P24 (12:30-13:15) Krešimirova 40			Prof.dr.sc.Stjepan Špalj
22.04.2025.		S24 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
23.04.2025.			V24 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent
29.04.2025.	P25 (12:30-13:15) Krešimirova 40			Prof.dr.sc.Stjepan Špalj
29.04.2025.		S25 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
30.04.2025.			V25 (12:30-14:00)	Doc.dr.sc. Višnja Katić

			Krešimirova 40	Doris Šimac dr.med.dent
06.05.2025.	P26 (12:30-13:15) Krešimirova 40			Doc.dr.sc. Magda Trinajstić Zrinski
06.05.2025.	P27 (13:15-14:00) Krešimirova 40			Doc.dr.sc. Magda Trinajstić Zrinski
07.05.2025.			V26 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent
13.05.2025.		S26 (12:30-13:15) Krešimirova 40		Prof.dr.sc.Stjepan Špalj
13.05.2025.		S27 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
14.05.2025.			V27 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
20.05.2025.	P28 (12:30-13:15) Krešimirova 40			Prof.dr.sc.Stjepan Špalj
20.05.2025.		S28 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
21.05.2025.			V28 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
27.05.2025.	P29 (12:30-13:15) Krešimirova 40			Doc.dr.sc. Magda Trinajstić Zrinski
27.05.2025.		S29 (13:15-14:00) Krešimirova 40		Doc.dr.sc. Magda Trinajstić Zrinski
28.05.2025.			V29 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.
03.06.2025.	P30 (12:30-13:15) Krešimirova 40			Prof.dr.sc.Stjepan Špalj
03.06.2025		S30 (13:15-14:00) Krešimirova 40		Prof.dr.sc. Stjepan Špalj
04.06.2025.			V30 (12:30-14:00) Krešimirova 40	Doc.dr.sc. Višnja Katić Doris Šimac dr.med.dent.

List of lectures, seminars and practicals:

	LECTURES (Topics)	Teaching hours	Location/Lecture room
P1	Orthodontic history and first examination	1	Krešimirova 40

P2	Public health aspect of malocclusion	1	Krešimirova 40
P3	Dental photography - principles of recording and photo processing	1	Krešimirova 40
P4	Analysis of symmetries and asymmetries	1	Krešimirova 40
P5	Anomalies in the number and position of teeth	1	Krešimirova 40
P6	Impacted teeth	1	Krešimirova 40
P7	Crowding	1	Krešimirova 40
P8	Spacing	1	Krešimirova 40
P9	Transverse malocclusions	1	Krešimirova 40
P10	Vertical malocclusions – open and deep bite	1	Krešimirova 40
P11	Class II/1 malocclusion	1	Krešimirova 40
P12	Class II/2 malocclusion	1	Krešimirova 40
P13	Class III malocclusions	1	Krešimirova 40
P14	Congenital anomalies	1	Krešimirova 40
P15	Orthodontic aspect of trauma and tooth extraction	1	Krešimirova 40
P16	Bone biology and physiology of tooth movement	1	Krešimirova 40
P17	Types of tooth displacement and character of orthodontic forces	1	Krešimirova 40
P18	Concepts of bony and non-bony anchorage	1	Krešimirova 40
P19	Mechanical principles in orthodontic force control - types of wires (elasticity/plasticity), rubber bands, springs	1	Krešimirova 40
P20	Dentofacial orthopedics - skeletal effects of orthodontic forces	1	Krešimirova 40
P21	Side effects of orthodontic therapy	1	Krešimirova 40
P22	Principles of operation and effect of mobile devices (panel, functional)	1	Krešimirova 40
P23	Principles of operation and effect of fixed devices (segmental, continuous)	1	Krešimirova 40
P24	Alveolar envelope - limitations of orthodontic therapy	1	Krešimirova 40
P25	Assessment of the right time to start orthodontic therapy	1	Krešimirova 40
P26	Obstructive sleep apnea and orthodontics	1	Krešimirova 40
P27	Management of eruption and serial extraction	1	webinar
P28	Malocclusions, orthodontic therapy and temporomandibular disorders	1	Krešimirova 40
P29	Orthodontic therapy with splints - aligners	1	Krešimirova 40
P30	Final conversation	1	Krešimirova 40
	Total number of hours of lectures		

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	SEMINARS (Topics)	Teaching hours	Location/Lecture room
S1	Oral hygiene protocol in orthodontics and prophylaxis	1	Krešimirova 40
S2	Biological and psychological maturity, patient cooperation during therapy	1	Krešimirova 40
S3	Dental photography in orthodontic diagnostics	1	Krešimirova 40
S4	Functions and parafunctions, functional analysis	1	Krešimirova 40
S5	Analysis of tooth position and occlusion, shape and symmetry of dental arches	1	Krešimirova 40
S6	Analysis of Spee's curve, dento-dental discrepancy and methods of dento-dental discrepancy correction	1	Krešimirova 40
S7	Dento-alveolar discrepancy and predictive analyzes in mixed dentition	1	Krešimirova 40
S8	Problem-based learning - case studies	1	Krešimirova 40
S9	Problem-based learning - case studies	1	Krešimirova 40
S10	X-ray cephalometric analysis – definition of points and reference lines, analysis of jaw size and position	1	Krešimirova 40
S11	X-ray cephalometric analysis of growth pattern, position of incisors and soft tissues	1	Krešimirova 40
S12	Problem-based learning - case studies	1	Krešimirova 40
S13	Assessment of orthodontic therapy needs (clinical indices and quality of life) and therapy planning. Criteria by which the HZZO pays for orthodontic therapy	1	Krešimirova 40
S14	Problem-based learning - case studies	1	Krešimirova 40
S15	Problem-based learning - case studies	1	Krešimirova 40
S16	Therapy of non-skeletal problems in children - crossbite and reverse overbite.	1	Krešimirova 40
S17	Therapy of non-skeletal problems in children - bad habits, eruption, space, trauma	1	Krešimirova 40
S18	Extraction therapy and anchorage planning	1	Krešimirova 40
S19	Therapy of skeletal transverse problems in children	1	Krešimirova 40
S20	Problem-based learning - case studies	1	Krešimirova 40
S21	Problem-based learning - case studies	1	Krešimirova 40
S22	Therapy of class II skeletal problems in children	1	Krešimirova 40
S23	Therapy of class III skeletal problems in children	1	Krešimirova 40

S24	Therapy of combined vertical and sagittal skeletal problems in children	1	Krešimirova 40
S25	Comprehensive therapy with a fixed continuous appliance - installation of the appliance and the leveling phase	1	Krešimirova 40
S26	Comprehensive therapy with a fixed continuous appliance - guidance phase, intermaxillary rubber train, springs	1	Krešimirova 40
S27	Comprehensive therapy with a fixed continuous device - finishing phase, removal of the device, additional periodontal procedures	1	webinar
S28	Retention, changes due to growth and aging, relapse	1	Krešimirova 40
S29	Problem-based learning - case studies	1	Krešimirova 40
S30	Problem-based learning - case studies	1	Krešimirova 40
	Total number of seminar hours	**30**	

	PRACTICALS (Topics)	Teaching hours	Location/Lecture room
V1-29	Acquiring the skills to recognize and treat malocclusions	39x2	Krešimirova 40
	TOTAL TEACHING HOURS	**58**	

	FINAL EXAM DATES
1.	
2.	
3.	

	Lectures	Seminars	Practicals	Total
Total number	30	30	58	118
On-line	1	1	0	2
Percentage	3%	3%	0%	1.7%