

SCHOOL OF DENTAL MEDICINE UNIVERSITY OF BELGRADE



**INTEGRATED UNDEGRADUATE AND MASTER'S
ACADEMIC STUDIES**

**STUDY PROGRAM
INTEGRATED STUDIES OF DENTAL
MEDICINE**

SYLLABUS

Belgrade, 2026

no	CODE	COURSE	Scientific field	semester	L	P	Other/ Pp-II	ECTS	Page
1	ST27ANAT	Anatomy	Basic Dental Sciences	1,2	90	90		15	5
2	ST27HIST	General and Oral Histology and Embryology	Basic Dental Sciences	1,2	60	60		11	6
3	ST27BIOH	General and Oral Biochemistry	Basic Dental Sciences	1	60	30		9	7
4	ST27GENE	Cell Biology and Human Genetics	Basic Dental Sciences	1	45	30		9	8
5	ST27ENGL	English Language	General Education Sciences	1	30	30		6	10
6	ST27ETIK	Ethics, Critical Thinking and Interprofessional Education in Dentistry	Basic Dental Sciences	1	15	15		4	11
7	27I1_01	English for Academic Purposes	General Education Sciences	1	30	30		2	13
8	27I1_02	English for Dentistry (advanced course)	General Education Sciences	2	30	30		2	14
9	27I1_03	Histology Workshop: Tissues and Organs of the Orofacial System	Basic Dental Sciences	2	30	30		2	15
10	27I1_04	Neurohistology	Basic Dental Sciences	2	30	30		2	16
11	27I1_05	Mechanisms of Developmental Anomalies	Basic Dental Sciences	2	30	30		2	17
12	27I1_06	Application of Information Technology in Dentistry	Basic Dental Sciences	1	30	30		2	18
13	27I1_07	Fundamentals of Biomechanics in Dentistry with Elements of Physics of Materials	Basic Dental Sciences	2	30	30		2	19
14	27I1_08	Social Medicine and Epidemiology	Basic Dental Sciences	1	30	30		2	20
15	27I1_09	Biochemistry of Bone Tissue	Basic Dental Sciences	2	30	30		2	21
16	27I1_10	Medical Ecology	Basic Dental Sciences	1	30	30		2	22
17	27I1_11	Nutrition and Oral Health	Basic Dental Sciences	1	30	30		2	23
18	27I1_12	The Impact of Oral Health on the Quality of Life	Basic Dental Sciences	2	30	30		2	24
19	27I1_13	Histological Techniques	Basic Dental Sciences	1	30	30		2	25
20	27I1_14	Biochemical Characteristics of the Oral Pellicle	Basic Dental Sciences	2	30	30		2	26
21	27I1_15	Ergonomy in Dentistry	Clinical Dental Sciences	1	30	30		2	27
22	27I1_16	Genetic Disorders of the Orofacial Region	Basic Dental Sciences	2	30	30		2	28
23	27I1_17	Genetic Basis of Multifactorial Diseases	Basic Dental Sciences	2	30	30		2	29
24	27I1_18	Stem Cell Biology	Basic Dental Sciences	2	30	30		2	30
25	27I1_19	Gene Therapy	Basic Dental Sciences	2	30	30		2	31
26	27I1_20	Fundamentals of Biophysics in Dentistry	Basic Dental Sciences	2	30	30		2	32
27	ST27FIZL	General and Oral Physiology	Basic Dental Sciences	3,4	120	60		13	34
28	ST27PATO	General and Oral Pathology	Basic Dental Sciences	3,4	60	45		10	35
29	ST27PREV	Preventive Dentistry	Clinical Dental Sciences	3	45	45		9	36
30	ST27MIKR	Microbiology and Immunology	Basic Dental Sciences	3	60	30		9	38
31	ST27DEAN	Dental Anatomy with the Fundamentals of Gnathology	Clinical Dental Sciences	3	15	30		8	39
32	ST27JAZD	Public Health	Basic Dental Sciences	4	30	15		5	40
33	27I2_01	Oral Hygiene Products	Clinical Dental Sciences	4	30	30		2	42
34	27I2_02	Oral Homeostasis	Basic Dental Sciences	4	30	30		2	43
35	27I2_03	Bone Tissue Physiology	Basic Dental Sciences	4	30	30		2	44
36	27I2_04	Laboratory Diagnostics of Tumors in the Orofacial Region	Basic Dental Sciences	4	30	30		2	46
37	27I2_05	Tumor Markers	Basic Dental Sciences	4	30	30		2	47
38	27I2_06	Biostatistics in Dental Medicine	Basic Dental Sciences	4	30	30		2	48
39	27I2_07	Management in Dentistry	Basic Dental Sciences	4	30	30		2	49
40	27I2_08	Impact of Harmful Habits on Oral Health	Basic Dental Sciences	4	30	30		2	50
41	27I2_09	Microbiological Aspects of Infection Control in Dentistry	Basic Dental Sciences	4	30	30		2	51
42	27I2_10	Biofilm in Dentistry and Medicine	Basic Dental Sciences	4	30	30		2	52
43	27I2_11	Informatics in Dental Medicine	Basic Dental Sciences	4	30	30		2	53
44	27I2_12	Physical Foundations of Diagnostic and Therapeutic Methods	Basic Dental Sciences	4	30	30		2	54
45	27I2_13	Viral Infections Relevant to Dental Practice	Basic Dental Sciences	4	30	30		2	56

46	2712_14	Microbiological Diagnostics of Infections in the Oropharyngeal Region	Basic Dental Sciences	4	30	30		2	57
47	2712_15	The Concept of Personalized Medicine in Dentistry	Basic Dental Sciences	4	30	30		2	58
48	2712_16	Comparable Dental Anatomy	Clinical Dental Sciences	4	30	30		2	59
49	ST27PAFI	Pathophysiology	Basic Dental Sciences	5	60	30		8	60
50	ST27PRMP	Preclinical Removable Prosthodontics	Clinical Dental Sciences	6	30	45		7	61
51	ST27BOZP	Restorative Odontology-Preclinical	Clinical Dental Sciences	5.6	30	60		7	63
52	ST27OPHI	General Surgery	Clinical Medical Sciences	6	45	45		6	64
53	ST27INME	Internal Medicine	Clinical Medical Sciences	5	45	60		6	65
54	ST27MEDB	General Medicine	Clinical Medical Sciences	5	45	15		4	66
55	ST27REND	Fundamentals of Clinical Radiology	Clinical Medical Sciences	5.6	60	60		9	67
56	ST27FARM	Pharmacology in Dentistry	Basic Dental Sciences	5	60	30		7	68
57	2713_01	Specificity of Oral Hygiene in Special Patient Groups	Clinical Dental Sciences	6	30	30		3	70
58	2713_02	Prophylactic Measures in Restorative Dentistry	Clinical Dental Sciences	6	30	30		3	71
59	2713_03	Saliva As a Diagnostic Fluid	Basic Dental Sciences	6	30	30		3	72
60	2713_04	Drug Abuse and Dental Practice	Basic Dental Sciences	6	30	30		3	73
61	2713_05	Etiopathogenesis of Oral Cavity Diseases	Basic Dental Sciences	6	30	30		3	74
62	2713_06	Molecular Mechanisms Involved in the Pathogenesis of Shock	Basic Dental Sciences	6	30	30		3	75
63	2713_07	Cellular and Molecular Mechanisms in the Pathogenesis of Atherosclerosis	Basic Dental Sciences	6	30	30		3	76
64	2713_08	Emergency Conditions in Internal Medicine and Dental Practice	Clinical Medical Sciences	6	30	30		3	77
65	2713_09	Systemic Complications Caused by Oral Infections	Clinical Medical Sciences	6	30	30		3	78
66	2713_10	Emergencies in General Surgery	Clinical Medical Sciences	6	30	30		3	79
67	2713_11	X-Ray Image Interpretation	Clinical Medical Sciences	6	30	30		3	80
68	2713_12	Dental Biomechanics	Clinical Dental Sciences	6	30	30		3	81
69	2713_13	Communication Skills in Dental Practice	Clinical Dental Sciences	6	30	30		3	82
70	2713_14	Professional Ethics in Dentistry	Clinical Dental Sciences	6	30	30		3	83
71	2713_15	Dental Photography	Clinical Dental Sciences	6	30	30		3	84
72	2713_16	Color in Dentistry	Clinical Dental Sciences	6	30	30		3	85
73	2713_17	Osteoporosis and Oral Health	Clinical Medical Sciences	6	30	30		3	86
74	2713_18	Dental Treatment of Patients with High Cardiovascular Risk	Clinical Medical Sciences	6	30	30		3	87
75	ST27ANES	Anesthesia in Dentistry and Basic Principles of Oral Surgery	Clinical Dental Sciences	8	30	45	45	7	88
76	ST27REOD	Restorative Odontology	Clinical Dental Sciences	7.8	30	135	45	10	89
77	ST27MOBI	Removable Prosthodontics	Clinical Dental Sciences	7.8	30	180	60	10	90
78	ST27FPRO	Preclinical Fixed Prosthodontics	Clinical Dental Sciences	7.8	15	45	30	7	92
79	ST27ORME	Oral Medicine	Clinical Dental Sciences	7.8	30	30	30	7	93
80	ST27PAR1	Preclinical Periodontology	Clinical Dental Sciences	7.8	30	30	30	7	94
81	ST27PREN	Preclinical Endodontics	Clinical Dental Sciences	8	15	30	30	6	95
82	2714_01	Materials for Direct Esthetic Restorations	Clinical Dental Sciences	8	30	15		3	97
83	2714_02	Minimum Intervention Cariology	Clinical Dental Sciences	8	30	15		3	98
84	2714_03	Dental Care for Children with Rare Diseases	Clinical Dental Sciences	8	30	15		3	99
85	2714_04	Biochemistry of Body Fluids	Basic Dental Sciences	8	30	15		3	100
86	2714_05	Clinical Significance of the Topographical Anatomy of the Head and Neck	Basic Dental Sciences	8	30	15		3	101
87	2714_06	Clinical Significance of the Cranial Nerves	Basic Dental Sciences	8	30	15		3	102
88	2714_07	Head and Neck Cancer Prevention	Clinical Dental Sciences	8	30	15		3	103
89	2714_08	Antibiotic Prophylaxis in High-Risk Patients	Clinical Dental Sciences	8	30	15		3	104
90	2714_09	Physiological Basis of Pain in the Orofacial Region	Basic Dental Sciences	8	30	15		3	105
91	2714_10	Periodontal Manifestations of Local and Systemic Diseases	Clinical Dental Sciences	8	30	15		3	106

92	2714_11	Digital and AI-Assisted Radiology in Dentistry	Clinical Medical Sciences	8	30	15		3	107
93	2714_12	Oral Potentially Malignant Disorders and the Contemporary Concept of Diagnostics	Clinical Dental Sciences	8	30	15		3	109
94	2714_13	Principles of Treatment of Oral Diseases and Adverse Drug Reactions	Clinical Dental Sciences	8	30	15		3	110
95	2714_14	Autoimmune Diseases of the Oral Mucosa	Clinical Dental Sciences	8	30	15		3	111
96	2714_15	Oral Mucosal Diseases in Immunocompromised Patients	Clinical Dental Sciences	8	30	15		3	112
97	2714_16	Gerodontology	Clinical Dental Sciences	8	30	15		3	113
98	ST27DEST	Pediatric Dentistry	Clinical Dental Sciences	9,10	60	90	60	11	115
99	ST27ORAL	Oral Surgery	Clinical Dental Sciences	9,10	60	90	60	10	117
100	ST27FSR	Fixed prosthodontics with clinical gnathology	Clinical Dental Sciences	9,10	45	180	60	12	118
101	ST27PAR2	Clinical Periodontology	Clinical Dental Sciences	9,10	30	45	45	10	119
102	ST27ENDO	Endodontics	Clinical Dental Sciences	9,10	30	135	60	11	120
103	2715_01	Root Canal Obturation - Obturation Techniques and Materials	Clinical Dental Sciences	10	15	15	15	3	122
104	2715_02	Rotary Instruments in Endodontics	Clinical Dental Sciences	10	15	15	15	3	123
105	2715_03	Treatment Planning for Chronic Periapical Inflammatory Lesions	Clinical Dental Sciences	10	15	15	15	3	124
106	2715_04	Root Canal Chemical Treatment During Endodontic Therapy	Clinical Dental Sciences	10	15	15	15	3	125
107	2715_05	Pain Management in Endodontics	Clinical Dental Sciences	10	15	15	15	3	126
108	2715_06	Visualization Methods in Endodontics	Clinical Dental Sciences	10	15	15	15	3	127
109	2715_07	Calcium Silicate Cements in Endodontics	Clinical Dental Sciences	10	15	15	15	3	128
110	2715_08	Irrigation Systems and Endodontic Protocols	Clinical Dental Sciences	10	15	15	15	3	129
111	2715_09	New Technologies in the Prevention and Arrest of Hard Dental Tissue Lesions	Clinical Dental Sciences	10	15	15	15	3	130
112	2715_10	Dental Care for Children with Medical Risks	Clinical Dental Sciences	10	15	15	15	3	132
113	2715_11	Dental Treatment of Patients with Special Care Needs	Clinical Dental Sciences	10	15	15	15	3	133
114	2715_12	Child Abuse and Neglect	Clinical Dental Sciences	10	15	15	15	3	134
115	2715_13	Traumatic dental injuries in children	Clinical Dental Sciences	10	15	15	15	3	135
116	2715_14	Complex Surgical Treatment of Jaw Cysts	Clinical Dental Sciences	10	15	15	15	3	136
117	2715_15	Periapical Microsurgery	Clinical Dental Sciences	10	15	15	15	3	137
118	2715_16	Radiographic Techniques in Oral Surgery	Clinical Dental Sciences	10	15	15	15	3	138
119	2715_17	Complex Surgery of Impacted Teeth	Clinical Dental Sciences	10	15	15	15	3	139
120	2715_18	Medically Compromised Patients in Oral Surgery	Clinical Dental Sciences	10	15	15	15	3	140
121	2715_19	Complex Therapy of Odontogenic Infections	Clinical Dental Sciences	10	15	15	15	3	141
122	2715_20	Pain Control Using Special Anesthesia Techniques in Oral Surgery	Clinical Dental Sciences	10	15	15	15	3	142
123	2715_21	Biomaterials in Regenerative Periodontal Treatment	Clinical Dental Sciences	10	15	15	15	3	143
124	2715_22	Gingival Recessions	Clinical Dental Sciences	10	15	15	15	3	144
125	2715_23	Tissue Engineering in Periodontology	Clinical Dental Sciences	10	15	15	15	3	145
126	2715_24	Specific Forms of Fixed Dental Restorations	Clinical Dental Sciences	10	15	15	15	3	146
127	2715_25	Esthetic Principles of Dental Restorations	Clinical Dental Sciences	10	15	15	15	3	147
128	2715_26	Ceramic Systems in Prosthodontics	Clinical Dental Sciences	10	15	15	15	3	148
129	2715_27	Zirconia in Prosthetic Dentistry	Clinical Dental Sciences	10	15	15	15	3	149
130	2715_28	Orofacial Pain in Prosthodontic Patients	Clinical Dental Sciences	10	15	15	15	3	150
131	ST27MAKS	Maxillofacial Surgery	Clinical Dental Sciences	11,12	60	60		9	151
132	ST27ORLA	Otorhinolaryngology	Clinical Medical Sciences	11	15	30		5	152
133	ST27SUME	Forensic Medicine	Basic Dental Sciences	11	30	15		5	153
134	ST27BLO1	Block: Restorative Dentistry	Clinical Dental Sciences	12	60	60	180	8	154
135	ST27BLO2	Block: Pedodontics	Clinical Dental Sciences	12	30	30	75	7	155
136	ST27IMPL	Implantology	Clinical Dental Sciences	11,12	45	60	15	7	156
137	ST27ORTO	Dentofacial Orthopedics	Clinical Dental Sciences	11,12	60	75	30	10	158
138	ST13ZARA	Thesis Defence	Clinical Dental Sciences	12			45	3	159

139	2716_01	<u>Indirect Tooth Restorations</u>	Clinical Dental Sciences	11	30	30		3	161
140	2716_02	<u>Treatment of Tooth Discoloration in the Esthetic Zone</u>	Clinical Dental Sciences	11	30	30		3	162
141	2716_03	<u>Behavioral Management Techniques and Minimal Sedation in Pediatric Dentistry</u>	Clinical Dental Sciences	11	30	30		3	163
142	2716_04	<u>Deontological Aspects of Dental Practice</u>	Basic Dental Sciences	11	30	30		3	165
143	2716_05	<u>Endoscopic Operations of the Nose and Paranasal Sinuses</u>	Clinical Medical Sciences	11	30	30		3	166
144	2716_06	<u>Treatment of Head and Neck Malignant Tumors</u>	Clinical Dental Sciences	12	30	30		3	167
145	2716_07	<u>Dental Treatment of Oncological Patients</u>	Clinical Dental Sciences	12	30	30		3	168
146	2716_08	<u>Postoperative Treatments in Maxillofacial Surgery</u>	Clinical Dental Sciences	11	30	30		3	169
147	2716_09	<u>Patient Preparation for Surgical Correction of Dentofacial Deformities</u>	Clinical Dental Sciences	12	30	30		3	170
148	2716_10	<u>Facial Surgery</u>	Clinical Dental Sciences	12	30	30		3	171
149	2716_11	<u>3D Digital Technologies in Orthodontics</u>	Clinical Dental Sciences	12	30	30		3	172
150	2716_12	<u>The Fundamentals of Treatment with Fixed Orthodontic Appliances</u>	Clinical Dental Sciences	12	30	30		3	173
151	2716_13	<u>Orthodontic Management of Impacted Teeth</u>	Clinical Dental Sciences	12	30	30		3	174
152	2716_14	<u>Lingual Orthodontics</u>	Clinical Dental Sciences	12	30	30		3	175
153	2716_15	<u>Multidisciplinary Therapy in Orthodontics</u>	Clinical Dental Sciences	12	30	30		3	176
154	2716_16	<u>Orthodontic Mini-Implants</u>	Clinical Dental Sciences	12	30	30		3	177
155	2716_17	<u>Presurgical Orthodontic Treatment</u>	Clinical Dental Sciences	12	30	30		3	178
156	2716_18	<u>The use of CBCT in Orthodontics and Dentofacial Orthopedics</u>	Clinical Dental Sciences	11	30	30		3	179
157	2716_19	<u>Contemporary Radiology in Dentistry</u>	Clinical Medical Sciences	11	30	30		3	180
158	2716_20	<u>Computerized Dentistry</u>	Clinical Dental Sciences	11	30	30		3	181
159	2716_21	<u>Treatment Possibilities with Removable Orthodontic Appliances</u>	Clinical Dental Sciences	12	30	30		3	182
160	2716_22	<u>Digital Technologies in Implant Prosthodontics</u>	Clinical Dental Sciences	11	30	30		3	183
161	2716_23	<u>Materials in Implantology</u>	Clinical Dental Sciences	11	30	30		3	184
162	2716_24	<u>Design of Implant-Supported Restorations</u>	Clinical Dental Sciences	11	30	30		3	185

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Anatomy			
Course Leader (Name, middle letter, surname): Aleksandra M. Dožić			
Course status (compulsory/elective): Compulsory			
ECTS: 15		Year of the study: I / 1st and 2nd semesters	
Entry requirements (examinations passed in previous years):		Course code: ST27ANAT	
<p>Objectives of the course: The aim of this course is to provide students with theoretical and practical knowledge of systematic and topographical human anatomy.</p>			
<p>Outcomes of the course: After completing this course, the student should demonstrate knowledge of: -Morphology and topography of bone and soft tissue structures of upper and lower limbs -Structure and content of the thoracic cavity -Structure and content of the abdominal cavity -Structure and content of the pelvic cavity -Morphology and topography of the bones and joints of the head and neck -Morphology and topography of soft tissue structures of the head and neck -Structure of the oral cavity and its walls -Structure of the pharynx -Structure of the nose and paranasal sinuses -Structure of the larynx -Structure of the organs of sight, hearing and balance -Morphology and topography of the central nervous system</p>			
<p>Contents of the course: Bones and soft tissue structures of the arm, leg, thorax, abdomen and pelvis. Bones, joints and soft tissue structures of the head and neck. The central nervous system (<i>Medulla spinalis, encephalon</i>).</p>			
<p>Recommended literature: Moore KL. Clinically oriented anatomy. 3rd ed. Baltimore: Williams & Wilkins; 1992. Pp. 1-875.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 90	Practicals: 90	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: General and Oral Histology and Embryology				
Course Leader (Name, middle letter, surname): Vesna Z. Danilović				
Course status (compulsory/elective): Compulsory				
ECTS: 11			Year of the study: : I / 1st and 2nd semesters	
Entry requirements (examinations passed in previous years):/			Course code: ST27HIST	
Objectives of the course: The course aims to provide students with knowledge of the structural organization of cells, tissues, and organs, including the basic principles of their integration into larger units. Students will also acquire knowledge of their origin and development.				
Outcomes of the course: Upon completion of the course, the student should be able to: 1. Identify and analyze all tissues and organs at a microscopic level. 2. Recognize embryonic tissues and stages of the development of all tissues, especially the head and neck tissues and organs. 3. Explain the basic developmental processes and mechanisms that lead to developmental anomalies. 4. Understand the normal function of cells, tissues, and organs.				
Contents of the course: Histological organization and development of four basic tissue types: epithelial, connective, muscular, and nervous. Organs and systems of organs: circulatory, urinary, digestive, respiratory, endocrine, nervous, immune, the liver, pancreas, skin, and senses. Tissues and organs of the oral cavity: histological structure and development.				
Recommended literature: Andjelković Z et al. Histology. 1 st ed. Galaksijanis, 2024. pp. 11-302.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 60	Practicals: 60	Other modes of teaching: Mid-term tests	Research paper: /	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	20
Participation in practicals	28 (microscopy, drawing, short knowledge tests)		Oral exam	40
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: General and Oral Biochemistry			
Course Leader (Name, middle letter, surname): Ivan S. Dožić			
Course status (compulsory/elective): Compulsory			
ECTS: 9		Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27BIOH	
<p>Objectives of the course: To gain basic knowledge of the chemical structure of biomolecules, synthesis and degradation of organic molecules, as well as the regulatory mechanisms of these processes. Students will acquire the knowledge of the biochemistry of saliva, dental tissues and dental biofilm.</p>			
<p>Outcomes of the course: After completing this course, the student should demonstrate:</p> <ul style="list-style-type: none"> - Basic knowledge of the biochemical characteristics of biomolecules - Knowledge of enzymes - Basic knowledge of the principles of metabolic processes in the human body (carbohydrates, lipids and proteins) - Knowledge of biochemical organization and processes of certain tissues and organs, including their connections and interdependence - Knowledge of hormones and their regulatory mechanisms - Knowledge of the metabolism of water and bioelements - Basic knowledge of clinical and diagnostic importance of determining certain biochemical parameters in body fluids and secretions (blood serum, saliva) - Knowledge of the biochemical composition of dental tissues - Knowledge of the biochemical composition and secretion of saliva - Knowledge of the biochemistry of dental biofilm - Knowledge of the biochemical basis of dental caries and periodontal disease. 			
<p>Contents of the course: Chemical bonds and structure of biomolecules, especially carbohydrates, lipids and proteins. Review of the basic principles of biochemistry and molecular biology. Particular emphasis will be placed on a broad understanding of the chemical processes occurring inside living systems in terms of their metabolism, as well as on the structure-function relationship of biologically important molecules. Additionally, important concepts such as bioenergetics, biological catalysis and metabolic pathways (metabolism of carbohydrates, lipids and proteins) as interacting regulatory systems will be included. This course will also provide students with a thorough understanding of the basic principles of biochemical processes related to oral health. These will be covered within the following 3 units: biochemistry of saliva, biochemistry of dental tissues, and biochemistry of dental biofilm.</p>			
<p>Recommended literature: 1. Vasudevan DM, Sreekumari S, Vaidyanathan K. Textbook of Biochemistry for Dental Students. 3rd ed. New Delhi :Jaypee Brothers Medical Publishers (P) Ltd; 2017. pp. 7-53, 61-88, 110-163, 182-200, 250-259. 2. Lieberman M, Peet. Marks' basic medical biochemistry: a clinical approach. 5th ed. Philadelphia: Wolters Kluwer; 2018. pp. 868-901, 1549-1568.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 60	Practicals: 30	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	10
Participation in practicals	28	Oral exam	50
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Cell Biology and Human Genetics	
Course Leader (Name, middle letter, surname): Branka P. Popović	
Course status (compulsory/elective): Compulsory	
ECTS: 9	Year of the study: I / 1st semester
Entry requirements (examinations passed in previous years):	Course code: ST27GENE
<p>Objectives of the course: To provide future doctors of dental medicine with the most relevant insights in cell biology and introduce them to the process of inheritance at the molecular, chromosomal, individual, and population levels.</p>	
<p>Outcomes of the course: After successfully completing the course, the student should be able to:</p> <ul style="list-style-type: none"> - understand the basic concepts of cell biology, structure and function of major cellular organelles and cytoskeleton, and some important processes related to cell (intercellular communication, cell signaling, and membrane transport) - understand the mechanisms of the cell cycle control, cell differentiation, cellular aging and cell death, cell divisions, and gametogenesis - understand the basis of molecular biology (nucleic acid types, replication, transcription, translation, and control of gene expression) - explain the mechanisms of mutagenesis and the consequences for the human health, as well as the mechanisms of DNA repair - explain the basic principles and rules of inheritance of monogenic and polygenic normal and pathological traits, with reference to examples from dental medicine, as well as the prevalence of hereditary traits at the population level - understand the basic concepts of cytogenetics, its medical significance and application in clinical practice - explain the mechanisms of numerical chromosomal aberrations and the most common syndromes, with their main features - understand the mechanisms underlying the occurrence of structural chromosomal aberrations and their phenotypic effects, i.e. their significance for the human population and their offspring - connect genetic and chromosomal changes to the process of tumorigenesis - understand the basic techniques of molecular biology and their application in human genome analysis 	
<p>Contents of the course: Students will be introduced to the following concepts of cell biology: prokaryotic and eukaryotic cell structure, cell morphology, structure and function of cell organelles, cell signaling, cell transport, cell cycle control, cell divisions, stem cells, cell differentiation, cell senescence and death. Furthermore, students will acquire basic knowledge on DNA structure, human genome organization, DNA replication, transcription, translation, regulation of gene expression, basic concepts of mutagenesis (types of gene mutations, chemical and physical mutagenesis, and mechanisms of DNA repair). The course will also introduce the Mendelian inheritance of monogenic traits (autosomal dominant and autosomal recessive inheritance, X-linked inheritance), non-classical inheritance of monogenic traits (uniparental disomy, genomic imprinting, anticipation, mitochondrial inheritance, holandric inheritance, gene mosaicism), genetic control of sex differentiation, inheritance of linked genes, inheritance of ABO and Rh blood groups, types of genetic polymorphisms (SNP, STR, VNTR, In/Del), polygenic traits, multifactorial inheritance, population genetics (genetic structure of the population, prevalence of hereditary diseases in the population). Additionally, students will be introduced to the field of cytogenetics and karyotype analysis, main techniques applied in cytogenetics, numerical and structural chromosomal aberrations and principal syndromes caused by chromosomal aberrations. The course also includes the main principles of the genetic basis of the immune response, mechanisms of antibody somatic (VDJ) recombination and the major histocompatibility complex (MHC) function. Students will also comprehend the role of genes involved in the carcinogenesis (proto-oncogenes, tumor suppressor genes, mutator genes), viral oncogenesis, epigenetic mechanisms of carcinogenesis, and the role of telomeres in carcinogenesis. Finally, students will learn about the application of the most common molecular genetic methods in medicine (PCR, Real-Time PCR, DNA sequencing, DNA hybridization techniques - FISH, microarray, NGS, RNA-seq), and CRISPR gene therapy.</p>	
<p>Recommended literature: Cohn R, Scherer S, Hamosh A. Thompson & Thompson genetics and genomics in medicine. 9th ed. Philadelphia: Elsevier; 2023. pp: 1-580.</p>	
Total number of contact classes (active teaching and learning):	

Lectures: 45	Practicals: 30	Other modes of teaching:	Research paper:	Professional practice/ independent learning:
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	10
Participation in practicals	28		Oral exam	50
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: English Language			
Course Leader (Name, middle letter, surname): Irena V. Aleksić-Hajduković			
Course status (compulsory/elective): Compulsory			
ECTS: 6		Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27ENGL	
<p>Objectives of the course: To introduce students to the basics of English for Medicine and Dental Medicine while improving their reading, speaking, listening and writing competencies in order to enable them to use the English language to communicate with patients and colleagues effectively, take part in continuing professional development (CPD) programmes, and skim and scan scholarly literature and electronic sources for relevant information.</p>			
<p>Outcomes of the course: After completing this course, the student should:</p> <ul style="list-style-type: none"> - use the basic English terminology related to medicine and dental medicine; - identify the morphological processes related to the basic word structure of medical/dental terms in English and apply them to acquire new complex terms; - differentiate between professional English terms and their equivalent terms used by patients; - read relevant publications critically and analytically; - skim and scan scholarly literature and electronic sources, including audio-visual contents; - plan, prepare and deliver oral presentations related to the fields of medicine and dental medicine; - ask questions about personal data and symptoms, and give basic instructions when interacting with patients; - communicate with colleagues about a range of topics related to medicine and dental medicine. 			
<p>Contents of the course: The implications of learning English as a lingua franca for medical professions; basic word structure of medical/dental terms; terminology related to the human body, infections and systemic diseases; medical education (general (dental) practitioners and specialists); medical equipment; basic chairside instruments; human dentition; nutrition and oral health; introduction to dentist-patient communication; taking a history, breaking bad news, giving instructions; most common oral diseases and conditions; most common ethical issues in dental medicine.</p>			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Chabner, D.E. <i>The Language of Medicine</i>. 11th ed. St. Louis, Missouri: Elsevier; 2017. pp. 2-23, 34-54, 61-66, 140-149, 400-409, 460-465, 580-589, 750-760. 2. Dofka, C.M. <i>Dental Terminology</i>. Albany NY: Delmar Thompson Learning; 2013. pp. 1-19, 46-55, 61-69 75-87, 93-99, 126-133. 3. Evans, V., Dooley, J. & Caldwell, J. <i>Career Paths: Dentistry. Book 1</i>. Newbury (Royaume-Uni): Express Publishing; 2016. pp. 4-40. 4. Glendinning, E. & Howard, R. <i>Professional English in Use: Medicine</i>. Cambridge: Cambridge University Press; 2007. pp. 10-11, 18-19, 36-37, 40-41, 44-45, 52-53, 68-69, 102-109, 112-117. 5. McCullagh, M. & Wright, R. <i>Good practice: Communication Skills in English for the Medical Practitioner</i>. Cambridge: Cambridge University Press; 2008. Стр. 8-41, 52-76, 87-94. <p>Dictionaries: Ireland, R. <i>A Dictionary of Dentistry</i>. New York: Oxford University Press; 2010. Стр. 1-416.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals: 30	Other modes of teaching: Oral presentation	
Research paper:			
Teaching and learning methods: student-centred, interactive, and communicative			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points		Final exam 60 points
Participation in lectures	6		Written exam 60
Participation in practicals	28		
Mid-term test (s)			
Seminars			
Oral presentation	6		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Ethics, Critical Thinking and Interprofessional Education in Dentistry				
Course Leader (Name, middle letter, surname): Jelena R. Roganović				
Course status (compulsory/elective): Compulsory				
ECTS: 4			Year of the study: I/2nd semester	
Entry requirements (examinations passed in previous years):/			Course code: ST27ETIK	
<p>Objectives of the course: To develop an ethically aware, critically oriented, and professionally responsible dental student capable of recognizing the limits of knowledge, evaluating the reliability of information, and fostering respectful relationships with patients, colleagues, faculty members, and within the academic institution.</p>				
<p>Outcomes of the course: Upon completion of the course, the student should be able to:</p> <ol style="list-style-type: none"> 1. Explain the basic ethical principles in medicine and dentistry. 2. Critically evaluate information from the internet, social media, and artificial intelligence tools. 3. Understand the limits of artificial intelligence and personal professional responsibility. 4. Recognize and analyze ethical dilemmas in the dentist–patient relationship. 5. Understand patient behavior (concealment, exaggeration, fear) without stigmatization. 6. Distinguish scientific evidence from opinion and marketing. 7. Understand the basic principles of evidence-based medicine. 8. Appreciate the importance of interprofessional collaboration. 9. Develop a professional attitude toward colleagues, faculty members, and within the academic institution. 10. Understand the fundamental role of data, bioinformatics, and statistics in modern medicine without technical detail. 				
<p>Contents of the course: Professional identity and professionalism in dentistry; Ethics and the dentist–patient relationship; Critical thinking and evidence-based medicine; Statistics for understanding scientific evidence; Interprofessional education and collaborative practice; Artificial intelligence in healthcare.</p>				
<p>Recommended literature: Roganović Jelena „Ethical use of artificial intelligence in Dentistry“ In book: Ethics in Scientific Research - New Perspectives (Radenković M Ed.; ISBN: 978-1-83769-525-6), Publisher: IntechOpen, London, UK Roganović J. Developing a consent checklist for AI in dentistry: Thematic analysis and pilot survey validation. <i>Digit Health</i>. 2025;11:20552076251393227 Grand-Guillaume-Perrenoud, Jean Anthony et al. “How does interprofessional education affect attitudes towards interprofessional collaboration? A rapid realist synthesis.” <i>Advances in health sciences education : theory and practice</i> vol. 30,3 (2025): 879-933. Warriner, David. “How to Read a Paper: The Basics of Evidence-Based Medicine.” <i>BMJ : British Medical Journal</i> vol. 336,7657 (2008): 1381. doi:10.1136/bmj.a186</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 15	Practicals: 15	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals, interactive workshops, reflective writing				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	60
Participation in practicals	28			
Mid-term test (s)				
Seminars				
Other	6			

Elective courses – 1st year

2711_01 English for Academic Purposes

2711_02 English for Dentistry (advanced course)

2711_03 Histology Workshop: Tissues and Organs of the Orofacial System

2711_04 Neurohistology

2711_05 Mechanisms of Developmental Anomalies

2711_06 Application of Information Technology in Dentistry

2711_07 Fundamentals of Biomechanics in Dentistry with Elements of Physics of Materials

2711_08 Social Medicine and Epidemiology

2711_09 Biochemistry of Bone Tissue

2711_10 Medical Ecology

2711_11 Nutrition and Oral Health

2711_12 The Impact of Oral Health on the Quality of Life

2711_13 Histological Techniques

2711_14 Biochemical Characteristics of the Oral Pellicle

2711_15 Ergonomy in Dentistry

2711_16 Genetic Disorders of the Orofacial Region

2711_17 Genetic Basis of Multifactorial Diseases

2711_18 Stem Cell Biology

2711_19 Gene Therapy

2711_20 Fundamentals of Biophysics in Dentistry

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: English for Academic Purposes			
Course Leader (Name, middle letter, surname): Irena V. Aleksić-Hajduković			
Course status (compulsory/elective): Elective			
ECTS: 2		Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years): /		Course code: 27I1_01	
Objectives of the course: To enable the students interested in scientific research to communicate in an academic environment and deliver oral and poster presentations at international (student) conferences. Students will also gain theoretical and practical knowledge of the structure of research papers and different modes that take part in meaning-making processes in order to create multimodal digital contents in the English language and present their research findings in an efficient manner.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - communicate in the global academic environment and fulfil academic tasks in the English language, which is in accordance with the internationalisation of Higher Education institutions and student mobility programs; - understand and apply the theoretical frameworks and conventions of the academic discourse - adhere to the lexical and syntactic features of the English language and create multimodal contents to complement digital presentations of their own research findings; - critically and analytically read professional and scientific publications related to medicine and dental medicine; - skim and scan relevant literature and attend international conferences in order to keep up to date with the innovations in the field, which is in accordance with the notion of lifelong learning; - understand how to cite references and avoid plagiarism. 			
Contents of the course: The global academic community recognises the English language as a <i>lingua franca</i> . Therefore, this course will provide the students with the fundamental conventions of the academic discourse and academic genres relevant for writing abstracts and research articles in English. The course will also include lexical and syntactic features of the academic discourse; cohesion; critical and analytical reading; argumentation in speaking and writing; referencing styles; anti-plagiarism; various modes that contribute to meaning-making processes.			
Recommended literature: <ol style="list-style-type: none"> 1. Aleksić-Hajduković I., Mužar A. Multimodality in ESAP: Peer-Assessment of Multiple Semiotic Modes in Dental Students' Oral Presentations. In: Đorović D., Mirić M., Stojičić V. (Eds.). Proceedings of the 6th International Conference of the Association for Foreign Languages and Literatures of Serbia: Language for Specific Purposes and Science – Approaches and Strategies. Belgrade: Faculty of Philosophy; 2025. pp. 687–702. 2. Aleksić-Hajduković, I. A Multimodal Approach to Teaching and Learning Medical Academic English: A Case Study. In: <i>Language for Specific Purposes and Professional Identity</i>. Vujović, A., Šipragić-Đokić, S. & Paprić, M. (Eds.) Belgrade: Foreign Language and Literature Association of Serbia, 2018. pp. 585-597. 3. Grussendorf, M. <i>English for Presentations</i>. Oxford: Oxford University Press. pp. 5-50. 4. Mauranen, A. , Hynninen, N., Ranta, E. English as the Academic Lingua Franca. In: <i>The Routledge Handbook of English for Academic Purposes</i>. Hyland, K., Shaw, P. Milton Park (Eds.); New York: Routledge. pp. 44-55. 5. Philpot, S., Curnick, L. Innovations in Health and Medicine. In <i>New Headway Academic Skills: Reading, Writing, and StudySkills (Level 3)</i>. Soars, L. & Soars, J. (Eds.) Oxford: Oxford University Press, 2011. pp. 12-19. 6. Malmfors, B., Garnsworthy, P., Grossman, M. <i>Writing and Presenting Scientific Papers (2nd ed.)</i>. Nottingham: Nottingham University Press, 2009. pp. 1- 17, 23-36, 79-86, 99-114, 121-127. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	
Research paper:			
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Oral presentation of a selected scientific article	60
Participation in practicals			
Mid-term test(s)			
Seminars			
Other (in-class activities)	40		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: English for Dentistry (Advanced)				
Course Leader (Name, middle letter, surname): Irena V. Aleksić-Hajduković				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_02	
Objectives of the course: The primary objectives of this course include enabling the students of dental medicine to communicate with patients efficiently and acquire English terminology related to dental medicine.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - take the patient's history; - give instructions to patients; - explain treatment procedures; - provide instructions related to further treatment; - understand and use key terms related to dental medicine; - understand and use politeness strategies when interacting with patients.				
Contents of the course: Dentist-patient communication in English, including relevant terminology – taking a history: personal data, present complaint(s), chronic diseases, family history; politeness strategies; describing treatment procedures related to anaesthesia, prescribing therapy, placing fillings and orthodontic appliances.				
Recommended literature: 1. Dofka, C.M. <i>Dental Terminology</i> . Albany NY: Delmar Thomson Learning, 2013. pp. 1-17, 145-153, 157-158, 356-367. 2. Evans, V., Dooley J. & Caldwell, J. <i>Career Paths: Dentistry (2nd ed)</i> . Book 2. Express Publishing, 2016. pp. 4-40. 3. Evans, V., Dooley J. & Caldwell, J. <i>Career Paths: Dentistry (2nd ed)</i> . Book 3. Express Publishing, 2016. pp. 14-19, 22-28. 4. Goldsmith, C., Slack - Smith, L., Davies, G. Dentist - patient communication in the multilingual dental setting. <i>Australian dental journal</i> , 2005, 50 (4). Стр. 235-241. 5. McCullagh, M. & Wright, R. <i>Good practice: Communication Skills in English for the Medical Practitioner</i> . Cambridge: Cambridge University Press; 2008. pp. 95-120. 6. Williams, K., Woolliams, M., Spiro, J. <i>Reflective Writing</i> . Basingstoke, New York: Palgrave Macmillan, 2012. pp. 1-22. Dictionaries: Ireland, R. <i>A Dictionary of Dentistry</i> . New York: Oxford University Press, 2010. pp. 1-416.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Dentist-patient interaction (role-play)	60
Participation in practicals				
Mid-term test(s)				
Seminars				
Other (in-class activities)	40			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Histology Workshop: Tissues and Organs of the Orofacial System				
Course Leader (Name, middle letter, surname): Vesna Z. Danilović				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semesterar	
Entry requirements (examinations passed in previous years):/			Course code: 2711_03	
Objectives of the course: The objective of the course is to enable students to acquire additional knowledge of the histological structure of cells, tissues and organs of the orofacial system, their origin and developmental processes, regenerative and reparative potential, including the changes related to aging.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ol style="list-style-type: none"> 1. Demonstrate detailed knowledge of the structure, origin and development of orofacial tissues and organs. 2. Explain the relationship between histological structure and physiological, pathophysiological, and pathological changes in this region, as well as the biological basis of various therapeutic procedures. 				
Contents of the course: The skeleton of neurocranium and viscerocranium: histological structure, specificities and developmental processes. Masticatory muscles: histological structure and development, proprioceptive sensibility. Cranial nerves: histological structure, development, specificities. Oral mucosa: a dynamic barrier between the external environment and deeper tissues. Epithelial homeostasis: mechanisms for maintaining the integrity of the oral epithelium. Somatosensory innervation of oral mucosa. Glands of the oral cavity: histological structure and development. Mineralized tissues: histological structure and development. Protective reactions of dental pulp: role of odontoblasts. Protective mechanisms in a healthy periodontium. Temporomandibular joint: histological structure and development. Regeneration, repair and remodeling of orofacial tissues. Changes in oral tissues related to aging.				
Recommended literature: Andjelković Z et al. Histology. 1st ed. Niš: Galaksijanis; 2024. pp. 11-302.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written seminar and oral defense of the selected topics.	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other (in-class activities)	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Neurohistology				
Course Leader (Name, middle letter, surname): Sanja M. Milutinović-Smiljanić				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: I / 1st semester		
Entry requirements (examinations passed in previous years):		Course code: 27I1_04		
Objectives of the course: To expand students' knowledge of the principles of the histological organization of the cells, tissues, and organs of the nervous system, as well as familiarizing students with the basics of their embryonic development.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Explain the basic principles of embryonic development and the organization of the human nervous system - Notice the interconnection of the structure and the function of the organs of the nervous system - Apply acquired knowledge in further study, primarily in learning physiology and pathology. - Gain insights into the complex relationship between the structure of the nervous system and the pathogenesis of neurological and psychiatric disorders.				
Contents of the course: General characteristics of embryological development of the nervous system. Histological techniques for preparing nerve tissue specimens. Ultrastructural characteristics of nerve cells. Structural organization of the nervous tissue. Histological characteristics of the central and peripheral nervous systems. The connection between harmful habits and lifestyles, and the histological structure and function of the nervous system.				
Recommended literature: Jackson P. Techniques in Neuropathology. In Suvarna S.K., Layton C., Bancroft J.D. Bancroft's Theory and Practice of Histological Techniques. 8 th Ed, Elsevier, 2018. pp. 381-427. Mescher AL. Chapter 9. Nerve Tissue & the Nervous System in Mescher A.L. Junqueira's Basic Histology: Text and Atlas, 17 th Ed. McGraw-Hill / Medical; 2023. pp. 140-167.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30 (interactive learning, solving knowledge tests, etc.)	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews, and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		written and oral defense of the selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other (interactive work)	40			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Mechanisms of Developmental Anomalies				
Course Leader (Name, middle letter, surname): Sanja M. Milutinović-Smiljanić				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_05	
Objectives of the course: To provide students with theoretical knowledge about the factors that lead to deviations from normal embryonic and fetal development, as well as the mechanisms of the occurrence of developmental anomalies.				
Outcomes of the course: After attending the course and passing the exam, the student should be able to: - List the biological processes that lead to the development of developmental anomalies in children and adults - Demonstrate knowledge of the impact and types of teratogens, as well as the application of preventive measures to prevent their harmful effects - Recognize the most common forms of developmental disorders that manifest as changes in the digestive system, face, and orofacial region. - List modern methods for the diagnosis and therapy of developmental disorders.				
Contents of the course: Biological mechanisms of developmental anomalies in children and adults. The influence of teratogens on development. Types of teratogens and protective measures. Sensitivity of the embryo and fetus in different stages of gestation. Developmental disorders of the digestive system. Developmental disorders of the face and pharyngeal system. Congenital dental anomalies. Application of modern methods in the diagnosis and therapy of developmental disorders.				
Recommended literature: Hughes C, editor. Congenital anomalies: research and mechanisms. New York: Callisto Reference; 2015. pp. 1-144.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30 (interactive learning, solving knowledge tests, etc.)	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written and oral defense of the selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other (interactive work)	40			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Application of Information Technology in Dentistry				
Course Leader (Name, middle letter, surname): Biljana R. Milicic, Jovana M. Kuzmanovic Pficer				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: I / 1st semester		
Entry requirements (examinations passed in previous years): /		Course code: 27I1_06		
<p>Objectives of the course: To acquire functional IT (information technology) literacy required for the learning process during the studies and its subsequent application in the professional work of future dentists. During the course, students will acquire the knowledge and skills necessary for continuous learning, effective communication, and professional presentation throughout their careers.</p>				
<p>Outcomes of the course: Upon completion of the course and passing the examination, the student should be able to: - Properly use modern information and communication technologies in the learning process across all dental disciplines, both during and after their studies. - Use commonly used software packages as part of general computer literacy: Word, Excel, Power Point. - Adequately process digital images. - Select appropriate sources of information. - Use various methods and resources to search for medical information on the Internet and in online databases. - Use software tools to process information.</p>				
<p>Contents of the course: Information in dentistry and strategies for searching dental information on the Internet. Presentation skills for effectively communicating acquired information in dentistry. Practical work using general computer literacy software packages, as well as software for storing collected information. Oral presentations using PowerPoint.</p>				
<p>Recommended literature: Shortliffe EH, Cimino JJ, editors. Biomedical informatics: computer applications in health care and biomedicine. 5th ed. [Kindle edition]. London: Springer-Verlag; 2021. Pages: 3-75; 613-636; 693-732</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
<p>Teaching and learning methods: Introduction to the material through theoretical teaching. Small-group work in an electronic classroom, including interactive discussions, case presentations and independent solving of assigned case studies, seminars.</p>				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals	10			
Mid-term test(s)				
Seminars	20			
Other	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Fundamentals of Biomechanics in Dentistry with Elements of Physics of Materials			
Course Leader (Name, middle letter, surname): Đorđe I. Stratimirović			
Course status (compulsory/elective): Elective			
ECTS: 2		Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):		Course code: 2711_07	
<p>Objectives of the course: The objective of the course is to introduce dental students to the basic concepts and laws of mechanics and materials physics that are of direct relevance for understanding processes in the human body and working with dental materials and devices. Also, the aim of the course is to connect high school knowledge and professional subjects, i.e. to prepare students to better understand subsequent courses within the curriculum.</p>			
<p>Outcomes of the course: Upon completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> - Define basic physical quantities: force, pressure, stress, strain, temperature... - Recognize the types of levers in the body and explain the principle of jaw function as a lever. - Explain the difference between elastic and plastic deformations. - List the basic mechanical, thermal, and electrical properties of materials (strength, elasticity, thermal conductivity, thermal expansion, electrical resistance...). - Describe the consequences of mechanical and thermal expansion of different materials in the oral cavity. - Relate the electrical conductivity of dental tissues and materials to phenomena such as tooth sensitivity and the occurrence of galvanic currents. - Relate the concept of pressure to blood and saliva flow. - Recognize the physical principle of operation of ultrasound and lasers in dentistry. 			
<p>Contents of the course: What is biomechanics and why do dentists study it? Measurement and units (SI system). Fundamental and derived quantities. Scalars and vectors. Structure of matter: atoms, molecules, crystalline and amorphous structures. Particle mechanics. Force and mass. Types of forces. Newton's laws of motion. Mechanics of rigid bodies. Moment of force (torque). Equilibrium of bodies. Levers and body parts as levers. Mechanics of deformable bodies. Elasticity and plasticity. Hooke's law. Stress-strain diagram. Compression, tension, shear (sliding). Modulus of elasticity, strength, toughness, hardness, fatigue, creep, and fracture. Heat and temperature. Thermal expansion. Mechanisms of heat transfer. Fundamentals of electrostatics. Electric charge. Electrical properties of materials and tissues: dielectric properties; electric current and biological conductors. Galvanic phenomena. Fluid mechanics. Fluid statics; surface phenomena. Fluid flow; viscosity. Oscillations and waves. Sound and ultrasound. Elements of quantum mechanics. Light as a particle and wave. Interactions of light and matter. Electromagnetic (EM) spectrum and atomic structure. Lasers.</p>			
<p>Recommended literature: 1. Newman J. Physics of the Life Sciences. New York: Springer-Verlag; 2008. 1-33, 43-125, 161-178, 189-256, 297-324, 347-405, 523-540, 585-630. 2. Tölgyesi F, Derka I, Módos K. Physical Bases of Dental Material Science. Budapest: Semmelweis University, 2012. 1-31, 56-64, 121-196.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	
Teaching and learning methods: lectures, small-group problem analysis, consultations			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points		Final exam 60 points
Participation in lectures	10		Test
Participation in practicals			60
Mid-term test(s)			
Seminars			
Other	30		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Social Medicine and Epidemiology				
Course Leader (Name, middle letter, surname): Svetlana B. Jovanović				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: I / 1st semester		
Entry requirements (examinations passed in previous years):		Course code: 27I1_08		
Objectives of the course: To acquire knowledge of the functioning of the health care system, including the methods and principles for preserving and improving the health of the population, assessment of the health status of the population using the epidemiological method, and the impact of social factors on general and oral health of the population.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Identify risk factors for oral diseases and participate in oral health research - Outline the methods for assessing the quality of work in health care and measures for improvement - Explain the design of epidemiological studies and different approaches to prevention - Understand the importance of epidemiological approaches to disease, prevention and control of health disorders - Implement health education programs in dental health care in a team-based setting				
Contents of the course: Definition, development and tasks of social medicine and public health; risk factors, definition of health and disease; health assessment, general and oral health indicators and data sources; modern health care and levels of prevention; health care systems; health and oral health policies; quality of health care and patient safety; epidemiological observation and research, types of epidemiological studies; epidemic outbreak and prevention measures; epidemiological studies of oral diseases; oral diseases as social medical diseases; oral health promotion and health education.				
Recommended literature: 1. Daly B, Batchelor P, Treasure E, Watt R. Essential dental public health. 2nd ed. Oxford: Oxford University Press; 2013. pp.10-98. 2. Bandopadhyay S, Gupta A, Banerjee A, Gupta P. Bitesize epidemiology for general awareness of all students - I. Resonance. 2023;28(3):411-32.. 3. Bandopadhyay S, Gupta A, Banerjee A, Gupta P. Bitesize epidemiology for general awareness of all students - II. Resonance. 2023;:613-632.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biochemistry of Bone Tissue				
Course Leader (Name, middle letter, surname): Ivan S. Dožić				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 2711_09	
Objectives of the course: Students will acquire a basic knowledge of the biochemical structure of bone tissues, inorganic and organic contents, collagen and non-collagen proteins, metabolic activity of bone tissue, and regulation of bone cell metabolism.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - explain the biochemical composition of bone tissues - describe the structure of hydroxyapatite (an inorganic component of the bone) - explain types of bone tissue proteins and their role - describe basic metabolic processes in bone cells and their regulation - explain biochemical processes in order to recognize bone resorption and bone formation markers				
Contents of the course: Bone cells, biochemical composition of the extracellular matrix; organic component of bone, collagen synthesis and structure, biochemical characteristics of non-collagen bone proteins, structure of hydroxyapatite, the importance of metabolic processes in bone cells, metabolism of glucose, amino acids and fatty acids in bone cells, regulation of metabolic processes.				
Recommended literature: 1. Levine M. Topics in dental biochemistry. Berlin: Springer-Verlag; 2011. pp. 29-40;129-143. 2. Omelyanenko N, Slutsky L, Mironov S. Connective tissue: histophysiology, biochemistry, molecular biology. Boca Raton: CRC Press; 2014. pp. 80-132;342-386.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	40			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Medical Ecology				
Course Leader (Name, middle letter, surname): Maja S. Milosevic Markovic				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_10	
Objectives of the course: To acquire knowledge of the basics of medical ecology and the impact of and environmental and occupational factors on general and oral health.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Recognize environmental and occupational risk factors for general and oral health - Identify the role of physical, chemical and biological environmental pollutants in the emergence of oral diseases - Implement integrated environmental prevention programs for oral diseases				
Contents of the course: Definition, history and development of medical ecology as a science and practice; environmental risk factors, type, origin, traits, impact on human health; air and health, global effects of air pollution; water and its impact on general and oral health; soil and its impact on general and oral health; medical / dental waste, medical waste management; the ecosphere and contamination of foods; housing hygiene.				
Recommended literature:				
<ol style="list-style-type: none"> 1. Vinceti SR, Veneri F, Filippini T. Water fluoridation between public health and public law: an assessment of regulations across countries and their preventive medicine implications. <i>Ann Ig.</i> 2024 May-Jun;36(3):261-269. doi: 10.7416/ai.2024.2594. 2. Dudeja P, Dudeja KK, Grover S, Singh H, Jabin Z. Pathway to mercury-free dentistry: an insight into past, present, and future. <i>Eur Oral Res.</i> 2023 May 4;57(2):60-67. doi: 10.26650/eor.20231050091. 3. Amalgam (Part 2): Safe Use and Phase Down of Dental Amalgam: Adopted by the FDI General Assembly: 27-29 September 2021, Sydney, Australia. <i>Int Dent J.</i> 2022 Feb;72(1):12-13. doi: 10.1016/j.identj.2021.11.007. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Nutrition and oral health				
Course Leader (Name, middle letter, surname): Svetlana B. Jovanović				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_11	
Objectives of the course: To acquire knowledge of the basics of medical dietetics and the possibilities of prevention and therapy of nutritional disorders affecting oral health in clinical practice.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Identify nutritional risk factors for general and oral health - Identify the role of nutrients in the onset of oral diseases - Analyze the diet and nutritional status of their patients - Provide recommendations for proper nutrition and diet therapy for patients				
Contents of the course: Nutrients (proteins, fats, carbohydrates) and their role in the body; vitamins and minerals, impact on general and oral health; recommendations for proper energy and nutrient intake; eating disorders, obesity, anorexia, bulimia and effects on oral health; organic diseases and nutrition, impact on oral health; recommendations for proper nutrition; daily meal planning; the pyramid of nutrition, types and uses.				
Recommended literature: 1. Katz DL, Friedman RS, et al. Nutrition in clinical practice. 3rd ed. Philadelphia: Wolters Kluwer Health; 2014. pp. 48-77, 123-147, 245-312. 2. Chandan SN, Rao S. Dietary interventions and nutritional impact on oral health and development: a review. J Food Sci Technol. 2023; 60(6):1666-1673. 3. de Carvalho CMP, Marten R, McKee M, Petticrew M, Robertson L, Tangcharoensathien V, Thow AM. Defining and conceptualising the commercial determinants of health. Lancet. 2023; 401(10383):1194-1213.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: The Impact of Oral Health on the Quality of Life				
Course Leader (Name, middle letter, surname): Maja S. Milosevic Markovic				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_12	
Objectives of the course: To acquire knowledge of the concepts of quality of life associated with general and oral health, and methods for measuring quality of life in relation to oral health using various standardized questionnaires in at-risk groups of the population.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the concept of quality of life in relation to general and oral health - Understand the measurement of quality of life in terms of oral health - Apply verified questionnaires with respect to oral health - Analyze different types of verified questionnaires				
Contents of the course: The concept and definition of quality of life in relation to general and oral health; the concept of quality of life; the importance and impact of quality of life research on general and oral health; social demographic predictors of quality of life in patients with oral diseases; measuring quality of life from an oral health perspective; differences between clinical indicators and standardized questionnaires; data relevant to standardized questionnaires; type and structure of verified questionnaires; application of verified questionnaires in at-risk groups of the population.				
Recommended literature: 1. Su N, van Wijk A, Visscher CM. Psychosocial oral health-related quality of life impact: A systematic review. <i>J Oral Rehabil.</i> 2021;48(3):282-292. 2. Chai HH, Gao SS, Chen KJ, Lo ECM, Duangthip D, Chu CH. Tools Evaluating Child Oral Health-Related Quality of Life. <i>Int Dent J.</i> 2024;74(1):15-24. 3. Linn TT, Khaohoen A, Thu KM, Rungsiyakull P. Oral-Health-Related Quality of Life in Elderly Edentulous Patients with Full-Arch Rehabilitation Treatments: A Systematic Review. <i>J Clin Med.</i> 2024;13(12):3391. 4. Arruda CV, Guilardi IJ, Pavan LMC, Greggianin BF. Oral health-related quality of life and periodontal status according to smoking status. <i>Int J Dent Hyg.</i> 2024;22(2):368-375.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Histological Techniques				
Course Leader (Name, middle letter, surname): Sanja M. Milutinović-Smiljanić				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: I / 1st semester		
Entry requirements (examinations passed in previous years):		Course code: I271_13		
<p>Objectives of the course: To acquire theoretical knowledge of laboratory work and basic histological techniques. The acquired knowledge will contribute to a better understanding of morphological sciences, such as histology, embryology, and pathology.</p>				
<p>Outcomes of the course: After completing the course, the student should be able to: - Recognize and describe the types of microscopies - Describe tissue handling and sectioning techniques for microscopy - Recognize tissue staining techniques using different types of stains according to the tissue type - Perform basic analyses of histological images.</p>				
<p>Contents of the course: Organization of laboratory work and safety measures. Methods for histological preparation of soft and hard tissues for light and electron microscopy. Tissue staining techniques (routine, special stains, and immunohistochemical methods). Historical development of the microscope. Light microscopy. Electron microscopy. Cytological techniques. Digital histology. Interpretation of histological preparations.</p>				
<p>Recommended literature: Mescher AL. Chapter 1: Histology & its methods of study; Appendix: Light microscopy stains. In: Junqueira's basic histology: text and atlas. 17th ed. (International edition). New York: McGraw Hill Medical; 2023. p. 1-20, 535-38. Gartner LP, Hiatt JL. Introduction to histology and basic histological techniques. In: Gartner LP, Hiatt JL. Color textbook of histology. 3rd ed. Philadelphia: Saunders Elsevier; 2007. p. 1-11. Additional literature: Suvarna SK, Layton C, Bancroft JD. Bancroft's theory and practice of histological techniques. 9th ed. Oxford: Elsevier; 2023.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30 (interactive learning, solving knowledge tests, etc.)	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews, and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		written and oral defense of the selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other	40 (interactive learning)			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biochemical Characteristics of the Oral Pellicle				
Course Leader (Name, middle letter, surname): Ivan S. Dožić				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_14	
<p>Objectives of the course: Students will acquire basic knowledge of the biochemical composition of the oral pellicle, adsorption mechanisms of specific salivary biomolecules and proteins on oral tissues, and understand the functions of the mucosal and dental pellicles.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> - describe the biochemical composition of the tooth pellicle - explain adsorption mechanisms of salivary proteins, glycoproteins, lipids, and carbohydrates on the surface of tooth enamel - describe the biochemical composition of the mucosal pellicle - explain adsorption of saliva glycoproteins (mucin) on the oral mucosa - describe the interaction of salivary mucins with other biomolecules and the formation of heterotypic complexes in the oral mucosa - explain the protective role of the pellicle in the oral cavity 				
<p>Contents of the course: The definition of the acquired pellicle in the oral cavity; the biochemical composition of the tooth pellicle; ionic interactions between saliva biomolecules and the surface of the tooth enamel; the formation of interconnections between organic molecules; the role of enzymes in pellicle composition; the biochemical composition of the mucosal pellicle; indirect and direct interactions of salivary mucins with epithelial cells of the oral mucosa; the interaction of salivary mucins with other biomolecules; the functions of dental and mucosal pellicles.</p>				
<p>Recommended literature: Edgar M, Dawes C, O'Mullane D, editors. Saliva and oral health. 4th ed. London: Stephen Hancocks Limited; 2012. p. 97-134.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			written and oral defense of the selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	40			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Ergonomy in Dentistry				
Course Leader (Name, middle letter, surname): Srđan D. Poštić				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 1st semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_15	
Objectives of the course: To introduce students to the organization of work and the layout of work items, equipment and materials in the dental office from an ergonomic point of view.				
Outcomes of the course: After completing the course, the student is trained to rationally use the workspace in the dental office.				
Contents of the course: Definition and importance of ergonomics in dentistry; general ergonomic factors and principles in the work environment - temperature, pressure, humidity, noise, vibration; concepts of ergonomic landscaping in the dental office; ergonomics of dentists' work in the dental office; ergonomic forms - design of therapeutic chairs; concepts of ergonomic arrangement of the work space in the wider and narrower environment of the dental office; concepts of an ergonomic approach in teamwork with support staff - with a dental nurse and with a dental technician; anatomical and physiological aspects of the proper working position of the therapist, patient and nurse; design of dental equipment and work instruments and impact on the locomotor system; ergonomics in transportation of work to the dental office; occupational diseases and an ergonomic approach to preventing occupational diseases; ergonomics in the selection and use of dental materials.				
Recommended literature: 1. Valachi B. Practice Dentistry Pain-Free: Evidence-based Ergonomic Strategies to Prevent Pain and Extend Your Career. Portland, OR: Posturedontics Press; 2008. pp. 21-179. 2. Murphy DC. Ergonomics and the dental care worker. Washington, D.C.: American Public Health Association; 1998. pp. 50-325.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Genetic Disorders of the Orofacial Region				
Course Leader (Name, middle letter, surname): Branka M. Popović				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2 nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_16	
Objectives of the course: To acquire knowledge of the genetic basis of orofacial disorders, their recognition and diagnosis using molecular genetic methods.				
Outcomes of the course: Upon completion of the course, the student should be able to: - List and recognize the most common genetic disorders of the orofacial region - Relate genetic changes to specific orofacial disorders - Describe molecular genetic analyses used for detection of mutations that lead to developmental disorders - Use the <i>PubMed</i> database to analyze gene and protein sequences and relate them to an altered phenotype - Understand the importance of clinical genetics in detecting rare hereditary diseases in dental medicine				
Contents of the course: Students will be introduced to the most common genetic disorders of the orofacial region, the modes of inheritance and their classification depending on whether they present as isolated defects or as part of a craniofacial region syndrome. Special emphasis will be placed on analyzing the genetic basis of anomalies in tooth number and size, dentin and enamel structure, and periodontal structures. Students will also be introduced to genetic disorders that lead to the development of dysplasia associated with craniofacial anomalies. In addition to theoretical knowledge of genetic disorders of the orofacial region, students will also be introduced to the application of certain molecular genetic methods (Real-Time PCR, DNA sequencing) in order to detect genetic changes associated with the development of dental anomalies.				
Recommended literature: 1. Joy-Thomas A, Lalwani Z, Guajardo L, Valenza J, Fakhouri WD. The Role of Genetics in Human Oral Health: A Systematic-Narrative Review. <i>Dentistry Journal</i> . 2025; 13(3):133. 2. Vyas T, Gupta P, Kumar S, Gupta R, Gupta T, Singh HP. Cleft of lip and palate: A review. <i>Journal of Family Medicine and Primary Care</i> . 2020; 9(6): 2621-2625.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Genetic Basis of Multifactorial Diseases			
Course Leader (Name, middle letter, surname): Branka M. Popović			
Course status (compulsory/elective): Elective			
ECTS: 2		Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):		Course code: 27I1_17	
Objectives of the course: To acquire knowledge of the role of specific hereditary and environmental factors in determining multifactorial traits.			
Outcomes of the course: Upon completion of the course, the student should be able to: <ul style="list-style-type: none"> - Describe the types of genetic markers that can be associated with an increased risk of developing certain common human diseases - Explain the importance of environmental factors in modifying the phenotypes of multifactorial diseases - Explain the importance of early detection of genetic and environmental factors in order to reduce the risk of disease - List genetic analyses that can be applied in detecting genetic predisposition to common diseases 			
Contents of the course: Students will be introduced to the etiological factors that lead to the development of common human diseases, with special emphasis on the importance of genetic predisposition in determining the risk of disease manifestation. Given the complexity of each disease, students will expand knowledge of multifactorial diseases by linking specific genetic changes to adverse clinical manifestations by focusing on the most common diseases in the human population such as diabetes, cardiovascular diseases and neurodegenerative diseases. Also, students will be introduced to genetic analyses that can be applied in the detection of mutations/polymorphisms associated with an increased risk of multifactorial diseases.			
Recommended literature: Nussbaum RL, McInnes RR, Willard HF. Thompson & Thompson genetics in medicine. 8th ed. Philadelphia: Elsevier; 2016. p. 133-52.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	
Research paper:			
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points		Final exam 60 points
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Stem Cell Biology				
Course Leader (Name, middle letter, surname): Branka M. Popović				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2nd semester	
Entry requirements (examinations passed in previous years):			Course code: 27I1_18	
Objectives of the course: Gaining the knowledge of stem cells, their origin, properties and renewal capacity, with particular emphasis on stem cells originating from tissues of the orofacial region.				
Outcomes of the course: Upon completion of the course, the student should be able to: - Explain the principles of self-renewal and differentiation of stem cells - Describe various types of stem cells and recognize the differences based on their origin - Describe methods of stem cell isolation and their characterization - Understand the importance of stem cells in regenerative medicine and dentistry				
Contents of the course: Students will be introduced to the definition, types and classification of stem cells, their characteristics, basic functions and mechanisms of their regulation, main methods of stem cell isolation and establishment of primary cultures, advantages and disadvantages of different isolation methods. Students will also be introduced to various methods of stem cell characterization and detection of changes occurring during the process of differentiation. In addition, students will gain knowledge of the benefits and risks of stem cell therapy, as well as current advances in this field. Finally, students will gain a thorough understanding of the potential applications of stem cell therapy in treating orofacial diseases.				
Recommended literature: 1. Inada E, Saitoh I, Terajima M, Kiyokawa Y, Kubota N, Yamaza H, Morohoshi K, Nakamura S, Sato M. Engineered Human Dental Pulp Stem Cells with Promising Potential for Regenerative Medicine. <i>BioTech</i> . 2025; 14(4):88. 2. Hoang, D.M., Pham, P.T., Bach, T.Q. et al. Stem cell-based therapy for human diseases. <i>Signal Transduction and Target Therapy</i> . 2022; 7, 272.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Gene Therapy				
Course Leader (Name, middle letter, surname): Branka M. Popović				
Course status (compulsory/elective): Elective				
ECTS: 2			Year of the study: I / 2 nd semester	
Entry requirements (examinations passed in previous years):			Course code: 2711_19	
<p>Objectives of the course: To acquire knowledge of the basic concepts and principles of gene therapy perceived as one of the methods of the future owing to its potential for treating human hereditary diseases, the approaches used for replacing defective genes with functional ones, i.e. methods of transferring exogenous nucleic acids to altered cells, and the promises and the limitations of gene therapy.</p>				
<p>Outcomes of the course: Upon completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> - Explain the essence of gene therapy - Understand the main mechanisms by which a "therapeutic gene" acts in cells with defective genetic material - Describe various methods of exogenous nucleic acids transfer into cells and tissues of individuals with genetic diseases - Understand the advantages and disadvantages of gene therapy - Evaluate the potential of gene therapy application in treating diseases of the maxillofacial region 				
<p>Contents of the course: Students will be introduced to the definition of gene therapy, criteria for selecting diseases suitable for gene therapy, strategies for gene therapy, <i>in vivo</i> and <i>ex vivo</i> transfer of genetic material and basic principles of gene transfer, the main methods of viral and non-viral nucleic acid insertion into diseased cells, the advantages and disadvantages of both forms of gene transfer. Students will also become familiar with the risks of this type of therapy as well as current major achievements of gene therapy, such as the <i>CRISPR</i> method. Finally, students will learn about the prospects of applying gene therapy in treating various diseases of the maxillofacial region, ranging from large bone defects to oral cancer.</p>				
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Gonçalves GAR, Paiva RMA. Gene therapy: advances, challenges and perspectives. <i>Einstein</i>. 2017; 15(3):369-375. 2. Lollobrigida M, Mazzucchi G, De Biase A. Omics Sciences in Dentistry: A Narrative Review on Diagnostic and Therapeutic Applications for Prevalent Oral Diseases. <i>Diagnostics</i>. 2025; 15(23):3086. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Fundamentals of Biophysics in Dentistry	
Course Leader (Name, middle letter, surname): Đorđe I. Stratimirović	
Course status (compulsory/elective): Elective	
ECTS: 2	Year of the study: I / 2nd semester
Entry requirements (examinations passed in previous years):	Course code: 27I1_20
<p>Objectives of the course:</p> <ol style="list-style-type: none"> 1. To introduce students to basic physical phenomena, physical quantities, and laws. 2. To understand physical principles relevant to biological systems and their application in dentistry. 3. To develop an analytical approach to studying natural phenomena and their qualitative description. 4. To enable simple quantitative description of biophysical processes. 5. To establish foundations for successful participation of professional courses. 	
<p>Outcomes of the course:</p> <p>After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> -Define basic physical concepts and quantities. -Accurately present and interpret measurement results and convert physical units. -Distinguish types of matter and describe their structure. -List basic mechanical quantities, understand and describe translational and rotational motion of bodies. -Apply conditions of body equilibrium and recognize types of levers in the human body. -Explain the difference between elastic and plastic deformations and list basic mechanical properties of materials. -List basic thermal and electrical properties of materials and relate them to examples from dentistry. -List basic laws of fluid statics and dynamics and describe surface phenomena. -Describe thermal phenomena, phase transitions, and basic transport processes in cells (diffusion and osmosis). -List basic electrical quantities and describe dielectric and conductive properties of the biological environment. -Describe basic principles of wave motion and recognize physical principles of ultrasound. -Apply basic laws of optics and explain the optical system of the eye. -Explain the wave and particle nature of electromagnetic radiation and list basic properties of the EM spectrum. -Describe basic quantum mechanical principles of matter structure and classify the types and properties of ionizing radiation. 	
<p>Contents of the course:</p> <p>Introduction to Biophysics. Measurement and presentation of physical quantities; units (SI system); basic mathematical functions and their graphical representation; scalar and vector quantities.</p> <p>Structure of Matter. Levels of organization of physical systems; physical model. Fundamental forces in nature. Structure of atoms and intermolecular bonds. Crystalline and amorphous structures.</p> <p>Mechanics of a Material Point. Basic quantities of translational motion. Uniform and uniform circular motion. Newton's laws. Inertial systems and centrifugal force.</p> <p>Mechanics of Rigid Bodies. Moment of force (torque). Statics. Equilibrium of bodies; levers; levers in the human body.</p> <p>Mechanics of Deformable Bodies. Elastic and plastic deformation. Hooke's law. Stress, strain, stress-strain diagram. Mechanical properties of dental tissues and dental materials.</p> <p>Fluid Mechanics. Fluid statics: Pascal's law, Archimedes' principle, surface phenomena. Fluid dynamics: flow, viscosity.</p> <p>Gas laws. Kinetic theory of gases. Transport processes – diffusion, osmosis.</p> <p>Thermal Phenomena: Heat and temperature. Thermal expansion. Phase transitions – melting, evaporation, latent heat. Heat transfer.</p> <p>Electromagnetic Phenomena. Electrostatics – conductors, insulators. Electrical properties of materials: dielectric properties; electric current and biological conductors. Galvanic phenomena. Magnetic properties of materials – diamagnetics, paramagnetics, ferromagnetics.</p> <p>Oscillations and waves. Sound and ultrasound.</p>	

<p>Optics. Reflection, refraction, and scattering of light. Lenses, optical system of the eye. Law of absorption; Lambert-Beer law.</p> <p>Quantum Nature of Matter. Light as a particle and wave. Electromagnetic (EM) spectrum. Interactions of EM radiation and matter; fluorescence; lasers.</p> <p>Atomic and Nuclear Physics. Energy levels, spectra. Nuclear forces and nucleus stability. Radioactivity – alpha, beta, gamma decay, Law of radioactive decay.</p>				
<p>Recommended literature:</p> <p>1. Newman J. Physics of the Life Sciences. New York: Springer-Verlag; 2008. 1-33, 43-125, 161-178, 189-256, 297-324, 347-405, 477-481, 488-497, 523-540, 585-651.</p> <p>2. Tölgyesi F, Derka I, Módos K. Physical Bases of Dental Material Science. Budapest: Semmelweis University, 2012. 1-31, 56-64, 121-149, 184-196.</p>				
<p>Total number of contact classes (active teaching and learning): 60</p>				<p>Professional practice/ independent learning:</p>
<p>Lectures: 30</p>	<p>Practicals:</p>	<p>Other modes of teaching : 30</p>	<p>Research paper:</p>	
<p>Teaching and learning methods: lectures, small-group problem analysis, consultations</p>				
<p style="text-align: center;">Assessment (maximum number of points: 100)</p>				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	10	Test	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other	30			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: General and Oral Physiology				
Course Leader (Name, middle letter, surname): Gavriilo B. Brajović				
Course status (compulsory/elective): Compulsory				
ECTS: 13			Year of the study: II/ 3rd and 4th semesters	
Entry requirements (examinations passed in previous years):/			Course code: ST27FIZL	
<p>Objectives of the course: To enable students to understand molecular, cellular, and organ physiology, oral physiology and integrative human physiology; with special emphasis on the mechanisms, regulation and feedback control which monitor and regulate life processes and functional balance-homeostasis.</p>				
<p>Outcomes of the course: After completing this course, the student should - demonstrate knowledge and understanding of the mechanisms and modes of transport through the cell membrane - demonstrate knowledge and understanding of the structures and physiological functions of the system of the human organism and the mechanisms of maintaining the functional balance, with special reference to the orofacial region - demonstrate knowledge and understanding of the mechanisms and controls of secretion of saliva and its composition - demonstrate knowledge and understanding of the physiological functions of the components of the masticatory system - demonstrate knowledge and understanding of the mechanisms of orofacial sensory transmission, sensory function and the mechanisms for maintaining oral homeostasis.</p>				
<p>Contents of the course: Introduction to Physiology, General Physiology. Membrane Physiology, Nerve, Muscle. The Heart. The Circulation. The Body Fluids and Kidneys. Blood cells, Immunity and Blood Clotting. Respiration. The Nervous System. General Principles of Sensor Physiology. Motor and Integrative Neurophysiology. Gastrointestinal Physiology. Endocrinology. Oral Physiology. Basic properties of the physical mechanisms of mechanics and statics, fluid flows, membrane transport and electrical properties.</p>				
<p>Recommended literature: Hall JE. Guyton and Hall textbook of medical physiology. 13th ed. Philadelphia: Elsevier; 2016. p. 3-24, 47-139, 169-271, 283-5, 305-405, 409-22, 445-92, 497-549, 577-635, 695-843, 881-7, 925-60, 965-78, 983-93, 1001-13, 1021-33, 1037-51. Kibble JD, Halsey CR. Medical physiology: the big picture. New York: McGraw-Hill Medical; 2009. p. 1-57, 83-370 Newman J. Physics of the life sciences. New York: Springer-Verlag; 2008. p. 139-430, 477-562. Halliday D, Resnick R, Walker J. Fundamentals of physics extended. 10th ed. Hoboken: Wiley; 2013. p. 95-346, 386-513, 745-802, 903-36, 1010-46.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 120	Practicals: 60	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	10
Participation in practicals	28		Oral exam	50
Mid-term test (s)	6			
Seminars				
Other				

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: General and Oral Pathology			
Course Leader (Name, middle letter, surname): Branko S. Dožić			
Course status (compulsory/elective): Compulsory			
ECTS: 10		Year of the study: II / 3rd and 4th semesters	
Entry requirements (examinations passed in previous years):		Course code: ST27PATO	
Objectives of the course: To gain knowledge of morphological changes, i.e. of structural damage to cells, tissues and organs and enable students to relate them to the causes, mechanisms, and consequences of their development, which is an important prerequisite for understanding the essence of pathological processes and, consequently, human diseases.			
Outcomes of the course: After successfully completing the course, the student should: <ul style="list-style-type: none"> - Demonstrate knowledge and understanding of basic pathological processes related to adaptive, vascular, and inflammatory responses in the body - Demonstrate knowledge and competencies in relating significant pathological conditions and the impact of dental interventions on them (endocarditis, myocarditis, diabetes, hepatitis) - Demonstrate knowledge and understanding of underlying pathological processes in the oral cavity - Demonstrate knowledge and competencies in recognizing and diagnosing oral cystic changes - Demonstrate knowledge and understanding of the essence of pathological processes underlying human diseases, particularly those affecting the oral cavity 			
Contents of the course: Introduction to Pathology (definition, importance, methods). Adaptive reactions. Changes in the structure of tissues and cells. Damage and death of cells. Necrosis and apoptosis. Disturbances of the metabolism of pigments. Disturbances in body liquid contents. Disturbances in blood circulation. Inflammation. Regeneration processes. Neoplasma – tumors. Cardiovascular system. Respiratory system. Diseases of the digestive system. Diseases of the urinary system. Diseases of the endocrine system. Diseases of the central nervous system. Introduction to oral pathology. Cysts of the orofacial region. Diseases of salivary glands. Odontogenic tumors. Diseases of the haematopoietic apparatus. Diseases of bones and joints. Diseases of skin and oral mucosa.			
Recommended literature: 1. Kumar V, Abbas AK, Aster JC, Turner RJ. Robbins and Cotran pathologic basis of disease. 10th ed. 2021, Philadelphia, PA: Elsevier/Saunders;. pp:1-339; 480-700; 895-900; 985-1065; 2. Neville BW, Damm DD, Allen CM, Chi AC. Oral and maxillofacial pathology. 4th ed. St. Louis: Elsevier; 2016.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 60	Practicals: 45	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	10
Participation in practicals	28	Oral exam	50
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Preventive dentistry				
Course Leader (Name, middle letter, surname): Zoran T. Mandinić				
Course status (compulsory/elective): Compulsory				
ECTS: 9			Year of the study: II / 3rd semester	
Entry requirements (examinations passed in previous years):/			Course code: ST27PREV	
<p>Objectives of the course: To enable students to acquire new knowledge in the field of etiopathogenesis, prevention, and prophylaxis of oral diseases, as well as in the promotion of oral health, and to understand the role and responsibilities of the dentist in maintaining the oral health of individuals and the community.</p>				
<p>Outcomes of the course: After completing this course, the student should be able to:</p> <ul style="list-style-type: none"> – Understand the etiology of oral diseases. – Identify risk factors for the development of oral diseases and demonstrate the ability to diagnose them. – Provide guidance on controlling risk factors, analyze patients’ dietary habits, and offer recommendations for the maintenance and promotion of oral health. – Understand and apply methods of communication, motivation, and education in dental health promotion. – Understand and implement modern prophylactic methods, including the application of contemporary remineralization techniques for hard dental tissues. – Understand the principles and methods of minimally invasive cariology. – Apply prophylactic methods in the prevention of periodontal diseases, including professional removal of soft deposits and supragingival calculus. – Understand and apply methods of dental caries prophylaxis, including fissure sealants, topical application of high-concentration fluorides, and chemoprophylaxis. – Understand and implement preventive measures in restorative dentistry to preserve oral health and ensure the longevity of restorations in high-risk patients, including those with fixed orthodontic appliances, direct and indirect restorations, fixed prosthetic restorations, and dental implants. – Understand the principles of prevention of oral diseases across different population groups, including infants, young children, preschool and school-aged children, pregnant women, adults, older adults, as well as patients with increased medical risk, rare diseases, and those requiring additional support. – Understand the principles of maintaining accurate and comprehensive medical records. – Monitor and interpret epidemiological indicators of oral diseases. 				
<p>Contents of the course: A modern understanding of dental caries; Saliva and oral health; Prevention of early childhood caries; Diet and oral health; Contemporary concept of remineralization of hard dental tissues: fluorides, casein-phosphopeptide, xylitol, ozone; Indications and application of silver diamine fluoride; An individualized approach to oral hygiene maintenance based on the concept of Individually Trained Oral Prophylaxis (<i>iTOP</i>); Prophylactic measures in the prevention of mouth and tooth diseases (plaque detection, removal of soft deposits, removal of tartar, local application of fluoride, fissures sealant); Guided Biofilm Therapy (<i>GBT</i>); Etiology and prevention of periodontal disease and soft tissues of the oral cavity; Etiology and prevention of injuries in the orofacial region; Etiology and prevention of orthodontic malformations; Diagnosis of caries risk; The principles and methods of minimally invasive cariology; Prevention and prophylaxis of oral diseases across different population groups, including infants, young children, preschool and school-aged children, pregnant women, adults, older adults, as well as patients with increased medical risk, rare diseases, and those requiring additional support; The social and medical significance of oral diseases; Monitoring and interpretation of epidemiological indicators of oral diseases; Oral health promotion; Health education.</p>				
<p>Recommended literature: 1. Harris NO, Garcia-Godoy F, Nathe CN. Primary preventive dentistry. 8th ed. Upper Saddle River: Pearson; 2021. (775 pages)</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 45	Practicals: 45	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				

Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)	3		
Seminars	3		
Other	/		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: second			
Course: Microbiology and Immunology			
Course Leader (Name, middle letter, surname): Dušan B. Pavlica			
Course status (compulsory/elective): compulsory			
ECTS: 9		Year of the study: II/3rd semester	
Entry requirements(examinations passed in previous years):		Course code: ST27MIKR	
<p>Objectives of the course: To familiarize students with the most common pathogens, their mechanisms of activity, as well as their identification using standard and contemporary methods of laboratory diagnostics.</p>			
<p>Outcome of the course: Upon completion of the course, students should be able to: -demonstrate basic knowledge of medical microbiology and immunology, -understand the principles of microscopy, and cultural and serological diagnostics of different human pathogens, - demonstrate understanding of the oral biotope and the microbiological mechanisms underlying diseases of dental tissues and periodontium.</p>			
<p>Content of the course: Basics of bacterial cell structure, virulence factors, mechanisms of development of infectious diseases, prevention of infections (sterilization and disinfection), antibiotics and their mechanism of action. Structure of the immune system, innate and acquired immunity (T and B lymphocytes), activity of the complement system and cytokines. Autoimmune diseases and their mechanisms, hypersensitivity reactions, vaccines and immune serums. Most common human bacterial pathogens (<i>Staphylococcus</i>, <i>Neisseriae</i>, <i>Streptococcus</i>, <i>Streptococcus pneumoniae</i>, <i>Enterococcus</i>, <i>Bordatella</i>, <i>Bacillus anthracis</i>, <i>Corynebacterium diphtheriae</i>, <i>Haemophilus influenzae</i>, <i>Legionella</i>, <i>Clostridium</i> (<i>Cl. tetani</i>, <i>Cl botulinum</i>, <i>Cl gas gangrenae</i>), <i>Listeria</i>, <i>Brucella</i>, <i>Mycobacterium</i>, <i>Enterobacteriaceae</i>, <i>Vibrio</i>, <i>Helicobacter</i>, <i>Campylobacter</i>, <i>Traponema pallidum</i>, <i>Borellia burgdorferi</i>, <i>R. prowazeki</i>, <i>Chlamidiae</i>) Most common human viral pathogens (HSV1, HSV2, VZV, CMV, EBV, HHV6, HHV7, HHV8, Orthomyxoviridae, Rhabdoviridae, Poxviridae, Togaviridae, Paramyxoviridae, hepatotropic viruses, HIV, prions) Basic characteristics of the oral biotope. Most important members of the oral flora (oral streptococci, Lactobacillus, Actinomyces, Porphyromonas, Prevotella, Fusobacterium, Oralnespirohete, A. actinomycetemcomitans, filamentous bacteria, oral protozoae and most important fungi). Microbiological aspects of the dental plaque structure, etiopathogenesis of caries and periodontitis.</p>			
<p>Recommended literature: Samaranayake LP. Essential microbiology for dentistry. 2nd ed. Edinburgh: Churchill Livingstone; 2002. Marsh PD, Martin MV. Oral microbiology. 4th ed. Oxford: Wright; 2001. Abbas AK, Lichtman AH, Pillai S. Basic immunology: functions and disorders of the immune system. 7th ed. Philadelphia: Elsevier Saunders; 2023. p. 21-41, 63-83, 123-43, 161-77, 193-209.</p>			
Total number of classes in active teaching:			Professional practice/ independent work:
Lectures: 60	Practicals: 30	Other modes of teaching process: Study research work:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Written exam	50
Participation in practicals	28	Practical exam	10
Mid-term test (s)	4		
Seminars	2		
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dental Anatomy with the Fundamentals of Gnathology				
Course Leader (Name, middle letter, surname): Rade S. Živković				
Course status (compulsory/elective): Compulsory				
ECTS: 8		Year of the study: II / 3rd semester		
Entry requirements (examinations passed in previous years):		Course code: ST27DEAN		
Objectives of the course: To enable students to gain knowledge of the anatomy of permanent teeth in detail, and to acquire knowledge of gnathology.				
Outcomes of the course: After successfully completing the course, the student should be able to: - recognize permanent teeth by class and location; - perform wax sculpting of the teeth of the permanent dentition; - describe the basic principles of gnathology related to the anatomy and physiology of the orofacial system; - describe the articulation; - use the mean-value dental articulator.				
Contents of the course: Lectures: Introduction to morphology. Orofacial system. General knowledge of teeth. Definition, classification and function of the tooth. Dental formula. Periods of dentition. Chronology of tooth emergence. Dental nomenclature. Topographic-anatomical signs on the teeth. General oral and dental anatomy. Anatomical parts and structure of the teeth of the human population, class of permanent incisors, canines, premolars and molars in the lower and upper jaw. Introduction to gnathology, concept, definition and subject of study. Temporomandibular joint - anatomy and function. Muscles of the orofacial system, functional specifics of the masticatory muscles. Physiological regulation of lower jaw movements. Physiologically optimal occlusion and non-physiological occlusion. Practicals: Wax sculpting of the teeth of permanent dentition; Methods of recording lower jaw movements. Posterior (articular) guidance and anterior (occlusal) guidance. Lower jaw reference positions, intercuspal position, physiological rest position, central relation. Using a facebow to transfer models into articulators. Simulation of lower jaw movements. Model based occlusal analysis in central and eccentric positions, Occlusal wax-up following the Peter Thomas technique.				
Recommended literature: 1. Scheid RC, Weiss G. Woelfel's dental anatomy. 8th ed. Philadelphia: Lippincott Williams & Wilkins; 2012. 2. Okeson JP. Management of temporomandibular disorders and occlusion. 5th ed. St. Louis: Mosby; 2003.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 15	Practicals: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	20
Participation in practicals	28		Practical exam	40
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Public Health			
Course Leader (Name, middle letter, surname): Svetlana B. Jovanović			
Course status (compulsory/elective): Compulsory			
ECTS: 5		Year of the study: II / 4th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27JAZD	
<p>Objectives of the course: To enable students to gain knowledge in the field of public health and to master the skills of planning and implementing prevention measures related to general and oral health of the population. Students will also acquire knowledge of the basics of epidemiology and the measurements of quality of life in relation to general and oral health.</p>			
<p>Outcomes of the course: After completing this course, the student should be able to:</p> <ul style="list-style-type: none"> - Relate public health to dental science - List risk factors for oral and dental diseases and participate in oral health research - Implement programs, strategies, campaigns and other community actions in the prevention of oral and chronic non-communicable diseases - Describe the measures to prevent intrahospital infections and epidemics of infectious diseases - Participate in dental health education programs - Understand the types of epidemiological studies - Carry out measurements of quality of life in relation to oral health 			
<p>Contents of the course: Introduction, definition, development and importance of public health and dental public health; exposure and dispositional risk factors contributing to the disease; prevention of health disorders; organization of health care by levels; measuring general and oral health of the population using indicators; prevention measures for the preservation and promotion of general and oral health; demonstration of epidemiological research and conclusion of infectious and non-communicable diseases, planning of epidemic measures; infectious disease prevention measures; general and specific prevention measures; socio-medical diseases; assessment and measurement of quality of life in terms of general and oral health.</p>			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Daly B, Batchelor P, Treasure E, Watt R. Essential dental public health. 2nd ed. Oxford: Oxford University Press; 2013. p. 5-142. 2. Katz DL, Wild D, Elmore JG, Lucan SC. Jekel's epidemiology, biostatistics, preventive medicine, and public health. 4th ed. Philadelphia: Elsevier Saunders; 2013. p. 291-409 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:15	Other modes of teaching: Research paper:	
<p>Teaching and learning methods: lectures, practicals classes, Small-group work, seminars, interactive discussion, case reviews and analysis.</p>			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Oral exam	60
Participation in practicals	28		
Mid-term test (s)	3		
Seminars	3		
Other			

Elective courses – 2nd year

27I2_01 Oral Hygiene Products

27I2_02 Oral Homeostasis

27I2_03 Bone Tissue Physiology

27I2_04 Laboratory Diagnostics of Tumors in the Orofacial Region

27I2_05 Tumor Markers

27I2_06 Biostatistics in Dental Medicine

27I2_07 Management in Dentistry

27I2_08 Impact of Harmful Habits on Oral Health

27I2_09 Microbiological Aspects of Infection Control in Dentistry

27I2_10 Biofilm in Dentistry and Medicine

27I2_11 Informatics in Dental Medicine

27I2_12 Physical Foundations of Diagnostic and Therapeutic Methods

27I2_13 Viral Infections Relevant to Dental Practice

27I2_14 Microbiological Diagnostics of Infections in the Oropharyngeal Region

27I2_15 The Concept of Personalized Medicine in Dentistry

27I2_16 Comparable Dental Anatomy

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Oral hygiene products				
Course Leader (Name, middle letter, surname): Dusan M. Kosanovic				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II/4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_01		
Objectives of the course: To enhance and deepen dental students' knowledge of dental care and oral hygiene maintenance products.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -Adequately use and apply basic and adjunctive oral hygiene aids. -Establish indications for the use of basic and adjunctive oral hygiene maintenance aids. -Recommend appropriate oral hygiene and dental care products in accordance with the patient's specific needs.				
Contents of the course: Importance of maintaining oral hygiene; basic conditions for maintaining oral hygiene in the prevention of oral diseases; basic oral hygiene products; oral hygiene aids; techniques for performing oral hygiene; training methodology in oral hygiene maintenance; recommendations for the preservation of hard and soft tissues of the mouth by applying oral hygiene products.				
Recommended literature: <ol style="list-style-type: none"> 1. Yankell SL, Saxer UP. Toothbrushes and toothbrushing methods. In: Harris NO, Garcia-Godoy F, editors. Primary preventive dentistry. 6th ed. Upper Saddle River: Pearson Prentice Hall; 2004. p. 93-117. 2. Yankell SL, Fischman SL. Dentifrices, mouthrinses, and chewing gums. In: Harris NO, Garcia-Godoy F, editors. Primary preventive dentistry. 6th ed. Upper Saddle River: Pearson Prentice Hall; 2004. p. 119-144. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Seminars and interactive discussion				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written exam	60	
Participation in practicals	20			
Mid-term test(s)				
Seminars	20			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Oral Homeostasis				
Course Leader (Name, middle letter, surname): Marija S. Milić				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_02		
<p>Objectives of the course: To acquire fundamental and applied knowledge in the field of oral physiology, thus enabling an understanding of the physiological regulatory mechanisms that contribute to the integrity of healthy tissues.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to understand and explain:</p> <ul style="list-style-type: none"> - Transport mechanisms across the cell membranes of orofacial tissues - Physiological transport criteria and the processes that influence them - Secretion processes under different physiological conditions - Mechanisms for maintaining oral homeostasis under stress conditions - Physiological mechanisms of orofacial sensitivity - Physiological mechanisms controlling sensitivity in the orofacial region - Physiological parameters relevant to diagnosis and therapy - Mechanisms for maintaining oral homeostasis. 				
<p>Contents of the course: Examination of signaling mechanisms in the cells of orofacial tissues, including the types and distribution of receptors, and the use of primary and secondary messenger systems as signals that regulate membrane transport and contribute to the maintenance of oral homeostasis in epithelial, connective, muscular, nervous, bone, and glandular tissues.</p>				
<p>Recommended literature: Lauralee Sherwood. Human Physiology- From Cells to Systems. 9th ed. Boston: Cengage Learning; 2016. pp. 21-86, 404-444. Arthur R. Hand & Marion E. Frank. Fundamentals of Oral Histology and Physiology. Oxford: John Wiley & Sons; 2014. pp. 1-273.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	10		Oral defence of the selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Interactive discussions	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Bone Tissue Physiology				
Course Leader (Name, middle letter, surname): Gavriilo B. Brajović				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 2712_03		
<p>Objectives of the course: To acquire knowledge about complex physiological processes that take place in bone tissue, the mechanisms and factors involved in their development and the influence of various endogenous and exogenous factors, with particular emphasis on the physiological processes that occur in the alveolar bone.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to: - List and explain the physiological roles of bone tissue in the body - Describe the morphological and physiological characteristics of bone tissue - Explain the complex physiological mechanisms involved in bone tissue formation and degradation, as well as the regulatory factors involved in these processes - Explain the physiological mechanisms involved in the bone remodeling process, as well as the significance of that process - Describe the influence of endogenous and exogenous factors on the process of bone tissue remodeling - Explain the specifics of the physiology of the alveolar bone</p>				
<p>Contents of the course: Basic morphological characteristics of bone tissue, physiological characteristics of bone cells and properties of extracellular matrix, processes of bone tissue formation and degradation, bone remodeling, influence of endocrine, paracrine and autocrine factors on the processes of bone degradation and formation, influence of exogenous factors on remodeling of bone, factors affecting the remodeling of the alveolar jawbone.</p>				
<p>Recommended literature: 1. Burr DB, Allen MR. Basic and applied bone biology. Elsevier Academic Press, 2014. pages. 3-90; 225-242. 2. Bilezikian JP, Raisz LG, Martin TJ. Principles of Bone Biology. Academic Press, 2008, 3rd edition. pages. 3-23; 153-219. 3. Bronner F, Farach-Carson M. Bone Formation. Springer, 2004. pages. 44-57. 4. Bronner F, Farach-Carson M, Rubin J. Bone Resorption. Springer, 2005. pages. 1-58. 5. Barrett EJ, Barrett P. The parathyroid glands and vitamin D. In: Boron WF, Boulpaep. Medical physiology, Saunders Elsevier, 2012, 2nd updated edition. pages.1094-1110. 6. White BA, Harrison JR. Hormonal regulation of calcium and phosphate metabolism, Physiology of bone. In: KoepfenBM, Stanton BA. Berne & Levy Physiology, Elsevier, 2017, 7th edition. pages. 722-732. 7. Berkovitz B, Moxham B, Linden R, Sloan A. Alveolar bone: structure and composition. In: Oral biology, Churchill Livingstone Elsevier, 2011. pages 221-234.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	

Teaching and learning methods:

Classes are conducted in the form of interactive lectures in a small group of students, with the preliminary preparation of students for a thematic unit and an active discussion with the teacher on the given topic. In addition, each student is assigned a seminar topic to prepare and present to other students, with all students actively participating in the discussion following the presentation.

Assessment (maximum number of points: 100)

Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	20	Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Laboratory Diagnostics of Tumors in the Orofacial Region				
Course Leader (Name, middle letter, surname): Zvezdana B. Tepavčević				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I 2_ 04		
Objectives of the course: The objective of the course is to provide students with knowledge of the basics of pathohistological diagnostics, and significant correlations between clinical and pathohistological findings.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Distinguish between different types of tumors in the orofacial region - Demonstrate knowledge of the epidemiological and pathohistological parameters of oropharyngeal cancers - Explain the methods for standard tissue processing, tissue fixation techniques, tissue molding and cutting - List and explain classic and special dyeing techniques				
Contents of the course: -Basics of oral pathology, the importance of incidence of oropharyngeal tumors in dentistry; the importance of the correlations between epidemiological, pathohistological and clinical parameters in accurate and timely diagnosis; -standard tissue processing and laboratory techniques for tissue fixation, molding and cutting, and staining tissue using basic hematoxylin-eosin staining; -special staining methods necessary for the diagnosis of certain types of oropharyngeal cancers.				
Recommended literature: Kumar V, Abbas AK, Fausto N, Aster JC. Robbins and Cotran pathologic basis of disease. 8th ed. Philadelphia: Saunders Elsevier; 2009. p. 3-103, 165-210. Soames JV, Southam JC. Oral pathology. 4th ed. Oxford: Oxford University Press; 2005. p. 2-23, 25-35, 107-33.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods Classes involve working in small groups and are designed as an interactive combination of short theoretical notes from teachers, introduction to work in a pathohistologic laboratory, self-report to a group on a given topic based on previously analyzed literature, discussion on a given topic.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Tumor Markers				
Course Leader (Name, middle letter, surname): Branko S. Dožić				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_05		
Objectives of the course: To introduce students to the significance of tumor markers and their role in the diagnosis; to learn how to assess the stage of disease, predict the course of the disease, plan and monitor the therapeutic effect.				
Outcomes of the course: After completing the course, the student should be able to: - describe the application of tumor markers in the diagnosis - explain the application of tumor markers in clinical practice, and their reliability - interpret the results of tumor marker analysis and evaluate their impact on therapy planning and monitoring of therapeutic outcomes.				
Contents of the course: Basic characteristics, formation and classification of tumor markers. Diagnostic procedures for determining their value. Interpretation of the findings obtained by tumor marker analysis (positive and negative results) in clinical practice as a method for the early detection of malignancies; monitoring patients with malignant tumors (in terms of assessing the need for a surgical procedure) and evaluating the effectiveness of the therapy applied. The importance and types of tumor markers in the pathology of the head and neck region.				
Recommended literature: 1. Kumar V, Abbas AK, Aster JC. Robbins & Cotran pathologic basis of disease. 10th ed. Philadelphia: Elsevier; 2021. p. 228-367. 2. Mills SE, editor. Sternberg's diagnostic surgical pathology. 6th ed. Philadelphia: Wolters Kluwer Health; 2015. p. 2370-990.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biostatistics in Dental Medicine				
Course Leader (Name, middle letter, surname): Biljana R. Milicic, Jovana M. Kuzmanovic Pficer				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years): /		Course code: 27I2_06		
<p>Objectives of the course: To introduce students to statistical thinking, to acquire knowledge of the use of particular statistical analyses, to interpret the obtained results, and to apply the information and knowledge acquired in clinical settings; to understand the role of this type of thinking and its limitations in daily dental practice, and to understand the importance of monitoring contemporary dental literature and scientific publications for advancing dental practice.</p>				
<p>Outcomes of the course: After completing the course, the student should be able to: - Create a database and prepare data for further processing - Describe the collected data and present the results through tables and graphs. - Understand the concept of hypothesis testing and steps in hypothesis testing: <ul style="list-style-type: none"> • Defining statistical hypotheses: null and alternative hypothesis • Determination of significance level - Use specific statistical analysis in hypothesis testing: <ul style="list-style-type: none"> • One-sample case • Two-sample cases • Examine the associations between variables • Categorical data analysis - Interpret the obtained results - Present the results in a way that indicates their subsequent implementation. - Practically apply information and the knowledge acquired.</p>				
<p>Contents of the course: Statistical terms and concepts; Generating and describing data; Probabilities and probability distribution; Statistical inference: confidence intervals and hypothesis testing. Database formation, data description, tabular and graphical presentation of results, performance of statistical tests, interpretation of obtained results and their presentation.</p>				
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Kim JS, Dailey R. Biostatistics for Oral Healthcare. Blackwell Pub Professional, Iowa USA: State University Press; 2007. Page 5-160 2. http://davidmlane.com/hyperstat/ (<i>HyperStat Online Textbook</i> © 1993-2003 David M. Lane) 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
<p>Teaching and learning methods: Introduction to the material through theoretical instruction. Small-group work in an electronic classroom, which involves interactive discussions, case presentations and independent solving of assigned case studies, seminars.</p>				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals	10			
Mid-term test(s)				
Seminars	20			
Other	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Management in Dentistry				
Course Leader (Name, middle letter, surname): Svetlana B. Jovanović				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_07		
Objectives of the course: To acquire knowledge of the general principles of management and health management, as well as of the specificities of management, planning, organization, leadership, communication, and monitoring in healthcare institutions.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe general management principles - Apply the basic function of management in the management process - Distinguish between leadership and management - Explain the basic elements of the communication process - Conduct a decision-making process in a team 				
Contents of the course: Definition, characteristics and development of general and health management; management functions: planning, organization, communication, control and coordination; basic theories and styles of leadership; the importance and need for communication in management; successful / effective manager and effective manager tools; evaluation and monitoring; management and work motivation; conflict and conflict management; collaboration and teamwork; decision-making and problem-solving.				
Recommended literature: <ol style="list-style-type: none"> 5. Global strategy and action plan on oral health 2023–2030. Geneva: World Health Organization; 2024. pp. 1-85. 6. Winkelmann J, Gómez Rossi J, van Ginneken E. Oral health care in Europe: Financing, access and provision. <i>Health Systems in Transition</i>, 2022; 24(2): pp. 1–119. 7. United Nations General Assembly. Political declaration of the High-level Meeting on Universal Health Coverage: Universal health coverage: moving together to build a healthier world. Resolution A/RES/74/2. United Nations; 2019. pp. 1-12 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Impact of Harmful Habits on Oral Health				
Course Leader (Name, middle letter, surname): Maja S. Milosevic Markovic				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_08		
Objectives of the course: To acquire knowledge of the harmful effects of smoking, alcoholism and drug addiction on general and oral health, epidemiological characteristics of addiction diseases and the role of dentists in the prevention of these diseases.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Recognize addictive diseases - Identify the role of harmful habits in the emergence of oral diseases - Understand the importance of the dentist’s role in preventing addiction diseases - Implement health education programs through teamwork to help prevent these diseases				
Contents of the course: Definition, classification and mechanisms of addictive diseases; social and medical characteristics of addiction disease, prevalence and incidence rates, the iceberg phenomenon; the adverse impact of alcohol, drugs and tobacco use on general and oral health; public health measures for the prevention of addiction, including media campaigns and legal restrictions preventing the use of alcohol, drugs and tobacco; the role of society, healthcare providers and dentists in preventing addiction diseases, and health education strategies.				
Recommended literature: <ol style="list-style-type: none"> 1. WHO report on the global tobacco epidemic, 2025: warning about the dangers of tobacco. Geneva: World Health Organization; 2025. pp. 25-73, 80-107. 2. Arruda CV, Guilardi IJ, Pavan LMC, Greggianin BF. Oral health-related quality of life and periodontal status according to smoking status. <i>Int J Dent Hyg.</i> 2024 May;22(2):368-375. 3. Iacob AM, Escobedo Martínez MF, Barbeito Castro E, Junquera Olay S, Olay García S, Junquera Gutiérrez LM. Effects of Vape Use on Oral Health: A Review of the Literature. <i>Medicina (Kaunas).</i> 2024 Feb 21;60(3):365. 4. Miluna-Meldere S, Vanka SA, Skadins I, Kroica J, Sperga M, Rostoka D. Oral mucosal changes caused by nicotine pouches: case series. <i>Diagn Pathol.</i> 2024 Sep 19;19(1):127. doi: 10.1186/s13000-024-01549-3. Erratum in: <i>Diagn Pathol.</i> 2025 Jan 28;20(1):12. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Табела 5.2. Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: second			
Course: Microbiological Aspects of Infection Control in Dentistry			
Course leader (Name, middle initial letter, surname): Dušan B. Pavlica			
Course status (compulsory/elective): elective			
ECTS: 2		Year of the study: II/4th semester	
Entry requirements : examinations passed in previous years		Course code: 27I2_09	
Objectives of the course: To acquire knowledge of the most significant pathogens, the routes of microbial transmission in the dental practice, and infection-control methods used to prevent infections of the oropharyngeal and cervicofacial regions.			
Outcome of the course: After completing this course, the student should be able to: <ul style="list-style-type: none"> - Identify the most significant infectious agents causing infections of the oropharyngeal and cervicofacial regions; - Identify the routes of microbial transmission in the dental practice; - Select and apply suitable physical and chemical agents to prevent cross-contamination. 			
Content of the course: Definitions of infection, (transient) bacteremia, and sepsis; the most significant bacterial, viral and fungal species causing infections relevant to dentistry; the role of microbiological laboratory in identifying infectious agents; principles and application of sepsis and antisepsis to prevent infections of the oropharyngeal and cervicofacial regions.			
Literature: Marsh PD, Martin MV, Lewis MAO, Williams DW. Oral microbiology. 6th ed. Edinburgh: Churchill Livingstone; 2016. p. 127-185. Nisengard RJ, Newman MG. Oral microbiology and immunology. 2nd ed. Philadelphia: Saunders; 1994. p. 120-243, 402-424. Medical Microbiology. Murray P.R., Rosenthal K.S., Pfaller M.A., 5th edition; 2005; Page 89-95.			
Total number of classes in active teaching:			Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	40 points	Final exam 60 points	60 points
Participation in lectures		Written exam	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biofilm in Dentistry and Medicine				
Course Leader (Name, middle letter, surname): Milena Ž. Radunović				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_10		
Objectives of the course: Students will gain knowledge of the formation of biofilm and its impact, including the difference between planktonic bacteria and biofilm-forming bacteria, the role of biofilm in persistence and antibiotic resistance, and how it can lead to the development of dental diseases (caries, gingivitis, periodontal disease) and diseases affecting other bodily systems.				
Outcomes of the course: After completing this course, the student should be able to: - demonstrate knowledge of the formation and structure of biofilm - understand the characteristics of microbial interactions within biofilm - understand the role of biofilm in the development of dental and other diseases				
Contents of the course: The definition, developmental stages, and morphology of biofilm; characteristics of microbial interactions within biofilm; differences in the sensitivity of planktonic bacteria and biofilm-forming bacteria to antibiotics and chemicals; the role of biofilm in the development of caries (the formation of the acquired pellicle, acid production within biofilm); the role of biofilm in the development of gingivitis and periodontal disease (production of alkaline products, oxidation-reduction potential change); the role of biofilm in medicine (endocarditis, pneumonia, urinary infections, sepsis).				
Recommended literature: 1) Bagg, J., MacFarlane, T. W., Poxton, I. R., & Smith, A. J. Essentials of microbiology for dental students (2 nd ed.). Oxford: Oxford University Press, 2006. pp. pp.147-156, 163-176, 185-194, 219-311. 2) Lakshman, S. Essential Microbiology for Dentistry (4 th ed.) Churchill Livingstone, 2012. pp. 38-48, 93, 265-321.				
Total number of classes of active teaching:				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Working in small groups, seminars, interactive discussions, case reports, case studies				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total: 40 points		Final exam: 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Informatics in Dental Medicine				
Course Leader (Name, middle letter, surname): Biljana R. Milicic, Jovana M. Kuzmanovic Pficer				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years): /		Course code: 27I2_11		
Objectives of the course: To introduce students to basic concepts of medical informatics and electronic environment: electronic medical records, their advantages, and limitations in comparison to paper records. To introduce the connection of electronic records with the health record system. To learn how to obtain relevant information in medical decision-making, as well as how to evaluate its quality.				
Outcomes of the course: After completing the course, the student should be able to: <ul style="list-style-type: none"> - Use electronic and computer-aided learning. - Use practical tools to search medical knowledge databases. - Form keywords to properly search medical knowledge databases. - Search bibliographic and other databases. - Use software packages to store collected data/information. - Describe collected data/information. - Evaluate the quality of the information received. - Present the information received. - Properly utilize information in medical decision-making. 				
Contents of the course: Data, information and knowledge in dentistry; Medical knowledge databases, forming keywords to search medical knowledge databases and evaluation of the quality of the obtained information; Health record systems in dentistry; Electronic health records.				
Recommended literature: Shortliffe EH, Cimino JJ, editors. Biomedical informatics: computer applications in health care and biomedicine [Kindle Edition]. 4th ed. London: Springer-Verlag; 2014. p. 77-120, 177-204, 363-423, 543-574.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Introduction to the material through theoretical instruction. Small-group work in an electronic classroom, which involves interactive discussions, case presentations and independent solving of assigned case studies, seminars.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals	10			
Mid-term test(s)				
Seminars	20			
Other	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Physical Foundations of Diagnostic and Therapeutic Methods	
Course Leader (Name, middle letter, surname): Đorđe I. Stratimirović	
Course status (compulsory/elective): Elective	
ECTS: 2	Year of the study: II / 4th semester
Entry requirements (examinations passed in previous years):	Course code: 27I2_12
<p>Objectives of the course:</p> <p>To introduce students to the physical foundations of instrumental diagnostic methods.</p> <p>To gain a broader perspective of various diagnostic instruments and areas of their application.</p> <p>To understand the effects of physical phenomena on tissues and organs.</p> <p>To connect the potential applications of diagnostic methods with the properties of the physical quantity on which they are based.</p> <p>To understand how diagnostic and therapeutic devices used in dental practice operate and to properly interpret the results obtained.</p> <p>To gain insights into the possibilities and risks of using modern instruments for diagnostic and therapeutic procedures.</p>	
<p>Outcomes of the course:</p> <p>After completing the course and passing the exam, the student should be able to:</p> <p>Describe the methods for measuring mechanical quantities (pressure, force, flow) and thermodynamic quantities (temperature).</p> <p>Explain the theoretical foundations of vibrations and waves and apply them to diagnostic methods based on mechanical waves.</p> <p>Explain the principle of ultrasound diagnostics and list its applications in dentistry and medicine.</p> <p>Explain the application of direct and alternating electric current in diagnostic (ECG, EEG, EMG) and therapeutic techniques (TENS, galvanism, diathermy).</p> <p>Explain the principle of laser operation and classify the possibilities of its application in dentistry (soft tissue therapy, teeth whitening, hard tissue treatment, caries detection).</p> <p>Describe the electromagnetic radiation spectrum and distinguish types of EM radiation according to frequency, wavelength, and energy.</p> <p>Classify different spectroscopic techniques (UV, IR, NMR, fluorescence spectroscopy...) and explain their area of application in diagnostics.</p> <p>Explain the principle of magnetic resonance imaging (MRI) and its significance in diagnosing diseases of the maxillofacial region.</p> <p>Classify types of ionizing radiation (alpha, beta, gamma, X-radiation) and explain methods of their application in diagnostics (X-ray, CT) and therapy (radiotherapy).</p>	
<p>Contents of the course:</p> <p>Basic measurement methods. Pressure measurement (manometers), force measurement (dynamometers), flow measurement (flow meters, Doppler). Temperature measurement (thermocouples, thermography). Application: blood pressure, saliva flow, masticatory forces.</p> <p>Ultrasound. Properties of mechanical waves. Piezoelectric effect. Ultrasound diagnostics, Doppler. Application in dentistry: scaling, root canal cleaning, fracture detection. Therapeutic ultrasound.</p> <p>Electrical properties of tissues. Biopotentials. Electrocardiography (ECG), electroencephalography (EEG), electromyography (EMG).</p> <p>Electrotherapy and electrical safety. Electrotherapy, TENS, galvanic currents and iontophoresis, electrical stimulation, microwave diathermy. Safety when working with electrical devices.</p> <p>Magnetic properties and magnetic resonance imaging. Magnetic properties of tissues (diamagnetism of water).</p> <p>Magnetic resonance imaging (MRI) – physical principles. Application in dentistry: diagnosis of TMJ disorders, tumors, inflammatory processes.</p> <p>Electromagnetic radiation. EM radiation spectrum. Interaction with tissues (absorption, reflection, fluorescence). Spectroscopic techniques: UV photometry, IR spectroscopy, fluorescence spectroscopy – caries detection, material analysis.</p>	

Lasers. Laser operation principle, types of lasers. Application: soft tissue treatment, teeth whitening, hard tissue preparation, photodynamic therapy.
 Ionizing radiation: alpha, beta, gamma, X-radiation. X-rays – generation, absorption. Diagnostics: X-ray (RTG), orthopantomography (OPG), computed tomography (CT). Therapy: radiotherapy.
 Nuclear medicine. Radioisotopes (technetium-99m, fluorine-18). PET scan, SPECT. Application in tumor and metastasis diagnostics.
 Radiation protection. Dosimetry, biological effects of ionizing radiation, protection principles (time, distance, shielding).

Recommended literature:

1. Newman J. Physics of the life sciences, Springer; 2008. 543-580, 603-651.
2. Aitken A. Mass spectrometric techniques. In: Principles and Techniques of Biochemistry and Molecular Biology. Edited by: Wilson K, Walker J. 7th edition, Cambridge University Press, Cambridge, 2010. Pages: 352-397.
3. Hofmann A. Spectroscopic techniques. In: Principles and Techniques of Biochemistry and Molecular Biology. Edited by: Wilson K, Walker J. 7th edition, Cambridge University Press, Cambridge, 2010. Pages: 477-551.
4. Slater R.J. Radioisotope techniques. In: Principles and Techniques of Biochemistry and Molecular Biology. Edited by: Wilson K, Walker J. 7th edition, Cambridge University Press, Cambridge, 2010. Pages: 553-580.
5. Van Meerbeek B, Vargas M, Inoue S, Yoshida Y, Perdigão J, Lambrechts P, Vanherle G. Microscopy investigations. Techniques, results, limitations. Am J Dent. 2000 Nov;13(Spec No):3D-18D.

Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	

Teaching and learning methods:
 Small-group work, visiting relevant institutions to get introduced to diagnostic and therapeutic methods, seminars, interactive discussions.

Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Oral presentation and defense	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: second			
Course: Viral Infections Relevant to Dental Practice			
Course Leader (Name, middle initial letter, surname): Dušan B. Pavlica			
Course status (compulsory/elective): elective			
ECTS: 2		Year of the study: II/4th semester	
Entry requirements : examinations passed in previous years		Course code: 27I2_13	
Objectives of the course: To acquire knowledge of different viruses that cause systemic and local infections relevant to dentistry (herpes viruses, Hepatitis B, C, and D, papilloma viruses, HIV), including laboratory diagnostics and interpretation of the results obtained. To acquire knowledge of specific and non-specific measures for preventing infections caused by these viruses.			
Outcome of the course: After completing this course, the student should be able to: <ul style="list-style-type: none"> - Determine the transmission pathways of viruses causing infections relevant to dentistry - Interpret the results of laboratory diagnostics used to detect viral infections relevant to dentistry - Apply suitable specific and non-specific measures to prevent viral infections relevant to dentistry 			
Content of the course: Overview of general characteristics of viruses, and direct and indirect laboratory diagnostic tools used to detect viruses. Fundamental features of herpes viruses, hepatotropic viruses relevant to dentistry (HBV, HCV, HDV), papilloma viruses, HIV, and the infections caused by these viruses. Interpretation of the results of laboratory diagnostics used to detect viral infections.			
Literature Marsh PD, Martin MV, Lewis MAO, Williams DW. Oral microbiology. 6th ed. Edinburgh: Churchill Livingstone; 2016. p. 147-153. Scully C, Samaranayake LP. Clinical virology in oral medicine and dentistry. Cambridge: Cambridge University Press; 1992. p. 135-166, 168-180, 217-247, 260-309, 315-349, 378-405.			
Total number of classes in active teaching:			Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	
Teaching and learning methods: Working in small groups, seminars, interactive discussions, case reports, case studies			
Assessment (maximum number of points: 100)			
Pre-exam requirements	40 points	Final exam	60 points
Participation in lectures		Written exam	60 points
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Microbiological Diagnostics of Infections in the Oropharyngeal Region			
Course Leader (Name, middle letter, surname): Milena Ž. Radunović			
Course status (compulsory/elective): Elective			
ECTS: 2		Year of the study: II / 4th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I2_14	
<p>Objectives of the course: To gain knowledge of microbiological diagnostics of infections in the oropharyngeal region, including the advantages and limitations of certain diagnostic methods. To enable students to provide proper interpretations of the results obtained in a microbiological laboratory.</p>			
<p>Outcomes of the course: After completing this course, the student should be able to:</p> <ul style="list-style-type: none"> - collect microbiological samples - complete the microbiology form and clearly indicate what the microbiologist should provide - understand the basic principles of diagnosing bacterial and viral infections - properly interpret the results of serological analyses - differentiate between various methods of determining antimicrobial resistance - interpret the results of antibiogram testing and select appropriate antibiotics 			
<p>Contents of the course: Microbiology specimen collection and referring to laboratories for testing; microscope and microscopy; cultivation of bacteria on artificial media; identification of bacteria based on cultural, physiological, and biochemical characteristics; identification of bacteria based on antigenic properties using genome detection methods; determining antimicrobial resistance and interpreting the results of antibiogram testing; cultivation and identification of viruses in living cell systems; identification of viruses without cultivation; using serological diagnostic tests to detect viral diseases.</p>			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1) Laboratory Diagnosis of Virus Diseases. In: Fenner and White's Medical Virology. Burrell C.J., Howard C.R., Murphy F.A. 5th ed., Elsevier Inc. 2017, pp.149-154 2) Herpesviruses. In Fenner and White's Medical Virology. Burrell C.J., Howard C.R., Murphy F.A. 5th ed, Elsevier Inc. 2017, p.245-246; p.249(Lab. dg VZV); pp. 253-254; p.257-259 3) Retroviruses. In Fenner and White's Medical Virology. Burrell C.J., Howard C.R., Murphy F.A., 5th ed, Elsevier Inc. 2017, pp.336-337 4) Hepatitis B and Hepatitis Delta virus. In Fenner and White's Medical Virology. Burrell C.J., Howard C.R., Murphy F.A. 5th ed., Elsevier Inc. 2017, p.305-306; pp.312-313 5) Flaviviruses In Fenner and White's Medical Virology. Burrell C.J., Howard C.R., Murphy F.A. 5th ed., Elsevier Inc. 2017, pp.516 6) Carroll KC, Pfaller MA, Jorgensen JH, Landry ML, McAdam AJ, editors. Manual of Clinical Microbiology. 13th ed. 4-volume set. Washington (DC): ASM Press / Wiley; 2023. 			
Total number of classes of active teaching:			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	
Teaching methods: Working in small groups, seminars, interactive discussions, case reports, case studies			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total: 40 points	Final exam: 60 points	
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: The Concept of Personalized Medicine in Dentistry				
Course Leader (Name, middle letter, surname): Jelena R. Roganović				
Course status (compulsory/elective): Elective				
ECTS: 2		Year of the study: II / 4th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I2_15		
Objectives of the course: To introduce students to the concept of personalized medicine in dentistry.				
Outcomes of the course: After completing the course successfully, the student should be able to: -Understand the difference between a conventional and an individually tailored treatment plan -Explain how this concept impacts physician-patient relationship and the healthcare system -Understand the application of knowledge of genetics, genomics, and epigenetics in molecular diagnostics and drug therapy -Know the principles of targeted therapy in dentistry				
Contents of the course: The foundations and significance of personalized medicine in dentistry; basics of genetics and genomics; personalized medicine and technology development; clinical significance of biomarkers; applications of genetic knowledge in personalized medicine; genomics and oral diseases; implications for the health system and the education of dental students.				
Recommended literature: Sonis ST. Genomics, personalized medicine and oral disease. Cham: Springer International Publishing; 2015. p. 1-70, 333-89. Polverini PJ, editor. Personalized oral health care: from concept design to clinical practice. Cham: Springer International Publishing; 2018. p. 1-25, 43-60, 87-144.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals: 30	Other modes of teaching :	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written presentation of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Type and level of studies: Second			
The name of subject: Comparable Dental Anatomy			
The superior of the subject: (Name, Middle letter, Surname): Rade S. Živković			
Status of subject (obligatory/elective): elective			
The number of ECTS: 2		The year of studies: II / 4th semester	
Entry requirements (passed exams from the previous years):		Code of subject: 27I2_16	
The aim of subject: To introduce students to the basics of dental anatomy.			
The outcome of the subject: Upon completion of the course, the student should be able to demonstrate knowledge of the basics of comparable dental anatomy.			
Content of the subject: Introduction to morphology. Stomatognathic system. General knowledge about teeth. Characteristics of the teeth of human dentition; Types of teeth. Shapes of teeth among mammals. Theories about origin and shapes of teeth; The change of teeth. Phylogenesis dento-osseous junction; Lobules. Lobular morphology of teeth; Comparable dental anatomy; The position of teeth in dental arches; Human tooth development (odontogenesis); Formation of the teeth among mammals; Possibilities of treatment of the teeth among mammals; Connection between the growth and development of teeth among mammals; ** Specialized practice: individual work conducted outside the scheduled practical lessons.			
The obligatory student regime within practical lessons (if it is scheduled within the plan and programme)			
Carving 9 different teeth of human dentition out of wax			
Literature Scheid RC, Weiss G. Woelfel's dental anatomy [Internet]. 8th ed. Philadelphia: Lippincott Williams & Wilkins; 2012			
The number of active lessons			Professional practice – independent work:
Lectures: 30	Practicals:	Other modes of teaching : 30	
Teaching methods: Interactive learning, seminars.			
Assessment (maximum number of points: 100)			
Pre-exam requirements		Final exam	
Seminar I	15	Written defense of a project on a selected topic	60
Seminar II	15		
In-class assessment	10		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Pathophysiology				
Course Leader (Name, Middle letter, Surname): Maja P. Miletić				
Course status (compulsory/elective): Compulsory				
ECTS: 8			Year of the study: III/ 5th semester	
Entry requirements (examinations passed in previous years):			Course code: ST27PAFI	
Objectives of the course: To acquire knowledge of pathophysiological processes related to the etiology and pathogenesis of diseases studied in general medical and different dental disciplines.				
Outcomes of the course: After successfully completing the course, the student should be able to: - Demonstrate knowledge of different types of etiological factors, their characteristics and interactions with various structures of the organism in relation to pathological processes; - Demonstrate knowledge and understanding of the mechanisms of pathological processes at the molecular level, including their progression, starting from biochemical, subcellular and cellular damage, through humoral and tissue disorders, to disorders of various organs and organ systems leading to disease manifestation; - Interpret the pathogenesis of changes/disorders that manifest in the oral cavity; - Describe the ways of adaptation and response of the diseased organism to the external environment; - Demonstrate knowledge of the basic principles of functional testing of disorders affecting different organs and organ systems, and independently analyze laboratory results.				
Contents of the course: During the lectures and practicals students will be introduced to the general and specific aspects of pathophysiology. The general part focuses on understanding the role of different etiological agents in disease processes and the disturbance of specific and unspecific immunity. The specific part of the course focuses on etiopathogenesis of diseases of different bodily systems with special attention to oral diseases and their oral manifestations.				
Recommended literature: 1. Hubert R.J., VanMeter K.C., GOULD'S Pathophysiology for the Health Professions. 6 th Edition. Elsevier Science, Amsterdam, Netherlands, 2018. 2. Huether S.E., McCance K.L. Understanding Pathophysiology, 6 th Edition. Elsevier Science, Amsterdam, Netherlands, 2016. 3. McCance K.L., Huether S.E.. Study Guide for Pathophysiology: The Biological Basis for Disease in Adults and Children, 8 th Edition. Elsevier Science, Amsterdam, Netherlands, 2018. 4. McPhee S.J., Ganong W.F. Pathophysiology of Disease. An Introduction to Clinical Medicine. 5 th edition. The McGraw-Hill Companies, Inc. USA, 2006. 5. Porth C. Essentials of Pathophysiology: Concepts of Altered States. LWW Lippincott Williams and Wilkins, Philadelphia, Pennsylvania, United States 2018.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 60	Practicals: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	15
Participation in practicals	28		Oral exam	45
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Preclinical Removable Prosthodontics	
Course Leader (Name, middle letter, surname): Katarina V. Radović	
Course status (compulsory/elective): Compulsory	
ECTS: 7	Year of the study: III / 6th semester
Entry requirements (examinations passed in previous years):/	Course code: ST27PRMP
<p>Objectives of the course: To acquire theoretical knowledge and practical competencies in the planning and laboratory fabrication of complete and partial dentures, with particular emphasis on evidence-based selection and appropriate application of dental materials, alongside the fundamental principles of treatment planning and design of removable prosthodontic restorations.</p>	
<p>Outcomes of the course: After successfully completing the course, the student should be able to: -fabricate anatomical and diagnostic models; -create an individual tray and wax rims; -position anterior and posterior teeth for complete and partial dentures and independently fabricate wire clasps; -analyze study models using a parallelometer; plan the design of skeletal and acrylic partial prostheses for different classes of dentition; -Describe the laboratory stages involved in the fabrication of removable partial dentures; -Describe flasking and deflasking procedures, as well as other laboratory procedures.</p>	
<p>Contents of the course: General concepts of complete dentures: clinical and laboratory phases in the fabrication of complete dentures. Anatomical (preliminary) impression. Elastic impression materials in complete denture fabrication (hydrocolloids). Pouring of the preliminary (anatomical) cast. Individual trays: types and fabrication. Auxiliary laboratory materials in complete denture fabrication (dental stone, acrylic resins for custom trays). Functional (definitive) impression: definition and classification. Non-elastic impression materials in complete denture fabrication (zinc oxide-eugenol, thermoplastic compounds). Fabrication of the working cast. Occlusal rims: methods of fabrication, materials for base and borders. Auxiliary material: wax. Determination of maxillomandibular relationships in edentulous patients. Cast mounting and articulator procedures: transfer of the maxillary edentulous cast to the articulator. Transfer of the mandibular cast using a centric relation record. Adjustment of semi-adjustable articulators using positional records. Occlusion concepts for complete denture wearers: bilateral balanced occlusion. Determination of tooth position in patients with eugnathic jaw relationships. Selection and placement of anterior teeth. Selection and placement of posterior teeth. Definitive tooth arrangement. Alternative tooth arrangement methods. Final procedures in complete denture fabrication: contour modeling of the external surface, flasking, and polymerization. Base and denture tooth materials in laboratory fabrication (acrylates). Denture finishing, delivery, and occlusal adjustment. Corrections, repairs, and relining procedures. Partial Edentulism. Etiology and therapy of partial edentulism. Consequences of tooth loss. Topographic classification of partially edentulous arches and tooth-jaw relationships. Supporting tissues for partial dentures and load distribution. Classification of partial dentures. Fundamental differences between acrylic (plate) and cast metal (skeletal) partial dentures. Laboratory materials for acrylic and cast partial dentures. Acrylic Partial Dentures (APD): Definition, components, and planning. Retention, stabilization, occlusal load distribution, and guidance. Laboratory fabrication of acrylic partial dentures. Cast (Skeletal) Partial Dentures (CPD): Definition, components, and types. Retention, stabilization, occlusal load distribution, and guidance. Application of the surveyor in the design and fabrication of skeletal partial dentures. Definition and classification of surveyors. Model positioning in the surveyor. Key concepts: path of insertion, path of removal, equator (based on insertion and removal paths), undercut depth and measurement. CPD planning in the surveyor and articulator. Laboratory Phases in CPD Fabrication: Definitive impression and materials for CPD. Working cast. Definitive prosthesis design. Design drawing. Preparation of the working cast for duplication. Procedure for duplication and fabrication of the duplicate cast. Framework design and modeling of CPDs. Investment. Refractory materials. Casting. Final procedures in CPD fabrication. Specifics of contour modeling, flasking, and polymerization. Denture finishing. Delivery and occlusal adjustment. Repairs and relining procedures.</p>	

Attachments and Telescopic Crowns in Partial Dentures: Definition, types, and indications. Materials and fabrication methods.				
Digital Technologies in Removable Prosthodontics: CAD/CAM and 3D printing workflows (milling, pressing, additive manufacturing). Materials for digital fabrication: acetal polymers, polyamides (nylon), composites, PEEK, acetal, and printable alloys.				
Recommended literature:				
1.Lang LA, García LT, Mahrous A, editors. McCracken’s Removable Partial Prosthodontics. 14th ed. St. Louis (MO): Elsevier; 2026. pp. 1–210, 233–312, 335–412.				
2.Şakar O, editor. Removable Partial Dentures: A Practitioners’ Manual. 2nd ed. Cham: Springer; 2024. p. 1–150, 165–248.				
3.Rangarajan V, Padmanabhan TV. Textbook of Prosthodontics. 3rd ed. New Delhi: Elsevier; 2024.Complete Dentures: pp. 1–320.				
Removable Partial Dentures: pp. 321–620.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals: 45	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Test	30
Participation in practicals	28		Practical exam	30
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Restorative Odontology-Preclinical			
Course Leader (Name, middle letter, surname): Vanja N. Opačić-Galić			
Course status (compulsory/elective): Compulsory			
ECTS: 7		Year of the study: III / 5th and 6th semesters	
Entry requirements (examinations passed in previous years):/		Course code: ST27BOZP	
Objectives of the course: To master the techniques of cavity preparation and restoration placement.			
Outcomes of the course: After completing the course, the students should be able to: <ul style="list-style-type: none"> - Demonstrate knowledge of hard dental tissue diseases: etiology, diagnosis, and classification of caries lesions; - Use dental equipment and instruments in clinical practice; - Apply skills to provide indirect vision, fixation using a contra-angled handpiece, rotary and hand instruments; - Explain the tooth numbering system, nomenclature; - Analyze the principles of cavity preparations, Class I, II, MOD, III, IV, V; - Explain and perform all types of cavity preparations; - Analyze restorative procedures, and - Apply temporary fillings, bases, glass ionomer cements, adhesive systems, composite materials and amalgam in prepared tooth cavities. 			
Contents of the course: Diseases of hard dental tissues; Etiology, diagnosis, pathogenesis and classification of caries; dental chair unit; indirect vision and fixation; rotary and hand instruments; nomenclature (tooth numbering system); Principles of cavity preparations; Class I, II, MOD, III, IV, V, VI; Preparation of adhesive and restrictive cavities; Cavity preparation for indirect restorations; Materials for temporary fillings, bases, liners, bioactive materials, glass ionomer cements, adhesive systems, composite materials and amalgam.			
Recommended literature: Summit JB, Robbins JW, Hilton TJ, Schwartz RS, editors. Fundamentals of operative dentistry: a contemporary approach. 3rd ed. Chicago: Quintessence Publishing Co; 2006. 612 pp.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals: 60	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals using tooth models and patient models			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Written exam	30
Participation in practicals	28	Oral exam	30
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: General Surgery			
Course Leader (Name, middle letter, surname): Bojan M. Kovačević			
Course status (compulsory/elective): Compulsory			
ECTS: 6		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27OPHI	
<p>Objectives of the course: To acquire knowledge of the general principles of surgery, surgical instruments, asepsis and antisepsis, diagnostics and preoperative preparation, surgical techniques, and postoperative complications.</p>			
<p>Outcomes of the course: After completing this course, the student should be able to:</p> <ul style="list-style-type: none"> - take a medical history and perform a clinical examination of a surgical patient; - recognize basic diagnostic procedures, their significance and limitations; - apply the basic principles of asepsis and antisepsis in clinical practice; - implement basic cardiopulmonary resuscitation measures; - recognize basic surgical instruments and their usage; - set bandages and immobilizers, give injections and infusions; - perform haemostasis and demonstrate basic knowledge of blood transfusion; - recognize surgical infection, and perform abscess incision and drainage; - know the basic principles of surgical techniques; - know the basic principles of surgical oncology; - recognize surgical emergencies. 			
<p>Contents of the course: The course is designed to equip students with knowledge of the basic principles of general surgery, as well as more detailed knowledge of selected areas of this specialty that are related to dentistry or influence dental practice. The course provides students with information on general topics, including wound healing and sepsis, bleeding and haemostasis, trauma, resuscitation, and surgical infections. It also covers important topics from vascular surgery, abdominal surgery, endoscopic surgery, thoracic surgery, urology, and surgical oncology.</p>			
<p>Recommended literature: F. Charles Brunicaardi, Dana K. Andersen, Timothy R. Billiar, David L. Dunn, Lillian S. Kao, John G. Hunter, Jeffrey B. Matthews, Raphael E. Pollock. Schwartz's Principles of Surgery, 11e. McGraw-Hill Education 2019. Chapters 2-10, 16-19, 23-34, 37, 38</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 45	Practicals: 45	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)			
Seminars	6		
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Internal Medicine				
Course Leader (Name, middle letter, surname): Milan D.Brajiović				
Course status (compulsory/elective): Compulsory				
ECTS: 6		Year of the study: III / 5th semester		
Entry requirements (examinations passed in previous years):		Course code: ST27INME		
Objectives of the course: To enable students to acquire a knowledgeable and critical attitude towards diseases in the field of internal medicine and to take a professional and safe attitude regarding the need for diagnostics and treatment of patients, with the aim of providing efficient and optimally planned dental treatment.				
Outcomes of the course: After successfully completing the course, the student should: <ul style="list-style-type: none"> - Demonstrate knowledge and competence to perform expert assessments in dental practice regarding the essential characteristics of the disease and potentially dangerous complications in the field of internal medicine, in order to minimize the risks of side effects during dental interventions; - Demonstrate knowledge and understanding of the etiology, pathophysiology, symptoms, diagnosis and treatment of all diseases; and to understand their dental aspects . - Be able to prepare patients for dental interventions. 				
Contents of the course:				
Lectures				
Patient history, physical examination - inspection, palpation, percussion and auscultation of the head and neck, chest, abdomen and extremities.				
Etiology, pathophysiology, clinical characteristics, diagnostics, therapy, and complications of the cardiovascular, respiratory, gastrointestinal, endocrine and metabolic, kidney and urinary tract, immune, connective tissue and joints and hematology system diseases, and their dental aspects.				
Practicals				
Patient history, physical examination - general, head and neck, cardiovascular system, respiratory system, abdomen, and extremities.				
Pulmonary and cardiac diseases - case reports covering dental aspects, a presentation, and a mid-term test;				
Digestive and endocrine diseases presentation - case reports covering dental aspects and a mid-term test.				
Recommended literature:				
1.Dan L. Longo, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, J. Larry Jameson, Joseph Loscalzo, Steven M. Holland, Carol A. Langford: Harrison's Principles of Internal Medicine, 22 nd Edition				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 45	Practicals: 60	Other modes of teaching:	Research paper:	
Teaching and learning methods: Lectures, practical examinations, interactive discussion, seminars, case reports.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	6	Written exam	10	
Participation in practicals	28	Practical exam	10	
Mid-term test (s)	4.5	Oral exam	40	
Seminars	1.5			
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: GENERAL MEDICINE (Infectious diseases, Neurology, Psychiatry, Ophthalmology, Dermatology)			
Course Leader (Name, middle letter, surname): Vesna T. Jovanović			
Course status (compulsory/elective): Compulsory			
ECTS: 4		Year of the study: III / 5th semester	
Entry requirements (examinations passed in previous years):		Course code: ST27MEDB	
Objectives of the course: To introduce students to the basics of neurology, ophthalmology, dermatology, psychiatry and infectious diseases.			
Outcomes of the course: After successfully completing the course, the students should be able to: <ul style="list-style-type: none"> - Perform patient evaluation and recognize the most common medical conditions from the fields of neurology, ophthalmology, dermatology, psychiatry, and infectious diseases in the general population. - Recognize emergency cases and act appropriately. - Demonstrate knowledge of appropriate medical referral procedures if the patient's medical status is complex 			
Contents of the course: This course covers some of the most common diseases in the general population in response to real life situations. Several health professional programs (infectious diseases, neurology, ophthalmology and dermatology) will cover the basics required to manage certain complex cases. The course addresses medical history, physical examination, and investigations. Particular emphasis will be placed on medical emergencies and their management.			
Recommended literature: <ul style="list-style-type: none"> - Ophthalmology – James B, Chew C, Bron Anthony. Lecture notes on Ophthalmology. BlackwellScience Ltd, Oxford, UK 1997 (pp 56-63, 77-108, 118-163) - Harrison's Principles of Internal Medicine, Twentieth Edition (Vol.1 & Vol.2) 20th Edition by J. Larry Jameson; Part V – Infectious Diseases - EUREKA: Neurology & Neurosurgery. Goodfellow J, Collins DR, , Silva AHD, Dardis R, Nagaraja S. JP Medical Ltd- Jaypee Brothers, 2016. ISBN: 9781907816741 pp: 1-107, 195-200, 209-223, 225-230, 239-266, 269-283, 309-325, 327-338 - Neurological Examination Made Easy. Fuller G. Churchill Livingstone 5th. Ed, 2013. - Wolff K, Johnson KW, Saavedra AP. Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology. 7th ed. New York, St. Louis: McGraw-Hill; 2013. - James G. Marks Jr. MD, Jeffrey J. Miller MD. Lookingbill and Marks' Principles of Dermatology: 5 th Ed, 2013 - https://www.ejmanager.com/mnstemps/176/176-1521283000.pdf?t=1570879759 - https://link.springer.com/article/10.1186/s13030-016-0068-2 - https://www.webmd.com/oral-health/features/dont-fear-the-dentist#1 https://www.psychologytoday.com/us/blog/evolution-the-self/201802/how-overcome-dental-anxiety - Part 5 - Infectious diseases in Harrison's Principles of Internal Medicine, 22nd Edition - Dan L. Longo, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, J. Larry Jameson, Joseph Loscalzo, Steven M. Holland, Carol A. Langford - Willumsen T i sar. Oral Health Psychology: Psychological Aspects Related to Dentistry (Textbooks in Contemporary Dentistry) 1st ed. 2022 Edition, Springer - Ayer W. Psychology and Dentistry Mental Health Aspects of Patient Care, Routledge, Taylor & Fransis Group, 2005, str1-148. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 45	Practicals: 15	Other modes of teaching: Research paper:	
Teaching and learning methods: Lectures, practical examinations, interactive discussion, seminars, case reports.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Written exam	60
Participation in practicals	28		
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Fundamentals of Clinical Radiology				
Course Leader (Name, middle letter, surname): Biljana B. Marković Vasiljković				
Course status (compulsory/elective): Compulsory				
ECTS: 9			Year of the study: III year / 5th and 6th semester	
Entry requirements (examinations passed in previous years):			Course code: ST27REND	
<p>Objectives of the course: The objective of the course is to provide students of dentistry with theoretical and practical instruction in order to gain basic knowledge of dentomaxillofacial and general radiology. Acquiring knowledge of radiology will enable understanding and further development of knowledge in clinical dental courses in subsequent years of studies.</p>				
<p>Outcomes of the course: Upon completion of the study, the student should be able to: -independently apply various radiological techniques and methodologies, or determining the most appropriate radiological procedure to be indicated, -interpret and analyze radiological findings based on their knowledge of pathology and pathophysiology, -recognize and analyze radiological manifestations of common diseases and pathological conditions, -apply the measures and procedures in radiology and become familiar with the technical equipment used for protection against the side effects of ionizing radiation for both the patient and the healthcare personnel.</p>				
<p>Contents of the course: The course Fundamentals of Clinical Radiology includes theoretical and practical instruction concerning:</p> <ul style="list-style-type: none"> - The nature and origin of X-ray radiation, principles of X-ray image formation, analog and digital records of X-ray image. - The introduction to X-ray machines and the biological effects of ionizing radiation, protection principles and dosimetry. Particular attention is given to radiographic intraoral, extraoral and tomographic methods used in the evaluation of the pathology of the dentomaxillofacial region. - The methodological units devoted to developmental disorders of the teeth and facial massif, inflammatory and tumoral changes of odontogenic and non-odontogenic origin. Radiological imaging of jaw cysts, diseases of salivary glands, temporomandibular joint, and pathology of paranasal cavities is addressed through clinical and radiological algorithms from conventional radiology to magnetic resonance imaging. - The methodological units devoted to diagnostic scope of tooth decay, periodontal disease, evaluation of tooth roots and different types of osteonecrosis. - Radiological diagnostics and gradation of injuries to the teeth, surrounding tissue and facial region as a whole are addressed in separate methodological units. - Systemic diseases and their presentation in the dentomaxillofacial region are addressed through appropriate radiological modalities. - Five methodological units are devoted to the basics of heart, lungs, digestive, and urinary tract radiology. 				
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Mallya S.W., Lam E.W.N. White and Paraoh`s oral radiology. Principles and interpretation. 8 th edition.Elsevier 2019. 1- 1958 pp. 2. Hubar S.J. Fundamentals of oral and maxillofacial radiology. Wiley Blackwell. 2017. 1- 258 pp. 3. Richard B. Gunderman Essential Radiology: Clinical Presentation Pathophysiology Imaging (3rd edition) Thieme 2014. 1 - 338 pp. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 60	Practicals: 60	Other modes of teaching:	Research paper:	
Teaching and learning methods: Lectures, practicals, analysis of radiographs, interactive discussion, seminars, case reports.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Oral exam	60
Participation in practicals	28			
Mid-term test (s)	3 + 3			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Pharmacology in Dentistry			
Course Leader (Name, middle letter, surname): Jelena R. Roganović			
Course status (compulsory/elective): Compulsory			
ECTS: 7		Year of the study: III / 5 th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27FARM	
Objectives of the course: To train students to make an optimal and safe pharmacotherapy plan in dental practice.			
Outcomes of the course: After completing this course, the student should: - Demonstrate knowledge and competence in selecting an optimal and safe choice of medications for the treatment of oral diseases and medical emergencies in dental practice, while ensuring that the risks of side effects and drug interactions are minimized. - Demonstrate knowledge and understanding of the mechanisms of drug action, the fate of the drug in the body and the effects of drugs used in dentistry, as well as medicines that have a significant role in dentistry (which dental patients receive for medical reasons). -Apply the skills required to adapt a pharmacotherapy plan to dental patients at risk and knowledge to pharmacologically prepare patients at risk (cardiovascular, patients with special needs, psychiatric patients, and children) for dental interventions. -Demonstrate the competence to prescribe medicines in compliance with legal regulations. -Develop a critical attitude towards available electronic databases of medications			
Contents of the course: During the lectures and practicals students will be introduced to the basics of drug mechanisms of action, fate of drugs, and effects of drugs used for oral and dental diseases, including the medicines important for dentistry (drugs which dental patients receive for medical reasons). Particular attention will be directed towards current pharmacotherapy protocols regarding the treatment of odontogenic and maxillofacial, periodontal and endodontic infections as well as oral mucosa diseases and competent drugs prescribing.			
Recommended literature: Dowd F. Pharmacology and Therapeutics for Dentistry. 8th edition. St. Louis, Missouri: Elsevier Inc; 2025. pp. 1-666 Bertram G. Katzung. Basic and Clinical Pharmacology, 14th Edition McGraw Hill, New York, USA, 2019. pp. 1-1140			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 60	Practicals: 30	Other modes of teaching: Research paper:	
Teaching and learning methods: Lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	15
Participation in practicals	28	Written exam	45
Mid-term test (s)	3		
Seminars	3		
Other			

Elective courses – 3rd year

- 2713_01 Specificity of Oral Hygiene in Special Patient Groups*
- 2713_02 Prophylactic Measures in Restorative Dentistry*
- 2713_03 Saliva As a Diagnostic Fluid*
- 2713_04 Drug Abuse and Dental Practice*
- 2713_05 Etiopathogenesis of Oral Cavity Diseases*
- 2713_06 Molecular Mechanisms Involved in the Pathogenesis of Shock*
- 2713_07 Cellular and Molecular Mechanisms in the Pathogenesis of Atherosclerosis*
- 2713_08 Emergency Conditions in Internal Medicine and Dental Practice*
- 2713_09 Systemic Complications Caused by Oral Infections*
- 2713_10 Emergencies in General Surgery*
- 2713_11 X-Ray Image Interpretation*
- 2713_12 Dental Biomechanics*
- 2713_13 Communication Skills in Dental Practice*
- 2713_14 Professional Ethics in Dentistry*
- 2713_15 Digital Photography*
- 2713_16 Color in Dentistry*
- 2713_17 Osteoporosis and Oral Health*
- 2713_18 Dental Treatment of Patients with High Cardiovascular Risk*

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Specificity of Oral Hygiene in Special Patient Groups				
Course Leader (Name, middle letter, surname): Ana P. Vuković				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I3_01	
Objectives of the course: To acquire knowledge and skills related to the specificities of the application of oral hygiene products and techniques in special patient groups who are at high-risk of poor oral health outcomes due to medical conditions or cooperation difficulties in dental office and during at-home oral hygiene routine.				
<p>Outcomes of the course:</p> <p>After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> -Recognize the factors related to proper and regular oral hygiene maintainance; -Understand social, economic and psychological barriers in establishing an oral hygiene routine; -Relate the factors to oral health outcomes; -Demonstrate knowledge of specific means and techniques for maintaining oral hygiene in special patient groups; -Select adequate means of maintaining oral hygiene as indicated; - Demonstrate knowledge of these oral hygiene means and techniques and confidently advise patients according to a patient-centered treatment plan. 				
<p>Contents of the course:</p> <p>Identification of factors and barriers important for maintaining oral hygiene; specific features of oral hygiene products for specific patient groups; specific techniques for performing oral hygiene in specific patient groups; analysis and evaluation of knowledge in the field of application of oral hygiene products and techniques; developing a plan for motivation, remotivation and control of oral hygiene in patients at risk; recommendations for oral health improvement.</p>				
<p>Recommended literature:</p> <p>Harris NO, GarciaGodoy F, Nathe CN. Primary Preventive Dentistry. 8th ed. Pearson; 2021. ISBN 9780137518524</p> <p>Autism Speaks. Dental Tool Kit. 2010. Available at: https://www.autismspeaks.org/tool-kit/autism-dental-care</p> <p>Behavior management in dentistry for children / [edited by] Gerald Z. Wright, Ari Kupietzky. – Second edition. 2014.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods:				
Teaching is performed through a Small-group work and an interactive combination of brief theoretical remarks by the teacher, self-report to a group on a given topic based on previously analyzed literature, discussion on a given topic.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars				
Other	40			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Prophylactic Measures in Restorative Dentistry			
Course Leader (Name, middle letter, surname): Zoran T. Mandinić			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):		Course code: 2713_02	
<p>Objectives of the course: To acquire theoretical knowledge and practical skills related to the specific application of oral hygiene measures and techniques in special patient groups at increased risk of caries and periodontal diseases.</p>			
<p>Outcomes of the course: After completing the course and passing the exam: The student acquires knowledge of:</p> <ul style="list-style-type: none"> – local factors relevant to the maintenance of oral hygiene; – the influence of local factors on the health of periodontal tissues; – specific oral hygiene measures and techniques for special patient groups (patients with fixed orthodontic appliances, restorations, fixed or removable prosthetic appliances, dental implants, and post-oral surgical interventions); – indications for the use of various oral hygiene measures. <p>The student is able to:</p> <ul style="list-style-type: none"> – identify local risk factors in clinical practice; – assess the condition of periodontal tissues in relation to present local factors; – select appropriate oral hygiene measures according to clinical indications; – demonstrate and apply suitable oral hygiene techniques for special patient groups. <p>The student is capable of:</p> <ul style="list-style-type: none"> – integrating acquired knowledge and skills to plan individualized recommendations for oral hygiene maintenance; – making independent decisions regarding the selection of oral hygiene measures and techniques according to the clinical situation; – educating patients on the proper use of oral hygiene measures and techniques, with special attention to patients at increased risk of caries and periodontal diseases. 			
<p>Contents of the course: Identification of local factors relevant to oral hygiene maintenance and their impact on the health of hard and soft oral tissues; specific oral hygiene measures and techniques for special patient groups (orthodontic and prosthetically treated patients, patients with restorations, patients with dental implants, and patients following oral surgical interventions); analysis and evaluation of the application of oral hygiene measures and techniques in clinical practice; development of individualized plans for motivation, re-motivation, and monitoring of oral hygiene in patients at increased risk; formulation of recommendations to preserve the health of oral tissues.</p>			
<p>Recommended literature: 1. Harris NO, Garcia-Godoy F, Nathe CN. <i>Primary Preventive Dentistry</i>. 8th ed. Pearson; 2021. ISBN 9780137518524</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	
		Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Oral defense of the selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars			
Other	40		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Saliva as a Diagnostic Fluid				
Course Leader (Name, middle letter, surname): Tatjana M. Goldberger				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of study: III / 6th semester		
Entry requirements (passed exams from previous years):		Course code: 27I3_03		
Objectives of the course: To acquire knowledge of proper saliva sampling and the ways saliva can be used for diagnosing systemic and dental diseases, and for monitoring medicines, drugs, toxins and hormones.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -obtain saliva samples properly. - determine the concentration of biochemical parameters in saliva. - analyze the concentration of biochemical parameters in saliva. - assess the condition of periodontium and oral mucosa based on biochemical analyses of saliva. - assess the general condition of the patient based on the biochemical analyses of saliva. - assess the risk of dental caries based on the physical and chemical properties of saliva.				
Contents of the course: Methods of saliva sampling. Physical and chemical properties of saliva as risk indicators for dental caries. Possibilities of using saliva in diagnosis of periodontitis, oral cancer, diseases of the oral mucosa, infectious diseases, autoimmune diseases, and for monitoring medicines, drugs, toxins and hormones.				
Recommended literature: Daniel Malamud, Isaac R Rodriguez-Chavez. Saliva as a Diagnostic Fluid. Dent Clin North Am., 2011				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Oral defense of the selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	40			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Drug Abuse and Dental Practice				
Course Leader (Name, middle letter, surname): Jelena R Roganović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I3_04		
Objectives of the course: To train students to recognize the signs of drug abuse and drug toxicity and understand their dental implications.				
Outcomes of the course: After successfully completing the course, the student should be able to: -Apply information about medicines obtained by critical review of available electronic databases in dental practice -Recognize the signs of drug toxicity in dental practice -Understand the plan of measures that should be taken in the treatment of drug toxicity -Appreciate potentially toxic interactions between nanomaterials used in dentistry and tissues -Understand the effects of drug abuse on oral tissues and implications for dental practice				
Contents of the course: Rational use and misuse of medicines; the effects of tobacco, alcohol, organic solvents and drug abuse on oral tissues; dental treatment in patients who abuse tobacco, alcohol, organic solvents and medicines; nanotoxicology; treatment of drug toxicity; relevant electronic databases of medicines.				
Recommended literature: Dowd F. Pharmacology and Therapeutics for Dentistry. 8th edition. St. Louis, Missouri: Elsevier Inc; 2025. Bertram G. Katzung. Basic and Clinical Pharmacology, 14th Edition McGraw Hill, New York, USA, 2019.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals: 30	Other modes of teaching :	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written presentation of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Etiopathogenesis of Oral Cavity Diseases			
Course Leader (Name, middle letter, surname): Maja P. Miletić			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):		Course code: 2713_05	
<p>Objectives of the course: To acquire knowledge of the pathophysiological bases of immune system disorders, the mechanisms underlying changes in the oral region associated with various disorders of immunity and autoimmune diseases, etiopathogenesis of inflammatory processes in the oral region, the role of various mediators in the pathogenesis of the inflammation of the dental pulp and periapical lesions, and the mechanisms leading to oral manifestations in various systemic diseases.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the basics of the organism's defense system - Relate oral manifestations to specific immune system disorders - Explain the mechanism of damage to the structure and function of the tissue of the oral region in immunodeficiency - Describe oral manifestations that occur in various autoimmune diseases - Explain the immuno-inflammatory aspect of inflammation of the dental pulp and periapical lesions - Describe the mechanisms underlying changes in the oral region in diseases affecting different organs and organ systems</p>			
<p>Contents of the course: Basics of non-specific and specific defense of organisms; disorders of non-specific defenses and changes in the oral region; congenital and acquired immunodeficiencies; pathogenesis of oral changes in immunodeficiency; mechanisms of oral manifestations in autoimmune diseases, etiopathogenesis of inflammation of the dental pulp and apical periodontium; the role of biologically active molecules, cytokines and chemokines in the inflammatory process; mechanisms of oral changes in various systemic diseases.</p>			
<p>Recommended literature: 1. Cooper PR, Smith AJ. Molecular mediators of pulp inflammation and regeneration. Endodontic Topics, 2013, 28, pp. 90–105. 2. Saccucci M, Di Carlo G, Bossù M, Giovarruscio F, Salucci A, Polimeni A. Autoimmune Diseases and Their Manifestations on Oral Cavity: Diagnosis and Clinical Management. J Immunol Res. 2018 May 27;2018:6061825. 3. Garlet G, Andreza MF, Aranha, Elcia M. Et al. The Role of Chemokines and Cytokines in the Pathogenesis of Periodontal and Periapical Lesions In: DrMahin Khatami. Current Concepts, Inflammation, Chronic Diseases and Cancer - Cell and Molecular Biology, Immunology and Clinical Bases, InTech, 2012. pp. 219-241. 4. Atkinskon JC. Immunologic Diseases. In:Greenberg MS, Gloch M, Skip JA. Burket`s Oral medicine. BC Decker, Ontario, 2008. pp. 435-459. 5. Patton LL. Hematologic diseases. In:Greenberg MS, Gloch M, Skip JA. Burket`s Oral medicine. BC Decker, Ontario, 2008. pp. 385-434.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30 Research paper:	
<p>Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.</p>			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written exam	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Molecular Mechanisms Involved in the Pathogenesis of Shock				
Course Leader (Name, middle letter, surname): Maja P. Miletic				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):		Course code: 2713_06		
Objectives of the course: To acquire knowledge of the etiopathogenesis of shock, the underlying disorders of microcirculation in shock, hypoxia and postischemical cell damage, the molecular mechanisms involved in shock pathogenesis, the importance of cytokines and free radicals in shock, as well as systemic consequences.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the causes and pathophysiological bases of shock; - Recognize the differences between different forms of shock; - Associate microcirculation failure with cellular changes and disorders; - Describe the metabolic and biochemical consequences of cellular hypoxia; - Explain immuno-inflammatory events and the role of oxidative stress in the pathogenesis of shock; - Bind pathophysiological events in shock with disorders of different organs and organ systems.				
Contents of the course: Definition, etiologic factors and shock classification; pathogenesis of shock syndrome; pathophysiological characteristics of microcirculation in shock; metabolic and biochemical consequences of reversible and irreversible hypoxic cellular injury; return injury; systemic inflammatory response, signaling cascade and role of biologically active molecules in the pathogenesis of hemorrhagic and septic shock, shock complications and multi-organ dysfunction syndrome.				
Recommended literature: 1. Pop-Began V, Păunescu V, Grigorean V, Pop-Began D, Popescu C. Molecular mechanisms in the pathogenesis of sepsis. Journal of Medicine and Life Volume 7, Special Issue 2, 2014. p. 38-41 2. Ganong WF. Shock. Y: McPhee SJ, Ganong WF. Pathophysiology of disease. The McGraw-Hill Companies, New York, 2006. pp.322-325. 3. Thomovsky E, Johnson PA. Shock pathophysiology. Compend Contin Educ Vet. 2013;35(8):E2. 4. Hubert R.J., VanMeter K.C., GOULD'S Pathophysiology for the Health Professions. 6 th Edition. Elsevier Science, Amsterdam, Netherlands, 2018. 5. Porth C. Essentials of Pathophysiology: Concepts of Altered States. LWW Lippincott Williams and Wilkins, Philadelphia, Pennsylvania, United States 2018				
Total number of classes in active teaching and learning:				Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	Study research work:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written exam	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study programme: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Cellular and Molecular Mechanisms in the Pathogenesis of Atherosclerosis				
Course Leader (Name, middle initial letter, surname): Maja P. Miletić				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I3_07	
Objectives of the course: To introduce students to contemporary knowledge regarding the factors that contribute to the initiation and progression of atherosclerosis, the dynamics of atherosclerosis, the molecular and cellular mechanisms of atherogenesis, and the consequences of atherosclerotic lesions.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the scientific basis of atherosclerosis; - Know the risk factors for atherosclerosis; - Explain the immune aspect of atherosclerosis and the role of biologically active molecules in atherogenesis; - Recognize the importance of disorders of molecular and cellular functions in the pathogenesis of atherosclerosis; - Describe the effects of atherosclerosis and link them to coronary disease and cerebral infarction.				
Contents of the course: Atherosclerosis in light of existing scientific theories; factors that stimulate the development of atherosclerosis; diabetes and atherosclerosis; the role of lipids in the initiation and progression of atherosclerosis, endothelial dysfunction and inflammation in atherosclerosis; the role of cytokines and growth factors in atherogenesis; oxidative stress in atherogenesis; fibrous plaque and the role of foam cells in atherosclerotic heart; advanced lesions of atherosclerosis and its complications.				
Recommended literature: 1. Mota R, Homeister JW, Willis MS, Bahnson EM. Atherosclerosis: Pathogenesis, Genetics and Experimental Models. In: eLS. John Wiley & Sons, Chichester, 2017. pp. 1-10. 2. Alain Tedgui. Cytokines and atherosclerosis. In: Atherosclerosis: Molecular and Cellular Mechanisms. Wiley online library, 2010. pp. 63-84. 3. Hubert R.J., VanMeter K.C., GOULD'S Pathophysiology for the Health Professions. 6th Edition. Elsevier Science, Amsterdam, Netherlands, 2018. 4. Huether S.E., McCance K.L. Understanding Pathophysiology, 6th Edition. Elsevier Science, Amsterdam, Netherlands, 2016. 5. McCance K.L., Huether S.E.. Study Guide for Pathophysiology: The Biological Basis for Disease in Adults and Children, 8th Edition. Elsevier Science, Amsterdam, Netherlands, 2018.				
Total number of classes in active teaching and learning:				Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process 30:	Study research work:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written exam	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Emergency Conditions in Internal Medicine and Dental Practice				
Course Leader (Name, middle letter, surname): Milan D. Brajović				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I3_08	
Objectives of the course: To enable students to recognize emergency situations in the field of internal medicine so that the risks of adverse effects during dental interventions are minimized.				
Outcomes of the course: After successfully completing the course, the student should be able to: <ul style="list-style-type: none"> • Recognize an urgent condition based on the symptoms; • Explain the etiology and pathophysiology of the emergency; • Demonstrate knowledge of the most important diagnostic methods for confirming an emergency; • Demonstrate knowledge of the therapeutic procedures required for immediate treatment of patients; • Demonstrate knowledge of the potential complications of emergencies that have a direct impact on dental interventions. 				
Contents of the course: Acute myocardial infarction with complications, treatment and prevention, impact on dental practice. Unstable angina: complications and treatment, prevention, impact on dental practice. Acute heart failure, pulmonary edema: clinical picture, treatment, prevention. Infectious endocarditis: clinical picture, complications and treatment, prevention, impact on dental practice. Acute cardiac arrest: signs, treatment, valvular heart diseases - mitral stenosis and insufficiency, clinical characteristics picture, treatment, complication of anticoagulant therapy, impact on dental practice, Tachycardia and bradycardia symptoms treatment and complications, hypertensive crisis, symptoms, complications, treatment, prevention. Acute pulmonary embolism: complication symptoms, prevention, impact on dental practice Digestive tract bleeding: symptoms, treatment, prevention. Hyperglycemic and acute hypoglycemic conditions: symptoms, treatment and prevention. Anaphylactic shock: symptoms, complications, treatment, impact on dental practice.				
Recommended literature: I. Dan L. Longo, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, J. Larry Jameson, Joseph Loscalzo, Steven M. Holland, Carol A. Langford: Harrison's Principles of Internal Medicine, 22 nd Edition				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Teaching methods include small-group work, an interactive combination of brief theoretical remarks by the teacher, self-reporting to a group on a given topic based on previously analyzed literature, discussion on a given topic, and analysis of assigned clinical cases.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	40		Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars				
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Systemic Complications Caused by Oral Infections			
Course Leader (Name, middle letter, surname): Nataša D. Petrović-Stanojević			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of study: III / 6th semester	
Entry requirements (passed exams from previous years):		Course code: 27I3_09	
Objectives of the course: To expand knowledge of focal infection theory, the pathogenesis of focal diseases has traditionally been attributed to dental pulp pathologies and periapical infections. However, in recent years, there has been a growing interest in the potential links between periodontal infections and systemic diseases. Periodontal pathogens, their byproducts, and inflammatory mediators produced within periodontal tissues can exert systemic effects and contribute to the development or progression of systemic conditions.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • Describe the anatomical and pathophysiological basis of dental pulp and periapical focal infections; • Explain the mechanisms through which inflammatory mediators and periodontal pathogens affect systemic health; • Identify and assess risk factors for complications in focal infections and develop appropriate treatment plans; • Design diagnostic algorithms for the identification and evaluation of these conditions; • Apply a multidisciplinary approach to the management and treatment of these patients. 			
Content of the course: Chronic periodontitis as a risk factor for cardiovascular and respiratory diseases, preterm birth, rheumatoid arthritis, osteoporosis, pancreatic cancer, metabolic syndrome, renal disorders, and certain neurodegenerative diseases; Exploration of various hypotheses, including general susceptibility, systemic inflammation, direct bacterial infection, and cross-reactivity or molecular mimicry between bacterial antigens and auto-antigens; Introduction to the concept of periodontal medicine, focusing on the correlation between periodontal and systemic diseases to elucidate these underlying mechanisms; Review of essential diagnostic procedures for identifying and monitoring such conditions.			
Recommended literature: <ol style="list-style-type: none"> 1. Baričević M, Baričević D, Savić Pavičič I, et al. Complications of Severe Odontogenic Infections: A Review. <i>Life</i> (Basel). 2022;12(12):2075. 2. Kim MK, Choi NY, Jung WY, et al. Serious Complications and Treatment Strategies Associated with Odontogenic Infections. <i>Journal of Clinical Medicine</i>. 2024;13(9):2516. 3. Bali RK, Sharma P, Gaba S, et al. A review of complications of odontogenic infections. <i>National Journal of Maxillofacial Surgery</i>. 2015;6(2):136-143. 4. Poveda-Roda R, Jiménez Y, Carbonell E, et al. Bacteremia with an oral etiology. <i>Medicina Oral, Patología Oral y Cirugía Bucal</i>. 2008;13(6):E358-62. 5. Meurman JH, Sanz M, Janket SJ. Oral health, atherosclerosis, and cardiovascular disease. <i>Critical Reviews in Oral Biology & Medicine</i>. 2004;15(6):403-413. 6. Guimarães G, Azuma MA, Guimarães MRFSG, Dezan-Júnior E, Luciano TAC. Current Concepts about Periodontal Disease and Relationship with Systemic Diseases. In: Wallace E, editor. <i>Periodontal Disease: Diagnosis, Management Options and Clinical Features</i>. New York: Nova Science Publishers, Inc.; 2016. pp. 87-103 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching :30	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Oral defense of a written project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Emergencies in General Surgery				
Course Leader (Name, middle letter, surname): Bojan M. Kovačević				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I3_10	
Objectives of the course: To introduce students to common and significant urgent conditions in the field of general surgery.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -adequately and promptly perform a history and clinical examination of the patient in the emergency department; -recognize common diagnostic procedures (laboratory analysis, ultrasound, X-ray, CT, MRI) and their application in surgical emergencies; -perform resuscitation measures and provide first aid to trauma patients; -perform the basic methods for haemostasis in external bleeding; -recognize patients in a state of shock; -recognize patients with sepsis; -recognize acute abdomen, ileus, appendicitis, pancreatitis, icterus; -recognize disorders of the peripheral vascular system; -recognize complicated skin and skin structure infections.				
Contents of the course: Medical history and physical examination of patients in the emergency department; common diagnostic procedures; resuscitation measures; hypovolemic shock prevention and treatment; acute abdomen; ileus; acute pancreatitis; pneumothorax; mechanical icterus; acute ischemia of extremities; peripheral vascular disorders; complicated skin and skin structure infections; complicated intra-abdominal infections; sepsis.				
Recommended literature: Greg McLatchie, Neil Borley, and Joanna M. Blyth, Oxford Handbook of Emergency Surgery, Oxford University Press, 2013, pp.1-480				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: X-ray Image Interpretation				
Professor in charge (Name, middle initial letter, surname): Svetlana Z. Antić, Biljana B. Marković Vasiljković				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I3_11	
Objectives of the course: The aim of the course <i>X-ray Image Interpretation</i> is for students to refine and expand their knowledge in the field of analysis and interpretation of radiographic images, with particular emphasis on their application in the process of establishing a differential diagnosis.				
Outcomes of the course: After successfully completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • Adopt the parameters of technically correct analog and digital radiographs suitable for interpretation; • Recognize normal anatomical structures and tissues visible on intraoral and extraoral images; • Identify artifacts and effects that may lead to false-positive or false-negative interpretations; • Acquire the basic principles of pathological radiographic image analysis; • Gain knowledge of post-processing techniques for digital radiographs; • Interpret the analyzed data and formulate a differential diagnosis. 				
Contents of the course: Definition and formation of the radiographic image, analog and digital recording. Normal radiographic anatomy and structure of dental, osseous, and soft tissues on intraoral and extraoral radiographs. Differentiation of pathological changes (radiopacities and radiolucencies). Elements of pathological radiographic image analysis: localization, shape, size, intensity, homogeneity, relationships, and boundaries with surrounding structures. Description and interpretation of radiographic images in correlation with the referral diagnosis and clinical symptoms. Typical and less typical radiographic appearances of inflammatory, tumorous, metabolic, and systemic diseases. Radiological report and establishment of a differential diagnosis.				
Recommended literature:				
1. Mallya S.W., Lam E.W.N. White and Paraoh`s oral radiology. Principles and interpretation. 8 th edition. Elsevier 2019. 1-1958 pp.				
2. Cosson J. Interpreting an orthopantomogram. Aust J Gen Pract. 2020 Sep;49(9):550-555. doi: 10.31128/AJGP-07-20-5536. PMID: 32864665.				
3. Koong.B. Atlas of oral and maxillofacial radiology. Wiley Blackwell.2017. – 1-367pp.				
Total number of classes in active teaching and learning:				Professional practice/ independent learning:
Lectures: 30	Practicals: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: Teaching is conducted in small groups and designed as an interactive process. It consists of a combination of short theoretical notes provided by the instructor and independent student presentations on assigned topics. Based on previously analyzed literature, discussions are organized and clinical case analyses are performed. The exam is conducted in the form of a written solution to a clinical situation (‘clinical vignette’).				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	20	Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dental Biomechanics				
Course Leader (Name, middle letter, surname): Aleksandra M. Milić Lemić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I3_12		
Objectives of the course: To introduce students to the basics of biomechanical principles in dentistry, including the distribution of occlusal load, and the response of teeth and dental restorations/implants to load during the functions of the orofacial system.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -understand the biomechanical principles of tooth and dental restoration behavior, -demonstrate knowledge of the response of bone tissue to occlusal loading, and -apply the acquired knowledge in clinical courses of dental prosthetics				
Contents of the course: Load, stress, and deformation, bone tissue response to load. Occlusal load distribution. Tooth and biomechanical behavior of dental tissues under occlusal load, biomechanical principles of periodontal tissues and geometric configuration of the periodontium. Biomechanical principles in occlusion and concepts of occlusion from a biomechanical aspect. Application of biomechanical principles in removable prosthetics, function of attachments and double crowns. Biomechanical principles in fixed prosthetics, principles of tooth preparation for fixed restorations and biomechanics of dental bridges. Biomechanical principles in implantology and restorations on implants. Planning dental restorations from a biomechanical aspect.				
Recommended literature: Arturo N Natali Dental Biomechanics Taylor & Francis 2003				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	6	Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)	6			
Seminars				
Other	28			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Communication Skills in Dental Practice				
Course Leader (Name, middle letter, surname): Ivica Z. Stančić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I3_13		
Objectives of the course: To acquire knowledge of the forms and means of communication in dentistry. Specific communication knowledge. Dentist - Patient, Dental Nurse - Patient, Dentist - Dental Nurse, and Dentist - Other Healthcare Professionals.				
Outcomes of the course: After completing the course and passing the exam, the student should: - be able to successfully establish a contact with the patient, colleagues, and other members of the dental team, - possess professional skills in communication with patients, colleagues, and the public, - identify and apply possible approaches to resolve conflicts at all levels of communication.				
Contents of the course: Communication (definition, types, communication styles). Form of successful communication. Psychological preconditions for establishing communication. Basic communication skills. Verbal and nonverbal communication with the patient. Dimensions and aspects of non-verbal communication. The importance of non-verbal communication, body language. Tolerance as a precondition for successful communication. Types of personality structures of patients. Initial contact with a patient. Personality types. Conflict resolution strategy at all communication levels. Non-violent communication. Required characteristics of a health care professional and rules of good communication. Communication between medical professionals. Ethical decision making - basic principles. Patient consent to interventions in dentistry. Basic principles of working with functionally dependent patients, patients of different ages, degrees of education, chronic patients, and patients with impaired hearing and vision. Teamwork in dentistry. Importance of keeping and preserving medical records in clinical practice.				
Recommended literature: Compulsory: (total 124 pages) 1. J. Brown,L.M.Noble,A.,Papageorgion,J.Kidd. Clinical Communication in Medicine, Willey Blackwell,2015 (5-56 pp;138-143p;151-154pp) S.Kurtz,J.Silverman,J.Draper. Teaching and Learning Communication Skills in Medicine,2nd Ed.,CRC Press,2016.(13-56pp;185-207pp.)				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Professional Ethics in Dentistry				
Course Leader (Name, middle letter, surname): Mirjana M. Perić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):			Course code: 27I3_14	
Objectives of the course: To introduce students to morality, general ethical principles, and rules related to medical ethics, basic ethical principles in dentistry, moral rules guiding a dentist's conduct with patients and colleagues, ethical aspects of scientific research and research involving humans.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - explain the basic principles of ethics and morality - recognize ethical dilemmas in dentistry - make ethical decisions based on theoretical knowledge and moral reasoning - improve and use the acquired knowledge in their practice 				
Contents of the course: Ethics, morality and professionalism, classical and contemporary ethical principles; ethical principles in dental practice; morality and professionalism; ethical principles in dentistry; ethical dilemmas and issues faced by dentists (how a dentist perceives the problem and solves it); the most important (general) ethical principles and rules: avoid harming the patient, doing well, patient autonomy, informing the patient. Other ethical principles: the principle of justice, the principle of truthfulness, principle of loyalty, principle of confidentiality. Relationship between a doctor and a patient. Moral rules of behavior – the doctor towards the patient. Ethical principles and communication between the dentist and patients with specific diseases: psychiatric patients, patients with special needs, children, elderly patients, patients suffering from infectious diseases. Ethical principles of research involving humans, ethics in scientific research. Applying marketing principles in a private dental practice.				
Recommended literature: James T. Rule, Robert M. Veatch, Ethical Questions in dentistry, Quintessence Publishing Co, Inc, 2004. pp. 211-258 Ozar DT, Sokol DJ, Patthoff DE. Dental ethics at chairside: Professional obligations and practical applications. 3rd ed. Washington, DC: Georgetown University Press; 2018. ADA Principles of Ethics and Code of Professional Conduct https://www.ada.org > about-the-ada > principles-of-et. 5051 FDI Dental Ethics Book - FDI World Dental Federation https://www.fdiworlddental.org > media > resources ADA Principles of Ethics and Code of Professional Conduct (PDF, March 2023), https://commons.ada.org/codeethics/22				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dental Photography				
Course Leader (Name, middle letter, surname): Vojkan M. Lazić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: III / 6th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I3_15		
<p>Objectives of the course: To acquire basic knowledge of digital cameras, how they are used and their application in clinical practice. To gain knowledge of photography - how it was created. Data processing and storage. Protocols and techniques for intraoral photography. Extraoral photography protocols and techniques. Digital photo processing and data storage. Specificity of photography techniques in orthodontics. Specific features of photography techniques in oral and periodontal surgery.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the basic features of digital cameras and how they are used. - Describe how digital photography can be stored. - Explain the protocol for intraoral photography. - Explain the protocol for extraoral photography. - Describe photography techniques in oral surgery and orthodontics.</p>				
<p>Contents of the course: Photo definition and basic parameters, physical characteristics of photography. Different types of digital cameras, photography techniques, photography equipment. Intraoral photography, camera setup, photography technique. Extraoral photography, camera setup, photography techniques. Programs for digital image processing, methods for storing digital photos.</p>				
<p>Recommended literature: 1. Ahmad I. Digital Dental Photography. Part1; An Overview. Br Dental J 2009;206:403-407. 2. Bengel W, Devigus A. Preparing Images for Publication: Part 2. Eur J Esthet Dent 2006;1:112-127. 3. Bengel W, Devigus A. Preparing Images for Publication: Part 4. Choosing a Camera. Br Dent J 2009;206:575-581. 4. Ang T. Fundamentals of Photography. New York: Knopf, 2008. 20-50: 76-80.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/independent work:
Lectures:30	Practicals:	Other modes of teaching: 30	Research paper:	
<p>Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.</p>				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Color in Dentistry			
Course Leader (Name, middle letter, surname): Branka V. Trifković			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I3_16	
<p>Objectives of the course: To acquire knowledge of physical characteristics of color, procedures for determining the color of teeth, dental restorations and restorations made of different types of restorative materials, instruments and methods for color determination in clinical and laboratory conditions, color reproduction techniques using different dental materials, the persistence of color compensation and the impact of the environment on the overall experience of color.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the basic physical characteristics of color. - Determine the tooth color and color of dental restorations in clinical and laboratory conditions. - Determine the tooth color by applying visual methods for determining the tooth color. - Explain color reproduction techniques for making dental restorations of different types of building materials - Describe how environments and external factors affect the perception of color.</p>			
<p>Contents of the course: Color definition and basic color parameters; color as a physical phenomenon; color reproduction; factors that influence the perception and determination of tooth color; conventional determination of color and dental restoration; digital determination of tooth color and dental restorations; color determination protocol; the role of digital photography in color determination; color of dental materials - their compatibility, stability and interaction, color of permanent teeth in young persons; color in the treatment of hypermineralized teeth.</p>			
<p>Recommended literature: 1. Stephen J.J Chu, Alessandro Devigus, Rade D. Paravina, Adam J. Mielezsko Fundamentals of Color. Quintessence Publishing. 2010. 20-40; 42-56:57-74. 2. Dental Collor Master training Program http://www.scadent.org/ 3. Paravina RD. Performance assessment of dental shade guides. J Dent 2009. 37s.e.15-e.20. 4. Ahmad I. Digital dental photography. Part 5: Lighting. Br Dent J 2009. 207: 13-18. Devigus A. Die digitale Farbmessung in der Zahnmedizin. Quintessence 2003:54; 495-500.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/independent work:
Lectures:30	Practicals:	Other modes of teaching :30	
<p>Teaching and learning methods: Working in small groups, seminars, interactive discussions, case reviews and analysis.</p>			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Written defense of a project on a selected topic	60
Participation in practicals	28		
Mid-term test(s)			
Seminars	6		
Other			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Osteoporosis and Oral Health			
Course Leader (Name, middle letter, surname): Marina S. Anđelić Jelić			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I3_17	
<p>Objectives of the course: To acquire the knowledge and skills necessary for the safe and efficient planning and implementation of dental treatment in patients with osteoporosis or patients at risk of osteoporosis, in accordance with current clinical guidelines and emphasizing the need for an interdisciplinary approach to these patients.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Identify patients with osteoporosis, as well as patients who have risk factors for osteoporosis, and refer them for appropriate diagnostic evaluation • Understand the implications of osteoporosis on oral health in general, including tooth loss, and bone density of the jawbones • Understand the effects of pharmacological therapies for osteoporosis (primarily bisphosphonates and hormone therapy) on oral health • Understand the adverse effects of these therapeutic options and their impact on dental outcomes • Optimize dental procedures in patients with osteoporosis • Understand the importance of a multidisciplinary approach to these patients and collaboration with other physicians (endocrinologists, rheumatologists) 			
<p>Contents of the course:</p> <ol style="list-style-type: none"> 1. Definition, classification, and risk factors for the development of osteoporosis 2. Diagnosis of osteoporosis 3. Assessment of fracture risk 4. Osteoporosis screening protocols in everyday dental practice 5. GIOP (glucocorticoid-induced osteoporosis) – prevention, diagnosis, and treatment 6. Secondary osteoporosis 7. Bisphosphonates in the treatment of osteoporosis 8. Effects of bisphosphonates on oral health 9. Other therapeutic modalities for the treatment of osteoporosis (denosumab, hormone therapy) and their impact on oral health 10. Interdisciplinary approach to patients with osteoporosis – the role of the dentist 11. Methods of communication between dentists and other specialists in a holistic approach to patient care 12. Contemporary trends in osteoporosis treatment – implications for future research 13. Clinical case presentations of osteoporosis in general medical practice 14. Clinical case presentations of osteoporosis in dental practice 			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Diagnosis and Treatment of Osteoporosis: A Case -Based Approach. Ronald.C.Hamdy. Elsevier. 2024. (402 pages) 2. Clinical Guideline for the Prevention and Treatment of Osteoporosis. National Osteoporosis Guideline Group UK. 2024. (https://www.nogg.org.uk/sites/nogg/download/NOGG-Guideline-2024.pdf?v3) 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures:30	Practicals:	Other modes of teaching: 30	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	10	Written resolution of a clinical situation	60
Participation in practicals			
Mid-term test(s)			
Seminars	30		
Other			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Dental Treatment of Patients with High Cardiovascular Risk			
Course Leader (Name, middle letter, surname): Aleksandar J. Davidovic			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: III / 6th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I3_18	
<p>Objectives of the course: To acquire the knowledge and skills necessary for the safe planning and implementation of dental treatment in patients with cardiovascular diseases, especially in patients who have undergone invasive cardiac procedures (coronary stents, pacemakers, valvular interventions, aortocoronary grafts) in accordance with current clinical guidelines and an interdisciplinary approach.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> - Identify patients with high cardiovascular risks; - Assess the risk of bleeding and thromboembolic complications; - Plan dental therapy in patients receiving antithrombotic therapy; - Implement recommendations for the prevention of infective endocarditis; - Safely perform dental interventions in cardiac patients; - Appropriately respond to cardiac emergencies in the dental office; - Effectively collaborate with cardiologists in an interdisciplinary setting. 			
<p>Contents of the course:</p> <ol style="list-style-type: none"> 1. Cardiovascular diseases relevant to dental practice. 2. Percutaneous coronary interventions, stents, aortocoronary bypass. 3. Pacemakers. 4. Valvular heart diseases, mechanical and biological valves, TAVI. 5. Infective endocarditis and oral health. 6. Antiplatelet and anticoagulant therapy. 7. Assessment of hemorrhagic risk. 8. Dental procedures in patients on antithrombotic therapy. 9. Local hemostasis in cardiac patients. 10. Local anesthesia in cardiac patients. 11. Emergencies in dental practice. 12. Drug interactions. 13. Interdisciplinary cooperation. 14. Clinical case reports. 			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Little and Falace's Dental Management of the Medically Compromised Patient, 10th ed. Mosby (Elsevier) 2023, pp 56-80 2. Burket's Oral Medicine 401-430 13th ed. Wiley-Blackwell 2021, pp. 401-430 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals: 30	Other modes of teaching : Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	10	Written resolution of a clinical situation	60
Participation in practicals			
Mid-term test(s)			
Seminars	30		
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Anesthesia in Dentistry and Basic Principles of Oral Surgery			
Course Leader (Name, middle letter, surname): Bojan M. Gačić			
Course status (compulsory/elective): Compulsory			
ECTS: 7		Year of the study: IV / 8th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27ANES	
<p>Objectives of the course: The most important goal of this course is for students to acquire the knowledge and skills necessary for the application of local anesthesia and tooth extraction. Students will be trained to perform the techniques of terminal anesthesia in the upper and lower jaw, and mandibular anesthesia on their own. The students will also be trained to apply local anesthesia to patients at medical risk, in other dental disciplines, and to recognize and treat possible local and general complications of local anesthesia. The aim is for students to acquire basic knowledge of tooth extractions: indications, instruments, techniques, and wound healing after tooth extractions.</p>			
<p>Outcomes of the course: After taking the course and passing the exam, the student should:</p> <ul style="list-style-type: none"> - have a deep understanding of the methods for pain control in dental practice, i.e. the benefits provided by isolated local anesthesia, the combined use of local anesthesia and pharmacosediation, and be familiar with the application of general anesthesia in dental practice; - demonstrate knowledge of the properties of individual local anesthetic solutions, and the use of local anesthetic solutions; - administer infiltration anesthesia in the upper and lower jaws, administer mandibular anesthesia and other terminal and block anesthesia in the jaws on their own; -be fully capable of selecting an adequate local anesthetic solution in at-risk patients; - demonstrate knowledge of the practical application of local anesthesia in each of the dental disciplines and know the indications, advantages and disadvantages of individual methods of local anesthesia, -prevent, recognize, and cure any complications of local anesthesia (local and general); -take the patient’s history on their own, perform a clinical examination and diagnose the most common dental diseases; - choose the appropriate instruments for tooth extraction; - perform tooth extraction of individual teeth in the upper and lower jaws on his own; learn and implement asepsis and antisepsis procedures in oral surgery; - recognize the phases of normal wound healing of alveolar socket after tooth extraction. 			
<p>Contents of the course: Local anesthetic solutions; relevant anatomy; topical, local, general anaesthesia, analgesia and sedation and its combination. Techniques of infiltration and block anesthesia in the upper and lower jaw. Complications of local anesthesia. Local anesthesia in risk patients and in other dental disciplines. Taking a medical history, performing a clinical examination, synthesizing the obtained data in diagnosing the most common dental diseases. Tooth extractions: indications, instruments, techniques, and wound healing after tooth extractions. Procedures of asepsis and antisepsis in oral surgery.</p>			
<p>Recommended literature: Malamed SF. HANDBOOK OF LOCAL ANESTHESIA, SEVENTH EDITION. Copyright © 2020, Elsevier Inc.</p>			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 45
Lectures: 30	Practicals: 45	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6		
Participation in practicals	28	Practical exam	20
Mid-term test (s)		Oral exam	40
Seminars	6		
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Restorative Odontology			
Course Leader (Name, middle letter, surname): Tatjana V. Savić-Stanković			
Course status (compulsory/elective): Compulsory			
ECTS: 10		Year of the study: IV / 7th and 8th semesters	
Entry requirements (examinations passed in previous years):/		Course code: ST27REOD	
<p>Objectives of the course: To acquire knowledge and skills for independent diagnostics and treatment of lesions of hard dental tissues using adequate methods, materials and instruments of modern restorative dentistry.</p>			
<p>Outcomes of the course: Upon successful completion of the course, students should be able to:</p> <ul style="list-style-type: none"> – demonstrate knowledge of the structure of pulp-dentin complex and its defense mechanisms, – use equipment and instruments in the dental practice, – record patient's dental and medical history, perform clinical examination, establish diagnosis and treatment plan, – explain and perform all types of cavity preparation, retention and restoration options according to gnathological principles, and use contemporary materials, instruments and equipment for permanent restorations, – explain and perform all treatment options for pulp vitality preservation in deep caries and trauma cases, – explain and analyze methods for cavity preparation and impression taking, indirect restoration production and cementation (metal and esthetic), and advantages over direct restorations, – explain the biophysical changes in endodontically treated teeth and analyze the principles of their restoration, including the application of fiber-glass posts, – explain the causes of tooth discoloration, the methods and agents used for tooth whitening, and analyze their aesthetic effects, potential complications, and limitations, – explain the application and mechanism of action of lasers in cavity preparation. 			
<p>Contents of the course:</p> <ul style="list-style-type: none"> – Pulp-dentin complex and its defense mechanisms, caries, noncarious lesions, trauma, exposed pulp, introduction to clinical practice of restorative dentistry, teamwork, workflow, tooth isolation, minimally invasive procedures in restorative dentistry, materials for management of deep caries and exposed pulp, restorative procedure, matrix systems, materials for permanent restorations, materials for temporary fillings, glass-ionomer cements, adhesive systems, composite materials, amalgam, restorative procedure in anterior teeth, restorative procedure in posterior teeth, polymerization of resin-based materials, light-curing units, clinical procedure for indirect restorations, CAD-CAM of indirect restorations, restoration repair, restoration of endodontically treated teeth, fiber-glass post application, tooth bleaching, lasers application. 			
<p>Recommended literature:</p> <ul style="list-style-type: none"> • Ritter AV. Sturdevant's art and science of operative dentistry. 8th ed. St. Louis: Elsevier; 2025. • Miletić V, editor. Dental composite materials for direct restorations. Cham: Springer; 2018 • Fejerskov O, Nyvad B, editors. Dental caries: the disease and its clinical management. 4th ed. Hoboken (NJ): Wiley-Blackwell; 2024. 			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 45
Lectures: 30	Practicals: 135	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Test with analysis of a clinical scenario	20
Participation in practicals	28		
Mid-term test (s)	6	Oral exam	40
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Removable Prosthodontics			
Course Leader (Name, middle letter, surname): Aleksandra M. Milić Lemić			
Course status (compulsory/elective): compulsory			
ECTS: 10		Year of the study: IV / 7th and 8th semesters	
Entry requirements (examinations passed in previous years):		Course code: ST27MOBI	
<p>Objectives of the course: The aim of the course is to enable students to acquire theoretical knowledge and practical skills necessary for the diagnosis, planning, and implementation of prosthodontic treatment of edentulism and partial edentulism using removable dental prostheses. Students will develop an understanding of the biological, functional, and biomechanical principles underlying the fabrication of complete and partial dentures, as well as the proper selection of materials, clinical procedures, and occlusal concepts.</p>			
<p>Outcomes of the course: Upon completion of the course, the student should be able to: Demonstrate knowledge to:</p> <ul style="list-style-type: none"> • Explain the etiology, classification, and consequences of edentulism and partial edentulism on the patient's oral and general health; • Understand the biological, anatomical, physiological, and biomechanical principles underlying the fabrication of complete and partial dentures; • Describe the indications, contraindications, advantages, and limitations of different types of removable prosthodontic restorations, including implant-supported dentures, and • Demonstrate knowledge of the materials and technologies (conventional and digital) used in the fabrication of complete and partial dentures. <p>Develop skills to:</p> <ul style="list-style-type: none"> • Independently take a patient's medical and dental history and perform a clinical examination of an edentulous or partially edentulous patient; • Plan and carry out the clinical phases involved in the fabrication of complete and partial dentures (impression taking, determination of maxillomandibular relationships, denture try-in, and delivery of dentures); • Properly select and arrange artificial teeth in accordance with the functional, esthetic, and physiognomic requirements of the patient; • Apply the basic principles of occlusion in removable prosthodontics and recognize the most common errors and complications in therapy, and • Perform corrective procedures, relining, and repair of removable dentures. <p>Demonstrate competencies and professional attitudes to:</p> <ul style="list-style-type: none"> • Develop an appropriate treatment plan based on clinical findings, as well as the patient's needs and possibilities; • Apply an individualized and multidisciplinary approach in the rehabilitation of edentulous and partially edentulous patients, including the geriatric population; • Critically evaluate the characteristics and applications of contemporary digital technologies in the fabrication of removable prosthodontic restorations, and • Adhere to ethical principles and professional responsibility in patient care. 			
<p>Recommended literature (treba novo):</p> <ul style="list-style-type: none"> • Rahn AO, Ivanhoe JR, Plummer KD. Textbook of Complete Dentures. 6th Edition; 2009. People's Medical Publishing House / PMPH-US. • Rohrbach S. Complete Dentures. 1st Edition. Quintessence Publishing; 2025. 			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
Total number of contact classes (active teaching and learning):			
Lectures: 30	Practicals: 180	Other modes of teaching:	Professional practice/ independent learning: 60
Teaching and learning methods: lectures and practical			

Assessment (maximum number of points: 100)			
Pre-exam requirements	40 points	Final exam	60 points
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)	6		
Seminar (s)			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Preclinical Fixed Prosthodontics				
Course Leader (Name, middle letter, surname): Aleksandar B. Todorović				
Course status (compulsory/elective): Compulsory				
ECTS: 7		Year of the study: IV/ 7th semester		
Entry requirements (examinations passed in previous years):		Course code: ST27FPRO		
Objectives of the course: To obtain theoretical and practical knowledge of the technical and technological procedures in manufacturing different types of fixed restorations (crowns and bridges).				
Outcomes of the course: After successfully completing the course, the student should be: -Able to perform diagnostic wax-up, -Capable of modeling different wax restorations such as full crowns, cast post and core, metal coping of porcelain fused to metal -Familiar with laboratory procedures employed in manufacturing different fixed restorations. -Introduced to modern materials used in fabricating fixed restorations				
Contents of the course: The lectures provide dental students with a foundation necessary to understand the basic principles of fixed prosthodontics, basic science, followed by practical step-by-step laboratory applications. The theoretical lectures focus on laboratory procedures but involve introduction to clinical sessions. The practicals are organized as a systematic follow-up of laboratory procedures in manufacturing different types of fixed restorations. The course covers most modern materials used in fabricating fixed restorations from wax to metal alloys.				
Recommended literature: Rhoads JE, Rudd KD, Morrow RM, Dental laboratory procedures. Fixed partial dentures. Mosby Inc; Subsequent edition. (489 pages)				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 30
Lectures: 15	Practicals: 45	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	30
Participation in practicals	28		Practical exam	30
Mid-term test (s)	6		Oral exam	
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Oral Medicine			
Course Leader (Name, middle letter, surname): Ana Lj. Pucar			
Course status (compulsory/elective): Compulsory			
ECTS:7		Year of the study: IV / 7th semester	
Entry requirements (examinations passed in previous years):		Course code:ST27ORME	
Objectives of the course: The aim of this course is to enhance students' professional competencies through the acquisition of advanced knowledge and skills necessary for the implementation of a comprehensive, interdisciplinary approach to the diagnosis, treatment planning, and therapeutic management of patients with oral medicine-related pathologies.			
Outcomes of the course: After successfully completing the course, the student should be qualified to: - Access medical history, - Conduct clinical examination, - Recognize symptoms and signs of oral diseases, - Recognize oral manifestations of systemic diseases, - Recognize the symptoms and signs of premalignant and malignant diseases, - Carry out diagnostic procedures, - Analyze and interpret medical records, - Establish a differential diagnosis or diagnosis, - Make a treatment plan, - Explain to patients the assessment of their problems and the plan for further testing and treatment, - Perform clinical procedures (prevention and treatment), - Prescribe medications and apply local drugs, - Identify clinical indications that require referral of patients for further examinations.			
Contents of the course: Pathogenesis of oral diseases, Diagnostic methods in oral medicine, Oral manifestations of infections: bacterial (non-specific, specific, fungal,viral), Hereditary and developmental anomalies of oral mucosa, Oral manifestations of human immunodeficiency virus (HIV) infection / Acquired Immune Deficiency Syndrome (AIDS), Oral diseases as a result of sexual contact, Diseases of the lips, Diseases of the tongue, Salivary gland diseases, Oral mucosal injuries caused by physical, chemical, thermal, radiation agents as well as bad habits, Oral ulceration, Aphtae, Mucocutaneous bullous dermatoses, Oral manifestations of systemic diseases (gastrointestinal, haematological, cardiovascular, respiratory, endocrine, metabolic, renal, neurological and psychiatric) and vitamin deficiency, Orofacial pain, neuralgia and temporomandibular joint - glossodynia and glossopyrosis, burning mouth syndrome, subjective xerostomia and idiopathic dysgeusia, White and red oral mucosal lesions, Inflammatory hyperplasia, nonspecific granulomas and benign tumors, Precancerous conditions and neoplasms, Principles of therapy in oral medicine, Pharmacology related to Oral Medicine.			
Recommended literature: 1. MS. GREENBERG, MICHAEL GLICK: Oral Medicine Diagnosis & Treatment Burket's 15th Edition Shelton, Connecticut: People's Medical Publishing House USA, 2015. 2. Edward W. Odell. Cawson's Essentials of Oral Pathology and Oral Medicine 9th Edition - 2017, Elsevier, ISBN-13978-0702049828.			
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.			
Total number of contact classes (active teaching and learning):		Professional practice/ independent learning:	
Lectures: 30	Practicals:30	Other modes of teaching:	Research paper: 30
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)	5		
Seminars	1		
Other			

Table 5.2 Course specification

Study programme: Integrated Studies of Dental Medicine			
Level of Studies: Second			
Course: Preclinical Periodontology			
Course Leader (Name, middle letter, surname): Saša M. Janković			
Course status (compulsory/elective): Compulsory			
ECTS Credits: 7		Year of study: IV / 8th semester	
Entry requirements (examinations passed in previous years):/		Class code: ST27PAR1	
<p>Objectives of the course: To train students in the implementation of diagnostic procedures in periodontology and to acquire knowledge of the fundamental elements of professional and personal oral care relevant to the health of the oral cavity and the supporting apparatus of the teeth, as well as to train students in the application of therapeutic interventions in the prevention and initial therapy of diseased periodontal tissues.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Demonstrate knowledge of the anatomical, histological, and topographical characteristics of the supporting apparatus of the teeth. • Understand the etiology and pathogenesis of periodontal diseases and identify the risk factors associated with their onset and progression. • Master diagnostic procedures and protocols for documentation in periodontology. • Establish a definitive diagnosis of periodontal disease. • Assess the level of oral hygiene and determine periodontal status using appropriate indices. • Demonstrate knowledge of manual and powered instruments used in the treatment of diseased periodontal tissues, as well as instrumentation and fixation techniques. • Understand the indications for the use of specific medications in the treatment of periodontal disease. 			
<p>Contents of the course: Anatomical and histological principles of the periodontal diseases. Classification of periodontal diseases and conditions. Epidemiology of periodontal diseases. Prognosis and treatment plan. Diagnostic tools for final diagnosis establishment. Radiographic tools used in periodontology. Etiopathogenetic mechanisms of periodontal disease. Occlusion and periodontal disease. Gingivitis and differential diagnosis towards periodontal disease. Causal phase of periodontitis therapy. Initial periodontal therapy. Risk factors, modifying factors and aging. Medications in periodontal treatment. Principles of periodontal diseases prevention: primary and secondary prevention of periodontitis.</p>			
<p>Recommended literature: 1. Lindhe J, Lang NP and Karring T. Clinical periodontology and implant dentistry. 5th edition. Wiley-Blackwell, 2009. Pages: 3-215, 352-381, 403-413, 432-508.</p>			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 30
Lectures: 30	Practicals: 30	Other modes of teaching:	
Teaching and learning methods: lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	30
Participation in practicals	28	Oral exam	30
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Preclinical Endodontics			
Course Leader (Name, middle letter, surname): Katarina R. Beljić-Ivanović			
Course status (compulsory/elective): Compulsory			
ECTS: 6		Year of the study: IV / 8th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27PREN	
<p>Objectives of the course: To provide students with the knowledge and skills necessary to perform endodontic treatment on teeth affected by pulpal and periapical diseases.</p>			
<p>Outcomes of the course: After completing this course, the student should:</p> <ul style="list-style-type: none"> -Demonstrate knowledge of basic principles and endodontic treatment methodology -Demonstrate a profound knowledge of tooth morphology and root canal anatomy -Demonstrate knowledge of the isolation of the clinical crown, the handling and use of a rubber dam, and infection control procedures. -Demonstrate knowledge of the objectives and guidelines for access cavity preparation, and the practical skills to prepare all types of access cavities on models. -Demonstrate theoretical knowledge and practical skills to conduct different methods for measuring canal length in laboratory conditions -Demonstrate theoretical knowledge of various types of endodontic instruments and practical skills to use them in the root canal therapy in acrylic teeth of different morphological groups - Possess the knowledge about irrigating solutions and intracanal medications during chemo-mechanical root canal preparation in acrylic teeth -Demonstrate the theoretical knowledge of different techniques for permanent root canal obturation and practical skills required to perform mono-cone and lateral condensation techniques on acrylic teeth -Demonstrate the knowledge and competencies required to perform the basic steps of endodontic procedures and understand their direct relation to treatment outcomes. -Demonstrate theoretical and practical knowledge of endodontic therapy applicable in clinical settings. 			
<p>Contents of the course: Key principles and aims of endodontic therapy, tooth morphology and root canal anatomy. Different endodontic instruments and equipment used in clinical endodontic practice. Manual techniques for root canal preparation, irrigation procedures and various irrigating solutions and medicaments. Materials and techniques used for permanent root canal obturation. Practical courses and student independent preclinical practice using models and acrylic teeth. Hands-on training for preclinical endodontic procedures, instruments for access cavity preparation, instruments and manual techniques for root canal preparation (Step-back, Crown-down, Modified double flared technique) on acrylic teeth. Methods of root canal irrigation and medication. Different materials and techniques for permanent root canal obturation.</p>			
<p>Recommended literature: 1.Bergenholtz G et al.Textbook of Endodontology, 2nd eds, Wiley- Blackwell, Chichester, UK,2013.pp.1-400. 2.Tronstad L. Clinical endodontics- a textbook, 3rd eds, Thieme, NY, USA, 2009.pp.1-259</p>			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 30
Lectures: 15	Practicals: 30	Other modes of teaching: Research paper:	
Teaching and learning methods: lectures, practicals on tooth models			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	20
Participation in practicals	28	Oral exam	40
Mid-term test (s)	6		
Seminars			
Other			

Elective courses – 4th year

2714_01	<i>Materials for Direct Esthetic Restorations</i>
2714_02	<i>Minimum Intervention Cariology</i>
2714_03	<i>Dental Care for Children with Rare Diseases</i>
2714_04	<i>Biochemistry of Body Fluids</i>
2714_05	<i>Clinical Significance of the Topographical Anatomy of the Head and Neck</i>
2714_06	<i>Clinical Significance of the Cranial Nerves</i>
2714_07	<i>Head and Neck Cancer Prevention</i>
2714_08	<i>Antibiotic Prophylaxis in High-Risk Patients</i>
2714_09	<i>Physiological Basis of Pain in the Orofacial Region</i>
2714_10	<i>Periodontal Manifestations of Local and Systemic Diseases</i>
2714_11	<i>Digital and AI-Assisted Radiology in Dentistry</i>
2714_12	<i>Oral Potentially Malignant Disorders and the Contemporary Concept of Diagnostics</i>
2714_13	<i>Principles of Treatment of Oral Diseases and Adverse Drug Reactions</i>
2714_14	<i>Autoimmune Diseases of the Oral Mucosa</i>
2714_15	<i>Oral Mucosal Diseases in Immunocompromised Patients</i>
2714_16	<i>Gerodontology</i>

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Materials for Direct Esthetic Restorations				
Course Leader (Name, middle letter, surname): Dragica P. Manojlovic				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I4_01		
Objectives of the course: To acquire knowledge of the composition, properties, classifications, indications and clinical application of materials for direct esthetic restorations (composites, glass-ionomer cements and hybrid materials).				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - explain the material composition and setting reactions, - describe the importance of biological properties of these materials, - analyze material selection for specific clinical indications, - describe clinical procedures involving specific material types, - critically evaluate current criteria for the clinical assessment of restorations, - evaluate the method selection for restoration repair in specific clinical situations. 				
Contents of the course: Composites, glass-ionomer cements and hybrid materials: composition, classifications, properties, setting reactions, indications and clinical procedure, clinical assessment of restorations, laboratory testing of material properties, restoration longevity, restoration repair and biological aspects of esthetic materials.				
Recommended literature: 1. Miletic, V. (editor). Dental Composite Materials for Direct Restorations. Cham, Switzerland: Springer International Publishing AG; 2018. Стр. 11-23, 43-70, 235-288. (pages. 11-23, 43-70, 235-288) 2. Sidhu SK, Nicholson JW. A Review of Glass-Ionomer Cements for Clinical Dentistry. J Funct Biomater. 2016; 7(3): E16. DOI: 10.3390/jfb7030016. (pages 1-15)				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Teaching methods involve interactive work in small groups, combining brief theoretical remarks by the teacher, independent student reports to the group on assigned topics based on previously analyzed literature, as well as the analysis of assigned clinical cases, in the form of essays or oral presentations.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	-	Written defense of a project on a selected topic	60	
Participation in practicals	-			
Mid-term test(s)	20			
Seminars	20			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Minimum Intervention Cariology				
Course Leader (Name, middle letter, surname): Tamara O. Perić				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: IV / 8th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I4_02	
Objectives of the course: To gain knowledge of non-invasive, micro-invasive, and minimally invasive techniques for diagnostics and treatment of dental caries.				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> - assess the caries risk; - apply caries prevention methods; - apply methods for early caries detection; - apply non-invasive and micro-invasive techniques for initial caries lesion treatment; - know the principles of minimally invasive cavity preparation in both enamel and dentine; - use alternative cavity preparation techniques; - create an effective individual treatment plan. 				
<p>Contents of the course: Minimum intervention cariology - definition, basic principles; Caries risk assessment; Caries prevention methods (control of dental plaque, diet modifications, chemoprophylaxis); Early caries detection- methods and techniques; Non-invasive caries treatment- external and internal remineralization; Micro-invasive caries treatment- fissure sealing; Micro-invasive caries treatment- resin infiltration; Minimally invasive cavity preparation in enamel; Minimally invasive cavity preparation in dentine; Modern techniques for cavity preparation (air abrasion, ultrasonic preparation, lasers, chemo-mechanical method, polymer / ceramic burs, etc.); Individual treatment plan.</p>				
<p>Recommended literature</p> <ol style="list-style-type: none"> 1. Frencken JE, Peters MC, Manton DJ, Leal SC, Gordan VV, Eden E. Minimal intervention dentistry for managing dental caries - a review: report of a FDI task group. Int Dent J 2012; 62: 223-243. 2. Schwendicke F, Frencken JE, Bjørndal L, Maltz M, Manton DJ, Ricketts D, Van Landuyt K, Banerjee A, Campus G, Doméjean S, Fontana M, Leal S, Lo E, Machiulskiene V, Schulte A, Splieth C, Zandona AF, Innes NP. Managing carious lesions: Consensus recommendations on carious tissue removal. Adv Dent Res. 2016; 28(2):58-67. 3. Tassery H, Miletic I, Turkun LS, Sauro S, Gurgan S, Banerjee A, Basso M, Khelafia S, Terrer E, Pilliol V, Slimani A. Preventive management of carious lesions: from non-invasive to micro-invasive operative interventions. Br Dnt J 2024; 236(6): 603-610. 4. Banerjee A, Hameed Z, Chohan MA, Patel K, Vaghela JJ, Sheikh F, Barker N, Shah P, Patel D. Minimum intervention oral care- incentivising preventive management of high-needs/high caries-risk patients using phased courses of treatment Br Dent J 2024; 236(5): 379-382. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	30			
Other (student's activity during the course)	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dental Care for Children with Rare Diseases				
Course Leader (Name, middle letter, surname): Miloš D. Beloica				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (examinations passed in previous years):/		Course code: 2714_03		
Objectives of the course: To gain knowledge of rare diseases, epidemiology, diagnostics and treatment possibilities.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Recognize rare diseases - Establish the contact with the patient and their parents - Conduct dental diagnostics in patients with rare diseases - Demonstrate knowledge of the protocol for dental treatment in patients with rare diseases - Design preventive plans for patients with rare diseases 				
Contents of the course: Definition, ethiology, diagnostics, oral manifestations of rare diseases. Oral and inhalation sedation, treatment under general anesthesia.				
Recommended literature: 1. Dawkins, H. J. S. et al. Progress in rare diseases research 2010-2016: an IRDiRC perspective. Clin. Transl. Sci. 11, 11–20 (2018). 2. Bergendal B. Orofacial manifestations in ectodermal dysplasia—a review. Am J Med Genet A. 2014 Oct;164A(10):2465-71. 3. Klineberg I, Cameron A, Whittle T, Hobkirk J, Bergendal B, Maniere MC, King N, Palmer R, Hobson R, Stanford C, Kurtz K, Sharma A, Guckes A. Rehabilitation of children with ectodermal dysplasia. Part 1: an international Delphi study. Int J Oral Maxillofac Implants. 2013 Jul-Aug;28(4):1090-100. 4. Schieppati, A., Henter, J.-I., Daina, E. & Aperia, A. Why rare diseases are an important medical and social issue. Lancet 371, 2039–2041 (2008).				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written exam	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biochemistry of Body Fluids				
Course Leader (Name, middle letter, surname): Tatjana M. Goldberger				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (passed exams from previous years):		Course code: I27_4_04		
Objectives of the course: To acquire knowledge of the mechanism of formation and biochemical composition of saliva, cerebrospinal, pleural, pericardial, peritoneal, amniotic, seminal, synovial fluid and sweat, as well as of the clinical and diagnostic significance of determining biochemical parameters, with special emphasis on salivary markers.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -analyze the values of concentrations of biochemical parameters in body fluids, and -evaluate their clinical and diagnostic significance.				
Contents of the course: Formation and biochemical content of body fluids. Analysis of biochemical parameters and their clinical and diagnostic significance (proteins, glucose, immunoglobulins, lactate, myelin basic protein, amyloid beta 42 peptide, Tau protein, total proteins, cholesterol, pH, LDH, amylase, triacylglycerols, chlorides, bilirubin, fructose, alpha glucosidase, acid phosphatase).				
Recommended literature: Recommended literature: Balfe, A. et al. The biochemistry of body fluids. Association of Clinical Biochemists in Ireland, 2009.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	40			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Clinical Significance of the Topographical Anatomy of the Head and Neck				
Course Leader (Name, middle letter, surname): Dejan B. Četković				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV/ 8th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I4_05		
Objectives of the course: To provide students with the practical and theoretical knowledge of systematic and topographical anatomy of the head and neck.				
Outcomes of the course: After attending this course and passing the exam, the students should be able to: -Recognize and describe anatomical spaces and regions of the head and neck -Recognize and describe the content of anatomical spaces and regions of the head and neck -Define the communication between anatomical spaces and regions of the head and neck -Recognize and determine the route of infection and metastatic changes				
Contents of the course: Regions of the head and neck: Regiones capitis: Regio frontalis. Regio temporalis. Regio parietalis. Regio occipitalis. Regiones faciei: Regio nasalis. Regio oralis. Regio mentalis. Regio orbitalis. Regio infraorbitalis. Regio zygomatica. Regio buccalis. Regio parotideomasseterica. Regio infratemporalis. Regiones cervicales: Regio colli anterior. Regio sternocleidomastoidea. Regio colli lateralis. Regio colli posterior. Spaces of the head and neck: Parotid space. Submandibular space. Sublingual space. Canine space. Buccal space. Infratemporal space. Pterygomandibular space. Masseteric space. Parapharyngeal space. Retropharyngeal space. Suprasternal space. Visceral space. Retrovisceral space. Vascular space.				
Recommended literature: - Moore KL. Clinically Oriented Anatomy. Williams & Wilkins, Baltimore-Tokyo, 1992. Pp.637-852.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam compulsory activities	Total 40 points	Final exam 60 points		
Participation in lectures	20	Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Clinical Significance of the Cranial Nerves				
Course Leader (Name, middle letter, surname): Aleksandra M. Dožić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV/ 8th semester		
Entry requirements (examinations passed in previous years):/		Course code: 27I4_06		
Objectives of the course: To provide a theoretical and practical knowledge of cranial nerves from the viewpoint of their clinical significance for dentistry.				
Outcomes of the course: After completing this course, the student should be able to: -Describe pathways of cranial nerves -Define the type of fiber of each of the cranial nerves -Describe autonomic ganglions attached to the final branches of the trigeminal nerve -Determine innervation zones of the head and neck especially the orofacial region -Define projection pathways of the central nervous system, downstream (the corticobulbar tract) and upstream (the medial lemniscus pathway and the gustatory pathway), for the purpose of gaining a comprehensive understanding of the cranial nerves.				
Contents of the course: <i>Nn. olfactorii. N.opticus. N. oculomotorius. N.trochlearis. N. trigeminus. N. abducens. N. facialis.N. vestibulocochlearis. N.glossopharyngeus. N. vagus N.accessorius. N.hypoglossus.</i> Cranial nerve nuclei. The corticobulbar tract. The medial lemniscus pathway. The gustatory pathway.				
Recommended literature: Moore KL. Clinically Oriented Anatomy. Williams & Wilkins,Baltimore-Tokyo, 1992. Pp. 853-875.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals: 15	Other modes of teaching :	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	20	Written defense of a project on a selected topic	60	
Participation in practicals	20			
Mid-term test(s)				
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Head and Neck Cancer Prevention				
Course Leader (Name, middle initial letter, surname): Drago B. Jelovac				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV/ 8th semester		
Entry requirements (examinations passed in previous years):/		Course code: 2714_07		
Objectives of the course: To gain knowledge of the principles and procedures for the prevention of head and neck cancer.				
Outcomes of the course: After completing the lectures and passing the exam, the student should be able to: - recognize head and neck precancerous lesions - apply necessary preventive measures and procedures to exclude risk factors for head and neck cancer - demonstrate knowledge of the patient care protocol in case of potentially suspected precancerous lesions				
Contents of the course: Head and neck precancerous lesions; Factors favouring the development of head and neck cancer; Preventive measures and procedures; Patient care protocol of patients with risk factors that could cause head and neck cancer.				
Recommended literature: 1. Hellen Gelband, Prabhat Jha, Rengaswamy Sankaranarayanan, Susan Horton. Cancer: Disease Control Priorities, Third Edition (Volume 3). ISBN: 978-1-4648-0350-5. The International Bank for Reconstruction and Development / The World Bank ; 2015. pp. 85-96 2. US Department of Health and Human Services The Surgeon General's Call to Action to Prevent Skin Cancer. Washington (DC): Bookshelf ID: NBK247164. Office of the Surgeon General (US) ; 2014. pp.10 - 26				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written exam	60 points
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Antibiotic Prophylaxis in High-Risk Patients				
Course Leader (Name, middle letter, surname): Vladimir T. Sinobad				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: IV/ 8th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I4_08	
<p>Objectives of the course: To acquire knowledge on recognizing high-risk patients during dental interventions, identifying potential post-procedural complications, selecting and applying antibiotic treatment in such patients, conducting follow-up after treatment and detecting possible complications.</p>				
<p>Outcomes of the course: Upon completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> - Recognize a high-risk patient during a dental session - Anticipate possible complications that may occur - Explain to a patient what complications may occur after a dental session and what is to be done to prevent them - Choose the appropriate therapy for high-risk patients, either independently or in cooperation with another medical specialist - Follow up on treatment outcomes in high-risk patients - Identify possible complications that may occur despite the applied treatment 				
<p>Contents of the course: Definition of high-risk patients. Diseases and their symptomatology that place patients at high risk in dental sessions. How to identify high-risk patients. Dental interventions which can initiate complications in certain diseases. Use of antibiotics in high-risk patients. Monitoring patients following antibiotic prophylaxis. Complications that occur after using inadequate antibiotic prophylaxis. Treatment of complications in high-risk patients.</p>				
<p>Recommended literature: E.Nuzzolese. The patient at risk in dentistry: behavioral and medico legal recommendations. Eur J Forensic Sci, 2016;3(4)</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 15	Research paper:	
<p>Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.</p>				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Physiological Basis of Pain in the Orofacial Region				
Course Leader (Name, middle letter, surname): Boško M. Toljić				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: IV/8th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I4_09	
Objectives of the course: To acquire knowledge on the physiological mechanisms and specific characteristics of pain in the orofacial region, understand pain transmission and modulation processes, and become familiar with electrophysiological techniques for pain assessment and their importance in clinical practice.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe the specificities of orofacial pain - Explain the mechanisms of generation, transmission, and endogenous modulation of pain impulses in the orofacial region - Explain the mechanisms of exogenous techniques for modulation of orofacial pain - Describe the electrophysiological methods used for objective assessment of pain - Perform a basic analysis of electromyographic recordings of facial muscle activity following the application of a painful stimulus - Develop an AI module for monitoring painful facial expressions from video recordings in real-life situations 				
Contents of the course: Specificities of pain in the orofacial region; physiological basis of pain; mechanisms of pain transmission; descending modulation of pain; gate control mechanisms of pain at the brainstem level (trigeminal level); endogenous opioid system; electrophysiological methods for pain assessment: 1) pain-related evoked potentials (using laser irradiation, heat, mechanical, and electrical stimuli), 2) electroencephalography, 3) electromyography of the flexion reflex, 4) electrodermal activity (changes in skin electrical conductance), 5) pupillary response, 6) heart rate variability, 7) analysis of facial muscle electromyography following the application of painful stimuli; application of modern machine learning methods for the automatic analysis of painful facial expressions, head movements, and posture.				
Recommended literature: <ol style="list-style-type: none"> 1. Guyton & Hall. Textbook of Medical Physiology 13th ed., Belgrade: Data status; 2019. pp. 621-630. 2. Rafael B, Yair S. Orofacial Pain and Headache – Comprehensive Review. 3rd ed., Newcastle upon Tyne, Cambridge Scholars Publis; 2025. pp. 1-615. 3. Alfons WH, Claudia S, Jens CT. The Puzzle of Orofacial Pain: Integrating Research into Clinical Management. Basel: Karger, 2007. pp. 1-254. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals: 15	Other modes of teaching:	Research paper:	
Teaching and learning methods: Small-group work, interactive discussions, analysis of electromyographic recordings of facial muscle gestures, development of an AI model for automatic analysis of pain-related facial expressions.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	10		Written defense of a project on a selected topic	60
Participation in practicals	10			
Mid-term test(s)				
Seminars				
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Periodontal Manifestations of Local and Systemic Diseases				
Course Leader (Name, middle letter, surname): Nataša S. Nikolić Jakoba				
Course status (compulsory/elective): elective				
ECTS: 3			Year of the study: IV / 8th semester	
Entry requirements (examinations passed in previous years):			Course code: 2714_10	
Objectives of the course: To expand knowledge of periodontal manifestations of local and systemic conditions and diseases, their clinical features and therapy.				
Outcomes of the course: After completing the course and passing the exam, a student should be able to: <ul style="list-style-type: none"> - diagnose local and systemic diseases with periodontal manifestations, - treat periodontal manifestations of local and systemic diseases, - recognize the need to refer the patient to the medical specialist . 				
Contents of the course: Manifestations of local diseases and lesions on periodontium (inflammatory diseases, developmental disorders, drug-influenced gingival lesions and diseases, cysts, tumors, tumor-like lesions, potentially malignant, allergic and foreign body reactions, physical lesions, chemical lesions, thermal lesions, lesions due to radiation, pigmented disorders): clinical features, diagnosis, differential diagnosis, and treatment plan. Manifestations of systemic diseases and lesions on periodontium (genetic disorders, infections, hematological disorders and malignancies, skin diseases, endocrine disorders, immunodeficiencies, autoimmune diseases): clinical features, diagnosis, diferential diagnosis, and treatment plan.				
Recommended literature: <ol style="list-style-type: none"> 1. Laskaris G, Scully C. Periodontal Manifestations of Local and Systemic Diseases. Colour Atlas and Text. 1st. ed. Springer-Verlag, Berlin, 2003. (pp. 21-336) 2. Lindhe J. Lang NP, Karing T. Clinical periodontology and implant dentistry, 2 Volume Set 6th Edition. New York: Wiley; 2017. (pp. 269-318) 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching process: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	20		Written exam	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine	
Level of studies: second	
Course: Digital and AI-Assisted Radiology in Dentistry	
Course Leader (Name, middle letter, surname): Biljana B. Marković Vasiljković, Đurda N. Bracanović	
Course status (compulsory/elective): Elective	
ECTS: 3	Year of the study: IV / 8th semester
Entry requirements (examinations passed in previous years):	Course code: 2714_11
<p>Objectives of the course: The aim of this course is to familiarise dental students with contemporary tendencies in dentomaxillofacial radiology, with particular emphasis on the clinical integration of artificial intelligence (AI) in dental imaging. The course focuses on AI-assisted interpretation of panoramic radiographs and cone-beam computed tomography (CBCT) scans, reflecting the increasing role of digital technologies in modern dental diagnostics. The course introduces the fundamental principles of artificial intelligence relevant to clinical radiology. It aims to provide students with a clear understanding of how AI systems are developed, validated, and implemented in dental imaging practice. A further objective of the course is to enable students to understand the possibilities and limitations of AI in detecting pathological conditions of the dentomaxillofacial region. The course emphasises responsible clinical use of AI systems, critical appraisal of AI-generated diagnostic outputs, the protection of patient data, and understanding of ethical, legal and professional responsibilities associated with AI-supported diagnostics in contemporary dental practice.</p>	
<p>Outcomes of the course: After completing the course and passing the exam, a student should be able to: -demonstrate comprehensive knowledge and a clinical understanding of the principles and application of artificial intelligence in modern dentomaxillofacial imaging; -demonstrate an understanding of the basic concepts of artificial intelligence in dental image analysis, particularly in relation to panoramic radiography and CBCT imaging. -recognize and interpret AI-assisted detection of periapical lesions, impacted teeth, temporomandibular joint (TMJ) changes and maxillary sinus pathology; -critically assess AI diagnostic outputs, thereby recognising potential limitations, bias, false-positive and false-negative results, and issues related to algorithm validation; -demonstrate an understanding of ethical principles, regulatory frameworks, data protection standards and medico-legal responsibilities associated with the use of artificial intelligence in dental radiology, while maintaining professional accountability and patient safety at all times.</p>	
<p>Content of the course: The course begins with an overview of contemporary digital radiology in dentistry, including principles of panoramic radiography, cone-beam computed tomography (CBCT), image optimisation, artefacts, and radiation safety considerations. It then introduces the fundamental concepts of artificial intelligence. Students will explore how radiological datasets are prepared, annotated, and used to train AI algorithms, as well as how diagnostic performance is evaluated through sensitivity, specificity, and validation models. The central component of the course addresses applications of artificial intelligence in dentomaxillofacial radiology, including automated detection and classification of pathological changes on panoramic radiographs and CBCT scans. A comparison between clinician-based and AI-assisted interpretations of radiological findings forms an important part of the course, thus encouraging critical reasoning and evidence-based practice. The course further examines limitations of artificial intelligence systems, including sources of diagnostic error. Ethical principles, patient data protection, regulatory approval of AI medical devices, and medico-legal accountability in AI-supported diagnostics are discussed in detail. Finally, the course considers future perspectives of artificial intelligence and digital transformation in dentistry, preparing students for responsible engagement with emerging technologies in clinical practice.</p>	
<p>Recommended literature: 1. White S.C., Pharoah M.J. Oral Radiology: Principles and Interpretation. Elsevier. 1- 656 pp. 2. Koong B. Atlas of Oral and Maxillofacial Radiology. Wiley Blackwell, 2017. 1- 368 pp.</p>	
Total number of contact classes (active teaching and learning):	

Lectures: 30	Practicals: 15	Other modes of teaching process:	Research paper:	Professional practice/ independent learning:
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Teaching and learning methods:

The course is conducted in small groups. It is designed to be interactive, combining brief theoretical input from the instructor with students independently presenting reports on assigned topics to the group. Based on the literature analyzed beforehand, topics are then discussed collectively.

Assessment (maximum number of points: 100)

Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of a project on a selected topic	<i>60</i>
Participation in practicals	20		
Mid-term test(s)	20		
Seminars			
Other			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Oral Potentially Malignant Disorders and the Contemporary Concept of Diagnostics				
Course Leader (Name, middle letter, surname): Ana Lj. Pucar				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (examinations passed in previous years):		Course code: 2714_12		
Objectives of the course: To acquire knowledge of biological mechanisms of oral cancer formation and risk factors for premalignant disorders and their development in oral cancer, diagnostic procedures with an emphasis on the principles of early diagnosis of lesions in daily practice, the possibility of lesion treatment and control of progression to oral cancer.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the mechanisms of development of potentially malignant disorders and the possibility of progression to oral cancer - Define risk factors for potentially malignant disorders and oral cancer - Describe clinical symptoms and signs of potentially malignant disorders - Describe and provide indications for early diagnostic procedures (screening) that can be applied in daily practice - Interpret the results of early diagnostic procedures - Develop an effective lesion treatment plan and correctly determine when the patient should be referred for further treatment				
Contents of the course: Definition, type and classification of oral potentially malignant disorders; Pathological and pathophysiological basis of the emergence of potentially malignant disorders; Risk factors for potentially malignant disorders and oral cancer; Methods of modern diagnostics and screening (vital tissue staining, lesion visualization with chemiluminescent techniques, exfoliative cytology, detection of CD44 biomarkers in saliva); knowledge of therapeutic options in the rehabilitation and control of potentially malignant disorders; determining the need for specialist treatment of the lesion.				
Recommended literature: 1. Brightman JV. Red and White Lesions of the Oral Mucosa Chapter 3. in: Burket's Oral Medicine 12th Edition, Author: Michael Glick, PMPH-USA, 2015. pp. 51-111. 2. Oral premalignancy. in: Cawson's Essentials of Oral Pathology and Oral Medicine 8th Edition, Edition by Edward W. Odell and Roderick A. Cawson (Author), Churchill Livingstone Elsevier. pp. 261-277. 3. Erythroplakia, leukoplakia, keratosis and other potentially malignant condition. in: Oral and Maxillofacial Medicine: The basis of Diagnosis and Treatment, 2 nd ed. Churchill Livingstone Elsevier. pp. 211-225.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Principles of Treatment of Oral Diseases and Adverse Drug Reactions				
Course Leader (Name, middle letter, surname): Ana Lj. Pucar				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (examinations passed in previous years):		Course code: 2714_13		
Objectives of the course: To acquire knowledge of the basic principles of treating oral diseases, therapeutic procedures, types of medicines used in treatment protocols, their pharmacological properties and potential adverse reactions.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Describe the basic principles of oral treatment of oral diseases - Demonstrate knowledge of medicines used in treatment protocols and their pharmacological properties, including their potentially adverse effects - Describe the therapeutic procedures and protocols for the treatment of mucosal diseases, as well as the methods for administration of drugs in oral medicine - Demonstrate knowledge of the possibilities of prevention and remediation of adverse effects of medicines in therapy of oral cavity diseases				
Contents of the course: Principles of treatment in oral medicine; pharmacodynamics and pharmacokinetics of medicines used in the treatment of oral mucosal diseases; types of therapeutic procedures and procedures, familiarization with basic protocols for the treatment of oral mucosal diseases; adverse reaction of medicines used in the treatment of oral diseases and their prevention and remediation; treatment protocols for individual diseases or groups of diseases in oral medicine.				
Recommended literature: 1. Fundamental Principles of Patient Management, Section 1. Treatment; Agents used in the treatment of patients with oral disease In: Oral and Maxillofacial Medicine: The basis of Diagnosis and Treatment. Author: C. Scully. 2 nd ed. Churchill Livingstone Elsevier. pp. 39-69 2. Therapeutic Management of Common Oral Lesion. In: Dental management of the Medically Compromised Patients. 7th edition. Authors: Little JW; Falace DA; Miller CS; Rhodus NL. Mosby Elsevier 2008. pp. 574-595.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Autoimmune Diseases of the Oral Mucosa				
Course Leader (Name, middle letter, surname): Miloš D.Hadži-Mihailović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV / 8th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I4_14		
<p>Objectives of the course: To acquire knowledge of autoimmune pathogenesis, genetic predisposition and predisposing factors relevant to the initiation and progression of autoimmune diseases. To introduce students to the diagnostic procedures and principles of treating patients with autoimmune diseases.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Define the term <i>autoimmunity</i> • Describe the underlying pathogenetic mechanisms of autoimmune diseases • Describe the most common autoimmune diseases with oral manifestations • Recognize diagnostic procedures used to detect autoimmune diseases • Describe the procedures used in the treatment of autoimmune diseases. 				
<p>Contents of the course: Definition of autoimmunity; Genetic predisposition and predisposing factors in the onset of autoimmune diseases; Clinical features of autoimmune diseases with oral manifestations; Diagnostic procedures for the diagnosis of autoimmune diseases; Therapy of various autoimmune diseases with oral manifestations.</p>				
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Glick M. Burket's Oral medicine, 12th edition. People's Medical Publishing House – USA. Shelton, Connecticut , 2015.(pp. 494 – 509, 510 – 530, 563 – 575) 2. Little JW, Falace DA, Miller CS, Rhodus NL. Dental management of medically compromised patient, 8th edition. Elsevier, Mosby, 2012. (pp. 115 – 129, 180 – 192, 212 – 235, 280 - 301, 339 – 359, 373 – 395, 433 -461) 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Oral Mucosal Diseases in Immunocompromised Patients				
Course Leader (Name, middle letter, surname): Dragan M. Stanimirović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: IV/ 8th Semester		
Entry requirements (examinations passed in previous years):		Course code: 27I4_15		
<p>Objectives of the course: The objective of this course is to enhance students' knowledge of the etiology and clinical presentation of primary and secondary immunodeficiency disorders, with particular emphasis on their oral manifestations and the principles of dental management in patients affected by specific immunodeficiencies.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Identify the fundamental signs and symptoms associated with selected immunodeficiency disorders; • Critically analyze medical documentation related to the underlying systemic condition; • Recognize and clinically assess the oral manifestations of specific immunodeficiencies; • Correlate oral pathological findings with particular immunodeficiency disorders; • Prepare a structured written report to facilitate interdisciplinary communication with physicians of other medical specialties regarding patients with immunodeficiency disorders; • Formulate and implement appropriate modifications of the dental treatment plan for patients with specific immunodeficiencies. 				
<p>Contents of the course: Definition and classification of immunodeficiency disorders. Core elements of the clinical presentation of selected immunodeficiencies. Principles of therapeutic management, including potential adverse effects and drug interactions relevant to dental practice. Oral manifestations of immunodeficiency disorders and their differential diagnosis. Development of individualized, modified dental treatment plans for patients with specific immunodeficiencies.</p>				
<p>Recommended literature: 1. Glick M. Burket's oral medicine. 12th ed. Shelton, Connecticut: People's Medical Publishing House; 2015. (pp. 494- 509, 510-530, 563-575). 2. Little JW, Falace DA, Miller CS, Rhodus NL. Little and Falace's dental management of the medically compromised patient. 8th ed. St. Louis: Elsevier/Mosby, 2012. (pp. 115-129, 180-192, 212-235, 280-301, 339-359, 373-395, 433- 461).</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written presentation and defense of the selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Gerodontology	
Course Leader (Name, middle letter, surname): Aleksandra D. Popovac	
Course status (compulsory/elective): Elective	
ECTS: 3	Year of the study: IV/ 8th semester
Entry requirements (examinations passed in previous years):	Course code: 27I4_16
<p>Objectives of the course: To familiarise students with the ageing process of the stomatognathic system, the most common oral health problems in older patients and the provision of timely dental care for this population through preventive and therapeutic treatments, with the aim of delivering optimal care along with appropriate prosthodontic rehabilitation.</p>	
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Recognize typical oral health problems in older patients, such as periodontal disease, root caries, non-carious tooth lesions, denture stomatitis, and medication-induced changes; • Perform differential diagnosis of pathological changes and emergency conditions in the oral cavity of older adults; • Explain which systemic diseases and conditions influence oral health, as well as which oral diseases and conditions may impact general health; • Be familiar with the main oral health problems affecting institutionalized elderly individuals and the necessary preventive measures for maintaining and improving oral health in this population. 	
<p>Contents of the course: General concepts of health and ageing: demography, epidemiology, physiology, and immunology of ageing. Human life expectancy and challenges in health care associated with demographic changes. Theories of ageing. Biological foundations of ageing. Medical, psychological, and behavioral aspects of ageing. Communication between the physician/dentist and the older patient. Contemporary organization of general and dental health care for older adults. Specialized geriatric services. Clinical assessment of the general health status of older patients and collaboration with the attending physician and pharmacist within a multidisciplinary team. The role of the dentist, dental hygienist, and dental nurse in the interdisciplinary team. Systemic diseases in older adults, multimorbidity and polypharmacy, and their impact on oral health. Preventive measures for maintaining health in old age. Masticatory function and nutrition, nutritional status in older individuals. The significance of prosthodontic treatment for nutritional status and masticatory function in older adults. Assessment and importance of cognitive status in prosthodontic rehabilitation. Quality of life in older patients: evaluation of the impact of oral health on quality of life in older adults. Indices for assessing quality of life. The relationship between general and oral health status in older patients. Xerostomia. Age-related changes in the osseomuscular structures of the stomatognathic system. Denture stomatitis. Minimally invasive prosthodontic treatment modalities for older patients. Palliative and emergency dental care in older adults. Oral health problems in institutionalized older patients. Specific preventive and therapeutic dental measures for maintaining oral health in institutionalized older adults.</p>	
<p>Recommended literature: - Holm-Pedersen P, Løe H. Textbook of Geriatric Dentistry. 3rd ed. Oxford: Blackwell; 2011.</p>	

- Kossioni A. Gerodontology Essentials for Health Care Professionals, Springer Nature Switzerland AG 2020.

Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures	20	Oral presentation and defense of selected topic	60	
Seminars	20			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine	
Level of studies: Integrated basic and master academic studies	
Course: Pediatric dentistry	
Course Leader (Name, middle letter, surname): Dejan Lj. Marković	
Course status (compulsory/elective): Compulsory	
ECTS: 11	Year of the study: 5th / 9th and 10th semester
Entry requirements (examinations passed in previous years):	Course code: ST27DEST
Objectives of the course: To familiarize students with the specific characteristics of dental practice in children and adolescents, as well as with the particularities of treatment during the periods of primary, mixed, and early permanent dentition.	
<p>Outcomes of the course:</p> <p>After successfully completing the course, the student should be able to:</p> <ul style="list-style-type: none"> -Understand the fundamental objectives of pediatric dentistry, the importance of preserving oral and dental health in children, as well as the specific characteristics of working with pediatric patients; -Master clinical techniques and be familiar with the psychological types of children. -Understand the characteristics of primary and permanent dentition, as well as the specific features of caries in different dentitions; -Master the specific principles of cavity preparation in primary and permanent teeth; -Be familiar with the principles of minimally invasive dental treatment; -Be proficient in pain control in pediatric patients. -Be familiar with the dental materials used in pediatric dentistry; -Possess knowledge of the specific aspects of endodontic therapy in primary and young permanent teeth; -Understand the fundamentals of oral surgical procedures in pediatric patients; -Apply the basic principles in the management of dental trauma. -Be familiar with the basic principles of treating pulpitis in primary and young permanent teeth; -Understand the principles of managing odontogenic infections in pediatric patients; -Diagnose periodontal diseases in children; -Diagnose bacterial and other oral diseases in children. -Be familiar with the principles of managing emergency conditions in pediatric dentistry; -Understand the principles of prosthetic management in pediatric dentistry; -Be familiar with the principles of dental management of children with disabilities. 	
<p>Contents of the course: 9th semester, theory</p> <p>Introduction to Pediatric Dentistry. / Principles of Dental Practice with Children. Dental Examination and Diagnostic Methods in Pediatric Dentistry. Treatment Planning in Pediatric Dentistry. Behavioral Management Techniques and Minimal Sedation in Pediatric Dentistry. Pain Control in Pediatric Dentistry. Growth and Development of Teeth and the Characteristics of Primary and Permanent Dentition. Irregularities in Tooth Growth and Development. Aesthetic and Functional Management of Structural Anomalies of Permanent Teeth. Molar–Incisor Hypomineralization. Diseases of the Hard Dental Tissues in Children and Adolescents. Specific Aspects of Cavity Preparation and Restoration of Primary Teeth. Etiology and Treatment of Early Childhood Caries. Atraumatic Restorative Treatment and the Use of Silver Diamine Fluoride. Minimally Invasive Therapy. Oral Surgical Interventions, Tumors, and Cysts in Children.</p> <p>10th semester, theory</p> <p>Diseases of the soft tissues and bacterial infections of the oral cavity in children. Oral manifestations of viral diseases in children. Diagnosis of pulp diseases in primary and permanent teeth. Therapy of pulp diseases in primary teeth. Therapy of pulp diseases in permanent teeth in children and adolescents. Injuries of the tooth-supporting apparatus (periodontal injuries). Injuries of the hard dental tissues in children. Complications of dental injuries. Management of children with medical risk factors and rare diseases. Management of children with disabilities. Oral manifestations of systemic diseases in children. Periodontal diseases in pediatric dentistry. Management of odontogenic infections and the use of antibiotics in pediatric dentistry. Emergency conditions in pediatric dentistry. Prosthodontic rehabilitation of children and adolescents.</p> <p>Practical work, 9th semester</p> <p>Introductory practical session. Familiarization with the Clinic. Introduction of students to the specific characteristics of clinical work, patient admission procedures, and behavior management when working with children. Removal of soft deposits. Patient record (chart) and other documentation. Practical work with patients.</p>	

<p>Dental examination of a child. Morphological and anatomical differences between primary and permanent teeth. Diagnosis of caries, gingivitis, and orthodontic irregularities. Fundamentals of cavity preparation: deviations from preparation principles in primary and permanent teeth. Minimal cavity preparations. Dental materials and instruments used in pediatric dentistry. Management of deep caries in primary teeth. Indirect pulp capping. Management of pulp diseases in primary teeth. Methods of treatment, pain control, techniques, instruments, and medicaments. Management of pulp diseases in permanent teeth. Indirect and direct pulp capping. Management of pulp diseases in permanent teeth in children. Vital and non-vital extirpation. Management of pulp diseases in permanent teeth with incomplete root development in children. Apexogenesis and apexification. Management of complications of pulp diseases in primary teeth. Periodontitis. Management of complications of pulp diseases in permanent teeth in children. Periodontitis. Oral surgical interventions in children. Extractions of primary teeth. Oral surgical interventions in children – specific considerations. Management of diseases of the soft oral tissues, lips, and tongue in children. Management of viral infections affecting the oral cavity in children.</p> <p>Practical work, 10th semester</p> <p>Management of dental injuries in children. Injuries of primary teeth. Injuries of permanent teeth. Management of uncomplicated enamel and dentin fractures. Injuries of permanent teeth. Management of complicated enamel and dentin fractures with pulp exposure, with and without completed root development of permanent teeth. Aesthetic management of crown fractures. Management of root fractures in primary and permanent teeth. Management of luxation injuries of permanent teeth. Management of avulsed permanent teeth in children. Prosthodontic rehabilitation of children. Management of soft tissue diseases in children. Management of periodontal diseases in children. Procedures for the management of emergency conditions in children. Management of uncooperative children. Management of children with psychophysical developmental disabilities.</p>				
<p>Recommended literature: Compulsory</p> <ul style="list-style-type: none"> - Welbury R, Duggal MS, Hosey MS (editors). Paediatric dentistry. Fourth edition. Oxford University Press 2012. (417 pages) - Soxman JA (editor). Handbook of clinical techniques in pediatric dentistry. Wiley Blackwell 2015. (207 pages) 				
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>				
<p>Total number of contact classes (active teaching and learning):</p>				<p>Professional practice/ independent learning: 60</p>
<p>Lectures: 60</p>	<p>Practicals: 90</p>	<p>Other modes of teaching:</p>	<p>Research paper:</p>	
<p>Teaching and learning methods: Lectures, practicals</p>				
<p>Assessment (maximum number of points: 100)</p>				
<p>Pre-exam requirements</p>		<p>Total 40 points</p>		<p>Final exam 60 points</p>
<p>Participation in lectures</p>		<p>6</p>		<p>Practical exam 20</p>
<p>Participation in practicals</p>		<p>28</p>		<p>Oral exam 40</p>
<p>Mid-term test (s)</p>		<p>2x3</p>		
<p>Seminars</p>				
<p>Other</p>				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Oral Surgery				
Course Leader (Name, middle letter, surname): Snježana B. Čolić				
Course status (compulsory/elective): Compulsory				
ECTS: 10		Year of the study: V / 9th and 10th semesters		
Entry requirements (examinations passed in previous years):		Course code: ST27ORAL		
Objectives of the course: To acquire the knowledge and skills necessary for self-diagnosis of oral surgical diseases, to train students to perform simple and complex tooth extractions independently, diagnose and treat dentogenic infections.				
Outcomes of the course: After completing the course and passing the oral surgery exam, the student should be able to: <ul style="list-style-type: none"> - independently perform necessary diagnostic procedures in order to make a diagnosis of oral surgical conditions - independently perform simple extractions of erupted teeth, residual roots, complex tooth extractions and eliminate post-extraction complications - diagnose patients at risk and prepare them adequately for tooth extraction - treat acute and chronic dentogenic infections and administer appropriate medicines - prescribe medicines for preoperative, operative and postoperative treatment of oral surgery patients and to establish local hemostasis during and after surgical interventions - set an indication for the surgical treatment of periapical lesions - be familiar with the basic principles of dental trauma treatment - diagnose oroantral communications and provide conservative care 				
Contents of the course: During the Oral Surgery course, the student should learn how to take anamnesis, perform a clinical examination and diagnose oral-surgical conditions, independently perform simple and complicated tooth extractions, diagnose and treat intra and post-extraction complications, diagnose and treat dentogenic infections, medicines for the therapy of oral surgery patients, recognize patients at risk and prepare them for oral surgery, diagnose pathological lesions on the teeth and the jaws and lining and indications for their therapy. Also, the student should become acquainted with the basic principles of oral surgery, design a therapeutic plan and assist during minor oral surgeries. Each student should become familiar with the basic principles of the treatment of orofacial pain, diagnose tooth traumas and oroantral communications and conduct appropriate therapy.				
Recommended literature: 1. James R Hupp, Edward Ellis III, Myron R Tucker: "Contemporary Oral and Maxillofacial Surgery", Mosby, Inc. (209 pages (73-127, 153-213,291-363,383-397))				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 60
Lectures: 60	Practicals: 90	Other modes of teaching:	Research paper:	
Teaching and learning methods: Lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	20
Participation in practicals	28		Oral exam	40
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Fixed Prosthodontics with Clinical Gnathology				
Course Leader (Name, middle letter, surname): Aleksandra B. Špadijer Gostović				
Course status (compulsory/elective): Compulsory				
ECTS: 12			Year of the study: V/ 9th and 10th semesters	
Entry requirements (examinations passed in previous years):/			Course code: ST27FSPR	
Objectives of the course: To train students to independently perform the clinical phases of fixed restoration production. To equip students with the knowledge and skills required to perform clinical procedures during prosthodontic therapy with fixed restorations.				
Outcomes of the course: After completing this course, the student should have the skills and knowledge required to: <ul style="list-style-type: none"> • determine the diagnosis, analyze x-rays (OPT, RA, CBCT) • perform analog and digital workflows • perform aesthetic analysis and treatment planning • independently conduct tooth preparation for all types of fixed restorations in dental practice (crowns, bridges) • choose the optimal dental material for fixed restorations • use different post systems (metal/FRC) for restoring endodontically treated teeth • select the optimal technique and material for conventional impression taking procedures • obtain digital impressions using an intraoral scanner • carry out all clinical procedures for treatment with fixed restorations according to gnathological principles • carry out the cementation procedure, conventional and adhesive • diagnose and to treat tooth wear-erosion, abrasion. attrition and abfraction • understand the concept of Mutually Protected Occlusion and excursive guidance • be familiar with the diagnosis and treatment of temporomandibular dysfunctions 				
Contents of the course: The theoretical lectures are dedicated to different topics such as tooth preparation, temporary fixed restorations, analog and digital impressions, determination of the vertical dimension of occlusion, application of articulators, registration of the mandibular rest position, centric relation and intercuspal position, try-in procedures, cementation protocol. The lectures are well-documented and incorporate contemporary knowledge, evidence-based clinical and lab procedures for different types of fixed restorations, PFM or ceramic crowns, bridges, veneers, inlays, onlays, overlays and endocrowns.				
Recommended literature: Rosenstiel S: Contemporary fixed prosthodontics, 4th.ed, St. Louis, Missouri: Mosby; 2006, p. 5-868.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 60
Lectures: 45	Practicals: 180	Other modes of teaching:	Research paper:	
Teaching and learning methods: Lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	20
Participation in practicals	28		Oral exam	40
Mid-term test	6			
Seminars				
Other				

Table 5.2 Course specification

Study programme: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Clinical Periodontology			
Course Leade (name, middle name, last name): Sasa M. Jankovic			
Class status (compulsory/elective): Compulsory			
ECTS Credits: 10		Year of study: V / 9th and 10th semesters	
Entry requirements (examinations passed in previous years):		Course code: ST27PAR2	
Objectives of the course: To train students to develop a treatment plan for periodontitis, to perform all procedures within the initial phase of periodontal therapy, and to understand surgical procedures applied in the treatment of periodontitis and mucogingival anomalies.			
Outcomes of the course: Upon successful completion of the course, the student should be able to: <ul style="list-style-type: none"> - Establish the prognosis for individual teeth and the entire dentition, and prepare an individualized treatment plan; - Diagnose and treat urgent periodontal conditions; - Perform all procedures within the causal phase of periodontal therapy; - Understand the indications and contraindications for debridement of periodontal pockets; - Perform periodontal pocket debridement; - Recognise indications for pharmacological therapy in periodontal treatment; - Recognise indications and contraindications for basic surgical therapy techniques in periodontal pocket elimination and mucogingival correction; - Diagnose traumatic occlusion and occlusal trauma; - Eliminate early interdental contact with selective teeth preparation; - Develop occlusal rehabilitation plans (including prosthetic, restorative, surgical and orthodontic therapy); - Implement periodontal health maintenance therapy; - Recognise disease recurrence after successful completion of periodontitis therapy and come up with a flexible treatment plan. 			
Contents of the course: Determination of prognosis. Treatment plan of periodontal disease. Nonsurgical periodontal therapy. Periodontal emergencies (acute periodontal abscesses, acute necrotizing ulcerative gingivitis). Occlusal evaluation and therapy. Aggressive periodontitis. Surgical therapy of periodontitis (the flap technique for pocket therapy, resective and reconstructive periodontal surgery, furcation involvement and treatment). Periodontal plastic surgery. Pre-prosthetic periodontal surgery. Restorative interrelationships. Endo-periodontal lesions. Orthodontic treatment of periodontally compromised patients. Standard implant surgical procedures. Localized bone augmentation and implant site development. Supportive periodontal treatment. Recurrence of periodontal disease. Periodontal medicine. ** professional practice: independent work done by students outside the planned fund for practical teaching. Professional practice is done under the supervising menthor, in which student is getting educated in practical work and relation with the patients.			
Recommended literature: Lindhe J. Lang NP, Karing T. Clinical periodontology and implant dentistry, 2 Volume Set 6th Edition. New York: Wiley; 2017. (Pg. 216-351, 414-429, 519-808)			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 45
Lectures: 30	Practicals: 45	Other modes of teaching:	
Teaching and learning methods: Lectures, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	40 points	Final exam 60 points	
Participation in lectures	6	Practical exam	30
Participation in practicals	28	Oral exam	30
Mid-term test (s)	6		
Seminars			
Other			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Endodontics				
Course Leader (Name, middle letter, surname): Violeta S. Petrović				
Course status (compulsory/elective): Compulsory				
ECTS: 11		Year of the study: V/ 9th and 10th semesters		
Entry requirements (examinations passed in previous years)		Course code: ST27ENDO		
<p>Objectives of the course: To acquire the knowledge and skills necessary for the independent diagnosis and treatment of teeth with diseased pulp and apical periodontium, using appropriate methods, materials, and instruments in contemporary endodontics.</p>				
<p>Outcomes of the course: After completing this course, the students should be able to:</p> <ul style="list-style-type: none"> - independently perform necessary diagnostic procedures to establish the diagnosis of pulp and apical periodontium diseases, - independently develop a treatment plan for diseases of the pulp and apical periodontium, - explain and independently carry out the treatment of vital pulp diseases on teeth with simple root canal systems, - explain and independently carry out the treatment of non-vital pulp diseases and diseases of the apical periodontium (endodontic treatment of infected root canals) on teeth with simple canal systems, - identify the indications for the use of inter-appointment medicaments and perform canal medication, - explain and perform definitive root canal obturation using modern materials and techniques, - explain errors and complications that may occur during endodontic therapy and analyze treatment options, - establish the indication for endodontic retreatment and surgical treatment of periapical lesions - explain techniques and agents used for bleaching non-vital teeth and critically evaluate their effects, - explain and analyze the basic principles and perform the restoration of endodontically treated teeth, - classify and describe traumatic dental injuries and analyze the possible therapeutic approaches, - describe the clinical presentation of emergency conditions and explain the principles of their management 				
<p>Contents of the course: Infection control in endodontics. Pain in endodontics. Diagnosis and differential diagnosis of symptomatic and asymptomatic diseases of the dental pulp and apical periodontium. Radiographic assessment of apical periodontium diseases. Endo-periodontal lesions. Endodontic treatment of symptomatic and asymptomatic diseases of pulp and apical periodontium. Pharmacotherapy in endodontics. Management of deep caries and the exposed pulp. Emergency endodontic treatments. Root canal system obturation. Internal and external root resorption. Dental traumatology. Errors and complications during endodontic treatment. Endodontic retreatment. Healing after endodontic therapy. Surgical treatment of periapical lesions. Odontogenic tumors. New technologies and technical advancements in endodontics. Bleaching of non-vital and endodontically treated teeth. Reconstruction of endodontically treated teeth. Endodontic treatment in patients with chronic diseases. During the practical part of the course, students will perform endodontic treatment of vital and non-vital pulp on teeth with simple root canal systems.</p>				
<p>Recommended literature: Bergenholtz G, Horsted-Bindslev P, Reit C. Endodontology. 2. edition; Wiley-Blackwell; 2011. Pages 1-369.</p>				
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.</p>				
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 60	
Lectures: 30	Practicals: 135	Other modes of teaching: Research paper:		
Teaching and learning methods: lectures and practical classes				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	20
Participation in practicals	28		Oral exam	40
Mid-term test (s)	6			
Seminars				
Other				

Elective courses – 5th year

- 2715_01 Root Canal Obturation - Obturation Techniques and Materials*
- 2715_02 Rotary Instruments in Endodontics*
- 2715_03 Treatment Planning for Chronic Periapical Inflammatory Lesions*
- 2715_04 Root Canal Chemical Treatment During Endodontic Therapy*
- 2715_05 Pain Management in Endodontics*
- 2715_06 Visualization Methods in Endodontics*
- 2715_07 Calcium Silicate Cements in Endodontics*
- 2715_08 Irrigation Systems and Endodontic Protocols*
- 2715_09 New Technologies in the Prevention and Arrest of Hard Dental Tissue Lesions*
- 2715_10 Dental Care for Children with Medical Risks*
- 2715_11 Dental Treatment of Patients with Special Care Needs*
- 2715_12 Child Abuse and Neglect*
- 2715_13 Traumatic dental injuries in children*
- 2715_14 Complex Surgical Treatment of Jaw Cysts*
- 2715_15 Periapical Microsurgery*
- 2715_16 Radiographic Techniques in Oral Surgery*
- 2715_17 Complex Surgery of Impacted Teeth*
- 2715_18 Medically Compromised Patients in Oral Surgery*
- 2715_19 Complex Therapy of Odontogenic Infections*
- 2715_20 Pain Control Using Special Anesthesia Techniques in Oral Surgery*
- 2715_21 Biomaterials in Regenerative Periodontal Treatment*
- 2715_22 Gingival Recessions*
- 2715_23 Tissue Engineering in Periodontology*
- 2715_24 Specific Forms of Fixed Dental Restorations*
- 2715_25 Esthetic Principles of Dental Restorations*
- 2715_26 Ceramic Systems in Prosthodontics*
- 2715_27 Zirconia in Prosthetic Dentistry*
- 2715_28 Orofacial Pain in Prosthodontic Patients*

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Root Canal Obturation - Obturation Techniques and Materials				
Course Leader (Name, middle letter, surname): Marijana R. Popović Bajić				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code: 2715_01	
Objectives of the course: To acquire knowledge of bio-physical properties of various types of root canal sealers and methods of root canal obturation.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - explain and analyze biophysical properties of root canal sealers (including their advantages and disadvantages) - select the appropriate root canal sealer based on the specific endodontic pathology (inflammatory resorption) and planned permanent restoration - develop a plan for root canal obturation and choose the most suitable obturation methods - perform application of root canal sealers according to clinical protocols - explain and perform the compaction techniques of cold and warm gutta percha cones (highlighting advantages and disadvantages) - plan the use of cement or paste-based root canal sealers for obturation of single- and multiple- root canal systems - evaluate the need for apicoectomy following endodontic therapy - understand the options for final crown restoration after endodontic treatment - analyze and monitor the outcomes of endodontic therapy 				
Contents of the course: Biophysical properties of conventional and novel root canal sealers (advantages and disadvantages); Types of sealers; Sealer placement; Core materials; Methods of obturation (lateral compaction, warm vertical compaction, thermoplastic injection technique, carrier based guttapercha-thermafil, thermomechanical compaction, solvents, monocone gutapercha with greater conicity); Type of sealers and methods of obturation depending on the type of restoration of endodontic treated teeth; Monitoring endodontic treatment outcomes.				
Recommended literature: <ol style="list-style-type: none"> 1. Cohen S. Hargreaves K.M. Pathways of the pulp. Mosby Elsevier, 9th ed St. Louis, 2009. (358-400). 2. Bergenholtz G, Horsted-Bindslev P, Reit C. Textbook of Endodontology, 2nd ed. Wiley-Blackwell, UK, 2010.(277-289). 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, interactive discussions on an assigned topic or through a case presentation.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Oral defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Rotary Instruments in Endodontics			
Course Leader (Name, middle letter, surname): Milica S. Jovanović-Medojević			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: V/10th semester	
Entry requirements (examinations passed in previous years):		Course code: I27_5_02	
Objectives of the course: To provide students with knowledge and practical skills for applying root canal preparation concepts using different systems of mechanical endodontic instruments.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • explain the basic characteristics of mechanical NiTi instruments; • select an appropriate set of mechanical NiTi instruments for a given clinical indication; • apply the basic concept of root canal preparation using mechanical NiTi instruments; • recognize potential problems and complications during the use of mechanical endodontic instruments. 			
Contents of the course: <ul style="list-style-type: none"> • Fundamentals of mechanical instrumentation – physical and mechanical properties of instruments, principles of root canal preparation. • Classification of mechanical instruments – rotary and reciprocating systems, different types of NiTi instruments. • Principles of clinical use – proper handling, selection of instrument systems, safety, and prevention of complications. • Comparative analysis of systems – advantages and disadvantages of different NiTi systems, indications and contraindications for clinical application. • Clinical protocol – canal preparation protocol, glide path establishment, prevention of instrument fracture, and management of complications. 			
Recommended literature: <ol style="list-style-type: none"> 1. Haapasalo M, Shen Y. Evolution of nickel-titanium instruments: from past to present. <i>Endod Topics</i>. 2013;29(1):3–17. 2. Gavini G, dos Santos MD, Caldeira CL, Machado MEL, Freire LG, Iglecias EF, Peters OA, Candeiro GTA. Nickel-titanium instruments in endodontics: a concise review of the state of the art. <i>Braz Oral Res</i>. 2018;32(Suppl 1):e67. 3. Peters OA, Arias A. Mechanical root canal preparation. <i>Br Dent J</i>. 2022;232(9):657–666. 4. European Society of Endodontology. European Society of Endodontology positionstatement: mechanical instrumentation of root canals. <i>Int Endod J</i>. 2023;56(2):151–165. 5. Grande NM, Castagnola R, Minciacchi I, Marigo L, Plotino G. A review of the latest developments in rotary NiTi technology and root canal preparation. <i>Aust Dent J</i>. 2023;68(1):24–38. 6. Živković S, Jovanović-Medojević M, Nešković J, Popović-Bajić M. Nickel-titanium files in endodontics: development, improvement and modifications of nickel-titanium alloy. <i>Vojnosanit Pregl</i>. 2023;80(3):262–9. 7. Ohri K, Chien PY-H, Peters OA. The biomechanics of nickel titanium instrument fracture in root canal therapy: a narrative review. <i>Materials</i>. 2024;17(24):6147. 8. Lup VM, Malvicini G, Gaeta C, Grandini S, Ciavoi G. Glide path in endodontics: a literature review of current knowledge. <i>Dent J (Basel)</i>. 2024;12(8):257. 9. Srivastava S. Root canal instrumentation: current trends and future perspectives. <i>Cureus</i>. 2024;16(4):e58045. 			
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 15
Lectures:15	Practicals:	Other modes of teaching:15	
Research paper:			
Teaching and learning methods: Small-group work, seminars and interactive discussions			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of the selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Treatment Planning for Chronic Periapical Inflammatory Lesions				
Course Leader (Name, middle letter, surname): Jelena Z. Nešković				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code: I_5_03	
Objectives of the course: To gain knowledge of the etiology of chronic periapical inflammatory lesions, clinical symptoms, and characteristics of these lesions, including new concepts and treatment protocols for root canal disinfection and therapy.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -diagnose the disease -perform biomechanical instrumentation of root canal infection -use irrigation techniques and medications for infected root canal -perform definitive root canal obturation using new materials based on calcium silicate cement.				
Contents of the course: - Classification of chronic periapical inflammatory lesions; Etiology and pathogenesis of the disease; - Diagnosis and differential diagnosis of chronic inflammatory lesions; - Biomechanical instrumentation and selection of instruments for root canal preparation; - Methodology, irrigating solutions, and medications for infected root canals; - Calcium silicate cements for definitive root canal obturation.				
Recommended literature: 1. Bergenholtz G, Horsted-Bindslev P, Reit C. Textbook of Endodontology, 2nd eds, Wiley-Blackwell, Chichester, UK, 2010. pages: 113-156; 193-216; 235-253 2. P.N.R. Nair Pathogenesis of apical periodontitis and causes of endodontic failures. Crit Rev Oral Biol Med 2004; 15(6):348-381 3. Hargreaves HM, Cohen S. Cohen's pathways of the pulp. St. Louis: Mosby Elsevier; 2011. pages. 2-33; 209-280; 599-630; 630-660. 4. Berzins DW. Chemical properties of MTA. Y: Torqbinejad M, editor. Mineral trioxide aggregate : properties and clinical applications. Ames, Iowa: John Wiley & Sons; 2014. pages. 17-36.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Professional practice encompasses supervised practical work with the aim of fostering student's practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals			Practical exam	
Mid-term test(s)			Oral exam	
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Root Canal Chemical Treatment During Endodontic Therapy				
Course Leader (Name, middle letter, surname): Ivana L. Milanović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_04		
Objectives of the course: To introduce students to current concepts in the chemical preparation of root canals during endodontic therapy.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe the properties of agents used for the chemical preparation of the root canal system - Understand the concentrations and dosages of agents used for chemical root canal preparation - Differentiate between techniques and methods of root canal irrigation and decalcification - Distinguish final irrigation protocols depending on the obturation material used - Recognize preventive measures to avoid complications during chemical root canal preparation, as well as the management of potential complications 				
Contents of the course: The importance of disinfection and the removal of organic and inorganic contents from the root canal system. Properties and mechanisms of action of various agents used for chemical root canal preparation. Techniques and methods for root canal irrigation. Irrigation protocols and management of complex or difficult-to-negotiate root canal systems.				
Recommended literature:				
1. Bergholtz G, Horsted-Bindslev P, Reit C. Textbook of Endodontology, 2nd eds, Wiley-Blackwell, Chichester, UK, 2010. pp. 147-150				
2. Cohen's Pathways of the Pulp. St. Louis: Mosby Elsevier; 2016. pp. 249–265.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Oral presentation of a paper on a selected topic.	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Pain Management in Endodontics				
Course Leader (Name, middle letter, surname): Jugoslav M. Ilić				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code: 2715_05	
Objectives of the course: To acquire knowledge of the biological background of odontogenic and non-odontogenic orofacial pain, the multidimensional nature of pain, the importance of pain symptoms in endodontic diagnosis, and clinical procedures in successful preoperative and postoperative pain management in endodontic procedures.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - describe anatomical and pathophysiological background of orofacial pain - differentiate between the pain of endodontic origin and other types of orofacial pain - associate the type of pain with pathological processes in the dental pulp and periapical dental tissues - explain anaesthetic procedures and medicaments used in endodontics - determine appropriate anaesthesia for endodontic procedures - describe analgesic procedures in endodontics - determine the need for anxiolytic premedication for endodontic treatment - plan the pain-management strategy for a particular clinical situation 				
Contents of the course: Pain definitions; classification of pain and pain types; the multidimensional nature of pain; the importance of pain symptoms in endodontic diagnosis; types of anaesthesia; techniques for appropriate anaesthesia in endodontics; failure of anaesthetic procedure; postoperative endodontic pain; analgesics in endodontics; the use of anxiolytics in endodontic pretreatment; sedation and general anesthesia in endodontics; pain-management strategies for different clinical situations.				
Recommended literature: <ol style="list-style-type: none"> 1. Närhi M. Dentinal and pulpal pain. In: Textbook of endodontology. Bergenholtz G, Horsted-Bindslev P, Reit C. Wiley Blackwell, Chichester, UK, 2010. Pages 33-46. 2. Eli I and Svensson P. The multidimensional nature of pain. In: Textbook of endodontology. Bergenholtz G, Horsted-Bindslev P, Reit C. Wiley Blackwell, Chichester, UK, 2010. Pages 277-289. 3. Keiser K, Byrne BE. Endodontic pharmacology. In: Hargreaves HM, Cohen S. Cohen’s pathways of the pulp. Mosby Elsevier, St. Louis, 2011. Pages: 671-690. 4. Reader AW, Nusstein JM, Khan A. Pain control. In: Hargreaves HM, Berman LH, Cohen S. Cohen’s pathways of the pulp. St. Louis: Elsevier; 2016. Pages. 90-129. 5. Schuh CMAP, Benso B, Aguayo S. Potential Novel Strategies for the Treatment of Dental Pulp-Derived Pain: Pharmacological Approaches and Beyond. Front Pharmacol. 2019;10:1068. 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students’ practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Visualization Methods in Endodontics				
Course Leader (Name, middle letter, surname): Katarina R. Beljić-Ivanović				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I5_06	
Objectives of the course: To introduce students to all techniques and means for better and more precise diagnostics, therapy plan, follow-up after an endodontic treatment of the pulp and apical tissue diseases, and the armamentarium for illumination and magnification.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - demonstrate knowledge of the advantages and disadvantages of radiographic diagnostic means and techniques; - differentiate between 2D and 3D radiographs and indications for their use; - demonstrate knowledge of the basics of analysing 3D images and their significance in endodontics; - demonstrate knowledge of the fundamental parts of an operating microscope and methods for its clinical use				
Contents of the course: Classification and definition of 2D radiographic extraoral and intraoral techniques with their specific application and use in endodontics. 3D extraoral radiographic methods with detailed analysis of teeth, surrounding anatomical structures and pathological processes. Presentation of equipment and means for magnification and illumination of the working field: magnification glasses, operating microscope, endoscope and their significance in clinical practice.				
Recommended literature: 1. Bergenholtz G et al. Textbook of Endodontology, 2nd eds, Wiley- Blackwell, Chichester, UK, 2013. pp.163-169. 2. Patel S, Durack C, Abella F, Shemesh H, Roiq M, Lemberg K: Cone Beam Computed Tomography in Endodontics – A review. Int Endod J, 2015; 48(1): 3-15. 3. Beljic-Ivanovic K: Diagnosis and management of a rare case of a maxillary second molar with two palatal roots supported by conventional radiographs and CBCT. Cone Beam, 2015; 2: 26-29.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Teaching and learning methods: Small-group work, analysis of intra and extraoral radiographs, presentation of photographs from microscope and endoscope, seminars, interactive discussions, presentation and analysis of clinical situations and cases.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)	20			
Seminars	20			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Calcium Silicate Cements in Endodontics				
Course Leader (Name, middle letter, surname): Violeta S. Petrović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_07		
Objectives of the course: To acquire knowledge of the composition, properties and clinical application of calcium silicate cements and sealers used in endodontic therapy of teeth.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe the composition and setting reactions of calcium silicate cements and sealers and explain how the setting mechanism influences the physicochemical and biological properties of the materials, - Explain the significance of biological properties for clinical use of the materials, - Identify the differences in the composition and properties of various commercial calcium silicate cements and sealers, - Identify the indications for application of these materials and describe the procedure according to the indications, - Critically analyze the advantages of calcium silicate cements and sealers compared to traditional materials 				
Contents of the course: Composition of dental calcium silicate cements and sealers; setting reactions, setting time; physicochemical properties; biocompatibility and bioactivity; disadvantages; differences in the composition of various commercial cements (MTA, Biodentin) and sealers; indications for clinical use; instruments for material application in specific indications; advantages of calcium silicate cements and sealers compared with traditionally used materials.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Recommended literature: <ol style="list-style-type: none"> 1. Camilleri J. Mineral trioxide aggregate in Dentistry. Berlin: Springer ;2014. Pages 1-214. 2. Hargreaves HM, Cohen S. Cohen' pathways of the pulp. Mosby Elsevier, St. Louis; 2016. Pages 376-377, 421-422, 462-464, 468-471, 587-588, 766. 3. Donnermeyer D, Dammaschke T, Schäfer E. Hydraulic calcium silicate -based sealers: a game changer in root canal obturation.? ENDO EPT 2020;14(3):197-203. 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals: 15	Other modes of teaching :	Research paper:	
Teaching and learning methods: The course is organized as interactive work in a small group and includes brief theoretical introduction by the teacher, individual student reports on specific topics based on analyzed literature, and group discussions on these topics.				
Assessment (maximum number of points: 100)				
Pre-exam requirements		Total 40 points	Final exam 60 points	
Participation in lectures			Oral defense of the selected topic	60
Participation in practicals			Practical exam	
Mid-term test(s)			Oral exam	
Seminars		40		
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Irrigation Systems and Endodontic Protocols				
Course Leader (Name, middle letter, surname): Vanja N. Opačić-Galić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):/		Course code: 2715_08		
Objectives of the course: To acquire knowledge of the importance of protocols and irrigation during root canal preparation and permanent canal obturation, including the role of irrigants during pulp therapy complications.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe the irrigants used for endodontic therapy - Demonstrate knowledge of the mechanisms of their action - Demonstrate knowledge of irrigant activation for more effective results - Choose the appropriate combination of irrigants to address specific therapeutic problems - Demonstrate knowledge of the side effects of irrigating agents 				
Contents of the course: Irrigants in everyday endodontic practice, their mechanisms of action, indications and contraindications for their use. Interactions between irrigants. Contemporary ways of irrigants activation. Benefits of removing debris, biofilm or medicaments before definitive root canal system obturation. Alternative irrigants (phytotherapy). Benefits of irrigation in the cleaning phase and shaping the canal system in uninfected cases and especially in cases of infected root canals and their complications.				
Recommended literature: <ol style="list-style-type: none"> 1. Bergenholtz G, Horsted-Bindslev P, Reit C. Textbook of Endodontology. Second edition. Wiley-Blackwell 2010. Chapter 6: pages 95-112; Chapter 9: pages 140-159. 2. GH Haapasalo, Shen Y, Wang Z., Gao Y. Irrigation in endodontics. Br Dent J. 2014;216(6):299-303 3. Darcey J, Jawad S, Taylor C, Roudsari RV, Hunter M. Modern Endodontic Principles Part 4: Irrigation. Dent Update 2016;43(1):20-22, 25-26,28-30. 4. LH Berman, KM Hargreaves. Cohen's Pathways of the pulp. Twelfth edition, Elsevier, St. Louis, Missouri 2021; Chapter 8: pages 270-281; Chapter 15: pages 585-618 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: New Technologies in the Prevention and Arrest of Hard Dental Tissue Lesions	
Course Leader (Name, middle letter, surname): Jelena Č. Mandić	
Course status (compulsory/elective): Elective	
ECTS: 3	Year of the study: V/10th semester
Entry requirements (examinations passed in previous years):	Course code: 2715_09
<p>Objectives of the course: To acquire knowledge of potential applications of contemporary technologies and modern pharmacotherapeutic systems in the prevention and treatment of hard dental tissues.</p>	
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • Demonstrate comprehensive knowledge of contemporary approaches to reversing the caries process by arresting demineralization and promoting remineralization. • Select appropriate and modern clinical protocols and pharmacological agents for the prevention and treatment of dental caries, dental erosion, and tooth abrasion. • Explain potential applications of bioactive slow-release systems, such as the Slow-Release Fluoride Device, as well as mineral calcium phosphate bioactive systems (CPP-ACP). • Recognize the clinical application of contemporary non-invasive technological procedures, including Er:YAG and Nd:YAG lasers, HealOzone therapy, and the ICON resin infiltration system. • Identify the clinical use of modern minimally invasive techniques used for removal of superficially damaged dental hard tissues, including air abrasion and ultrasonic methods. 	
<p>Contents of the course: Identification of local and systemic factors relevant to the progression of demineralization and remineralization processes; specific characteristics of protocols for the prevention and early treatment of dental caries, erosion and tooth abrasion; particular considerations in the application of selected bioactive therapeutic systems for arresting carious lesions; and specific aspects of contemporary technological procedures in the management of carious lesions.</p>	
<p>Literature:</p> <ul style="list-style-type: none"> – Lee YE, Baek HJ, Choi YH, Jeong SH, Park YD, Song KB. Comparison of remineralization effect of three topical fluoride regimens on enamel initial carious lesions. <i>Journal of Dentistry</i>. 2010;38(2): 166-171. DOI: 10.1016/j.jdent.2009.10.002 – Amaechi BT, Tan AI, Noureldin AAK, Kanthaiah K, Holladay E, Obiefuna AC, Vijayaraghavan M. In vitro evaluation of the ability of nanohydroxyapatite toothpastes to enhance remineralization of enamel caries lesion.. <i>J Dent</i>. 2025 Oct; 161:1060006. Doi: 10.1016/j.jdent.2025.106006. Epub 2025 – Toumba KJ, Al-Ibrahim NS, Curzon ME. A review of slow-release fluoride devices. <i>European archives of paediatric dentistry</i>. 2009;10(3): 175-182. – Fabio Cocco, Claudia Salerno, Richard Johannes Wierichs, Thomas Gerhard Wolf, Antonella Arghittu, Maria Grazia Cagetti, Guglielmo Campu · Hydroxyapatite-Fluoride Toothpastes on Caries Activity: A Triple-Blind Randomized Clinical Trial. <i>Int Dent J</i>. 2025 Apr;75(2):632-642. – Elsayad I, Sakr A, Badr Y. Combining casein phosphopeptide-amorphous calcium phosphate with fluoride: synergistic remineralization potential of artificially demineralized enamel or not? <i>Journal of biomedical optics</i>. 2009;14(4): article No. 044039. DOI: 10.1117/1.3210780 – Eman M Sadek; Ahmed A Holiel. Next-Generation Strategies for Enamel Repair and Regeneration: Advances in Biomaterials and Translational Challenges. <i>Tissue Eng Regen Med</i>. 2025 Aug;22(6):771-789. – Banerjee A, Thompson ID, Watson TF. Minimally invasive caries removal using bioactive glass air-abrasion. <i>J Dent</i>. 2011; 39(2): 2-7. DOI: 10.1016/j.jdent.2010.09.004 – Lynch E, Swift EJ. Evidence-based caries reversal using ozone. <i>J Esthet Restor Dent</i>. 2006;20(4): 218-221. DOI: 10.1111/j.1708-8240.2008.00183.x – White JM. Ablation rate, caries removal and restoration using Nd:YAG and Er:YAG lasers and air abrasion. <i>J Adhe Dent</i>. 2011;13(1): 7-22. DOI: 10.1117/12.306013 	
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.</p>	
Total number of contact classes (active teaching and learning):	

Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	Professional practice/ independent learning: 15
Teaching and learning methods: The course is conducted in small groups and follows an interactive format, combining brief theoretical introductions by the instructor with independent student presentations on assigned topics to the group, based on prior analysis of relevant literature, and followed by the preparation of a seminar paper and a structured discussion. Assessment is conducted in the form of a seminar paper.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written resolution of a clinical case scenario	60	
Participation in practicals				
Mid-term test(s)				
Seminars				
Other	40			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Dental Care for Children with Medical Risks			
Course Leader (Name, middle letter, surname): Olivera M. Jovičić			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: : V / 10th semester	
Entry requirements (examinations passed in previous years):		Course code: 2715_10	
Objectives of the course: To acquire knowledge of the prevention of oral diseases in patients with medical risks, including the specifics of their dental management.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Recognize the oral manifestations of various systemic diseases - Define the risks and specifics of dental care for patients with medical risks - Make a selection of preventive and prophylactic measures according to the basic diagnosis and individual characteristics of the patient - Define specific dental therapeutic measures and code of procedure in patients with medical risks - Develop a plan and define priorities in dental care of patients with medical risks - Selects the most appropriate method of dental care of patients with medical risks			
Contents of the course: Definition, type and classification of various diseases and syndromes in terms of medical risks, the impact of the primary disease on oral health, the impact of impaired oral health on primary disease, appearance of developmental anomalies of the teeth and orofacial system in patients with medical risks, determining a dental care plan, patient premedication, specifics of performing different dental procedures, risks and precautions in the postoperative period.			
Recommended literature: 1. Cameron CA, Widmer PR et al. Medically compromised children. In: Handbook of pediatric dentistry. Mosby, Third edition 2008; 279-338 2. American Academy of Pediatric Dentistry Clinical Affairs Committee; American Academy of Pediatric Dentistry Council on Clinical Affairs 2005–2006. Guideline on dental management of pediatric patients receiving chemotherapy, hematopoietic cell transplantation, and/or radiation. Pediatric Dentistry 27(7 ReferenceManual):170–175 3. Nylund KM, Meurman JH, Heikkinen AM, Furuholm JO, Ortiz F, Ruokonen HM. Oral health in patients with renal disease: a longitudinal study from predialysis to kidney transplantation. Clinical Oral Investigations. 2018; 22(1):339-47. 4. Uutela P, Passweg J, Halter J, Weiger R, Waltimo T, Mauramo M. Common oral diseases in allogeneic haematopoietic stem cell transplantation (HSCT) recipients pre-HSCT. Eur J Haematol. 2019; 102(4):351-356 5. Osiak M, Szubinska-Lelonkiewicz D, Wychowanski P, Karakulska-Prystupiak E, Jedrzejczak W, Wojtowicz A, Fiedor P. Frequency of Pathologic Changes in the Oral Cavity in Patients Subjected to long-term Pharmacologic Immunosuppressive Therapy After Kidney, Liver, and Hematopoietic Cell Transplantation. Transplantation Proceedings. 2018; 50(7):2176-2178 6. Wilson W, Taubert KA, Gewitz M et al. Prevention of infective endocarditis. Prevention of infective endocarditis: Guidelines from the American Heart Association. A guideline from the American Heart Association Rheumatic Fever, Endocarditis and Kawasaki Disease Committee, Council on Cardiovascular Disease in the Young, and the Council on Clinical Cardiology, Council on Cardiovascular Surgery and Anesthesia, and the Quality of Care and Outcomes Research Interdisciplinary Working Group. Journal of the American Dental Association 2007. 138:739–760. 7. Harris NO, Garcia Godoy F, Nathe CN. Primary Preventive Dentistry. 8th ed. Pearson; 2021. ISBN 9780137518524			
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and developing an appropriate attitude toward patients.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Dental Treatment of Patients with Special Care Needs			
Course Leader (Name, middle letter, surname): Markovic Lj. Dejan			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):		Course code: 2715_11	
<p>Objectives of the course: To enable students to provide urgent treatment and develop an adequate attitude toward dental patients with special care needs. The aim is to eliminate stigmatization and improve dental care for patients with special care needs, including preventive, prophylactic, and therapeutic interventions and procedures needed. To acquire sufficient knowledge in order to ensure appropriate decision-making and developing the most suitable individual treatment plans, while involving behavioral management, sedation, or GA dental treatment.</p>			
<p>Outcomes of the course: After completing the course, students should be able to demonstrate knowledge of:</p> <ul style="list-style-type: none"> - The epidemiological and socio-economic profile of patients with special care needs in a population - The most common disabilities - Communication skills needed for a dental treatment of patients with disabilities - Medical aspects of a dental treatment of patients with special care needs - Oral pathology in patients with special care needs - The dental care of patients with special care needs, including preventive, prophylactic, and therapeutic procedures needed. 			
<p>Contents of the course: The relevance of the course. Description of the most common oral pathologies in patients with special care needs. Developing and improving communication skills with patients with special care needs during the preparation for dental treatment and throughout the dental procedure. Preventive and prophylactic procedures in patients with special care needs – the importance of proper oral hygiene. Behavioral management. Premedication and sedation. Dental treatment under GA. Case reports.</p>			
<p>Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.</p>			
<p>Recommended literature: Dental Care of the Medically Complex Patient, By Peter B. Lockhart, June H. Nunn, John G. Meechan. Published 2004 Elsevier Health Sciences.</p>			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	
		Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals	20	Practical exam	/
Mid-term test(s)		Oral exam	/
Seminars			
Other activity during classes: consultations, analysis of clinical cases and analysis of relevant literature	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Child Abuse and Neglect				
Course Leader (Name, middle letter, surname): Jelena T. Juloski				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V/ 10th semester	
Entry requirements (examinations passed in previous years):			Course code: 2715_12	
Objectives of the course: To introduce students to definitions of child abuse and neglect, present the basic forms and indicators of child abuse and neglect, describe the process of protecting children from abuse and neglect in the healthcare system, assess the risk of abuse and neglect, and emphasize the role and importance of the (pediatric) dentist in the prevention and protection of children from abuse and neglect.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • recognize children who are victims of abuse and neglect; • recognize signs and symptoms of oral (dental) child neglect; • communicate with children who have been abused and neglected; • create appropriate medical documentation of abuse and neglect; • refer abused and neglected children to an appropriate institution. 				
Contents of the course: <ul style="list-style-type: none"> • informing students about the procedure in case of a suspicion that a child is a victim of abuse and neglect or that they may become one; • emphasizing the importance of the paediatric dentist in detecting children who are victims of neglect and abuse; • recognizing the signs and symptoms of child abuse and neglect in the orofacial region; • becoming familiar with the procedure for caring for a child (detection, diagnosis, treatment, documentation and records) in cases of suspected abuse and neglect; • defining procedures for protecting a child from further abuse and neglect; • improving the well-being of children through the prevention of abuse and neglect. 				
Recommended literature: <ol style="list-style-type: none"> 1. Harris JC, Welbury R. Safeguarding children. In: Welbury R, Duggal MS, Hosey MS (editors). Paediatric dentistry. Fourth edition. Oxford University Press 2012. Pages 371-388. 2. Kiatipi M, Davidopoulou S, Arapostathis K, Arhakis A. Dental Neglect in Children: A Comprehensive Review of the Literature. J Contemp Dent Pract. 2021 Feb 1;22(2):199-204. PMID: 34257183. 3. Oral and Dental Aspects of Child Abuse and Neglect. Pediatr Dent. 2018 Oct 15;40(6):243-249. PMID: 32074895. 4. American Academy of Pediatric Dentistry. Clinical guideline on oral and dental aspects of child abuse and neglect. Pediatr Dent. 2004;26(7 Suppl):63-6. PMID: 15656436. 5. Mele F, Introna F, Santoro V. Child abuse and neglect: oral and dental signs and the role of the dentist. J Forensic Odontostomatol. 2023 Aug 27;41(2):21-29. PMID: 37634173. 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work (brief theoretical instruction delivered by the teacher, introduction to basic topics, literature analysis); interactive discussions; individual written and oral defense of seminar papers on a selected topic.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written and oral defense of the selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	10			
Other	30			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Traumatic dental injuries in children				
Course Leader (Name, middle letter, surname): Vanja V. Petrović				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code: 2715_13	
Objectives of the course: To introduce students to the characteristics, etiology, epidemiology, prevention, and classification of injuries of the orofacial region in children, and to acquire knowledge of the diagnostics and the therapy of traumatic dental injuries.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • Conduct adequate diagnostic procedures and establish a diagnosis of a specific dental injury; • Maintain adequate medical documentation in the event of a dental injury; • Provide first aid to a child with an injury to a deciduous or permanent tooth; • Create and implement a treatment plan in the event of injury to hard dental tissues and injury to the periodontal tissue of the tooth; • Predict and recognize possible complications of dental injuries and provide adequate treatment. 				
Contents of the course: <ul style="list-style-type: none"> • Etiology, epidemiology and classification of traumatic dental injuries • Clinical examination, diagnostic methods and first aid for dental injuries • Therapy of injuries to hard dental tissues • Therapy of injuries to the periodontal tissues of the teeth • Complications of traumatic dental injuries • Presentation of the current IADT (International Association of Dental Traumatology) guide to the management of traumatic dental injuries • Prevention of traumatic dental injuries 				
Recommended literature: <ol style="list-style-type: none"> 1. R. R. Welbury and J. M. Whitworth. Traumatic injuries to the teeth. In book: Richard R. Welbury, Monty S. Duggal, Marie-T. Paediatric dentistry. Fourth edition. Oxford University Press 2012. Pages 257-294 2. Burns B, Malcolm L. A review of the IADT 2020 guidelines. Prim Dent J. 2023 Dec;12(4):22-27. doi: 10.1177/20501684231210394. PMID: 38018679. 3. Bennett R, Loo Y, Ilyas N. IADT 2020 Guidelines: What should the dental professional know? Prim Dent J. 2021 Dec;10(4):95-99. doi: 10.1177/20501684211066527. PMID: 35088633. 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work (brief theoretical instruction delivered by the teacher, introduction to basic topics, literature analysis); interactive discussions; individual written and oral defense of seminar papers on a selected topic.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written and oral defence of the selected topic	60	
Participation in practicals	10			
Mid-term test(s)				
Seminars	10			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: : Complex Surgical Treatment of Jaw Cysts				
Course Leader (Name, middle letter, surname): Miroslav M. Andrić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_14		
Objectives of the course: To acquire knowledge of the complex procedures used in the treatment of large jaw cysts which jeopardize the adjacent anatomical structures in order to avoid injury of these structures and to ensure successful regeneration of bone tissue.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - establish a diagnosis of the jaw cyst based on radiograms, - determine whether there is a risk of injury of adjacent anatomical structures and how the injury can be avoided - make a treatment plan for each type of jaw cysts - describe the therapeutic procedure for removal of jaw cysts - recognize possible complications and the methods for avoiding or minimizing them 				
Contents of the course: Diagnosis of jaw cysts based on radiogram analysis; characteristics of different jaw cysts; differential diagnosis with respect to other cystic lesions; literature review; methods and techniques used in the treatment of jaw cysts; complete procedures of different techniques for the enucleation and decompression of jaw cysts; development of a therapy plan; identifying the risk of injury to adjacent anatomical structures; identifying the risk of intraoperative and postoperative complications; monitoring of postoperative healing in order to diagnose relapse.				
Recommended literature: 1. Ellis E. Surgical management of oral pathologic lesions. In: James R Hupp, Edward Ellis III, Myron R Tucker: „Contemporary Oral and Maxillofacial Surgery", Mosby Elsevier, 2008, St.Louis, pp: 449-459				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Oral presentation of essay	40
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Periapical Microsurgery				
Course Leader (Name, middle letter, surname): Božidar M. Brković				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V/ 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_15		
Objectives of the course: To acquire clinical knowledge of the microsurgery approach to the treatment of chronic periapical lesions, microscopic and microsurgical techniques, and the application of biomaterials for surgical root canal obturation.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Explain the use of CBCT in diagnosing periapical and endo-periodontal lesions - Recognize the indications for periapical microsurgery and types of magnification during surgical work - Relate the success of the results achieved to the application of microsurgical approach - Explain the periapical microsurgical procedure and techniques used - Select the appropriate approach to choosing materials for retrograde or orthograde root canal obturation - Develop an effective surgical plan for microsurgical therapy of periapical and endo-periodontal lesions 				
Contents of the course: The definition of the term and the importance of periapical surgery, the importance and type of the microsurgical approach in periapical surgery and techniques used, diagnosis of periapical and endo-periodontal lesions using the CBCT technique, selection of magnification in the course of surgical treatment, microsurgical instruments and characteristics of biomaterials in the orthograde and retrograde root canal treatment.				
Recommended literature: <ol style="list-style-type: none"> 1. Crossen D et al. Periapical microsurgery. A 4-dimensional analysis of healing pattern. J Endod 2019,45:402-405. 2. Monaghan L et al. Endodontic microsurgery. Part one: diagnosis, patient selection, and prognoses. Br Dent J 2019,226:940-948. 3. Jadun S et al. Endodontic microsurgery. Part two: armamentarium and technique. Br Dent J 2019,227:101-111. 4. Floratos S, Kim S. Modern endodontic microsurgery concepts: A clinical update. Dent Clin North Am 2017,61:81-91. 5. Kim S, Kratchman S. Microsurgery in endodontics. John Wiley & Sons, Inc. 1st ed. 2017. 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures				
Participation in practicals				
Mid-term test(s)			60	
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Radiographic Techniques in Oral Surgery				
Course Leader (Name, middle letter, surname): Branislav B. Ilić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_16		
Objectives of the course: To introduce students to contemporary three-dimensional radiographic techniques used in the clinical practice of oral surgery.				
Outcomes of the course: After completing the course, students should be able to: - Describe radiographic techniques used in oral surgery - Implement principles of radiation protection - Establish the indications for radiographic examination in oral surgery - Recognize radiographic features of common oral pathology - Interpret radiographic findings in the context of other diagnostic methods.				
Contents of the course: Radiographic techniques, MSCT and CBCT, principles of radiation protection, selection of appropriate radiographic techniques, radiographic features of inflammatory, developmental and neoplastic diseases of the oral and maxillofacial region, radiographic planning of surgery – extraction of impacted teeth, odontogenic cysts and tumors, placement of dental implants, radiographic follow-up after the removal of cysts and tumors, dental implant placement, reconstructive procedures.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: T. A. Larheim, P-L. Westesson: Maxillofacial Imaging, Berlin: Springer; 2006. pp. 1-85; 119-141; 179-197; 267-307				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Complex Surgery of Impacted Teeth				
Course Leader (Name, middle letter, surname): Bojan M. Gačić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_17		
Objectives of the course: To acquire knowledge of the diagnostics, surgical techniques used for extracting impacted teeth, and intraoperative and postoperative complications and their resolution.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Recognize the symptomatology associated with impacted teeth - Evaluate the ability of the tooth to fit into the dental string - Evaluate the relationship of impacted teeth to adjacent anatomical structures by radiographic examination - Establish an indication for the extraction of an impacted tooth - Plan the approach and type of incision for the intervention - Explain the possibility of complications to the patient - Introduce the patient to the rules of behavior in the postoperative course. 				
Contents of the course: Definition of impacted teeth; causes of tooth loss; indications and contraindications for extraction of impacted teeth; radiographic diagnosis of impacted teeth; classification of impacted teeth; surgery planning; selection of incisions for extraction of impacted teeth; types of sutures in surgery of impacted teeth; intraoperative complications; postoperative complications; postoperative care of patients.				
Recommended literature: James R Hupp, Edward Ellis III, Myron R Tucker: „ Contemporary Oral and Maxillofacial Surgery", Mosby, Inc., Principles of management of impacted teeth (153-179 p.)				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Medically Compromised Patients in Oral Surgery				
Course Leader (Name, middle letter, surname): Ljiljana G. Stojčev Stajčić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_18		
Objectives of the course: To enable students to recognize the need to verify the increasing number of patients at risk, the impact of general health on the course of surgery, and the importance of adequate preparation for the safe performance of oral surgical procedures.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - Fully recognize any changes in a patient's general condition that contribute to the patient being classified as a patient at risk when it comes to performing an oral surgery - Determine the type of preparation adequate for individual patients - Select safe and appropriate medications, local anesthesia techniques, and adequate local anesthetic solutions for each patient - Refer the patient to a competent specialist for additional preparation when adequate preoperative preparation cannot be achieved to ensure safe dental procedures.				
Contents of the course: Contemporary complex therapeutic modalities for the treatment of various systemic diseases; the effects of new drugs on the physiological processes of wound healing in the mouth; the impact of new drugs on the physiological processes of hemostasis; the impact of new antiresorptive drugs on the jawbone tissue; the impact of new chemotherapy drugs on all tissues of the oral cavity; implementing new basic therapy protocols for patients to prepare for dental interventions;				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: 1.Scully C.: Oral and Maxillofacial medicine. Churchill Livingstone Elsevier, 2012. 2.Hupp JR, Ellis E, Tucker MR.: Oral and Maxillofacial surgery. Elsevier Mosby 2014.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic		60
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Complex Therapy of Odontogenic Infections				
Professor in charge (Name, middle initial letter, surname): Snježana B. Čolić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V/10th semester		
Entry requirements (examinations passed in previous years):/		Course code: 2715_19		
Objectives of the course: The aim of this course is to expand students' knowledge of the causes, diagnostics, and therapy of odontogenic infections. In particular, different types of infections, the possibility of their spread to adjacent anatomical spaces, symptomatology, clinical picture, laboratory findings and therapy will be discussed. Students will be introduced to different types of medical and surgical therapy.				
Outcome of the course: After completing the course and passing the exam, the student should be able to: - Diagnose odontogenic infection - Make a differential diagnosis in relation to other conditions and diseases in the mouth - Determine the degree of development and severity of odontogenic infection - Develop a treatment plan based on clinical examination and analysis of radiological and laboratory findings				
Content of the course: Anatomy of the dentoalveolar region Causative agents of dentogenic infections Risk factors for the development and spread of infection Patients at risk Diagnosis of dentogenic infections Analysis of X-ray images with special reference to the analysis of CBCT images Therapeutic modalities for the treatment of dentogenic infections				
Recommended literature: 1. Richard G Topazzian, Morton H Goldberg, James R Hupp, Oral and Maxillofacial infection, 4th edition, Saunders, 2002 ISBN 13: 978-0721692715 2. Hupp JR, Ellis E, Tucker MR. Contemporary Oral and Maxillofacial Surgery. St. Louis: Mosby; 2008.pp 73-127, 153-213, 291-363, 383-397.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of classes in active teaching:				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis				
Assesment (maximum number of points: 100)				
Pre-exam requirmenets	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Partipation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Pain Control Using Special Anesthesia Techniques in Oral Surgery				
Course Leader (Name, middle letter, surname): Bojan D. Janjić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_20		
Objectives of the course: To acquire knowledge of the indications and methods of application of special anesthesia techniques and anatomical parameters necessary for their implementation in order to be able to successfully control preoperative and postoperative pain in oral surgery.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Demonstrate knowledge of the anatomical parameters necessary to perform special anesthesia techniques - Describe the anatomical and pathophysiological bases of orofacial pain - Recognize the difference between pain of dental origin and pain arising from the periodontium, and other types of orofacial pain - Promptly apply special techniques of anesthesia in the oral cavity for the purpose of diagnostics, surgical interventions, and treatment of orofacial pain, as well as to treat the complications thereof - Explain the types of anesthetic procedures in oral surgery - Select an adequate form of basic and supplemental anesthesia 				
Contents of the course: Definition, types and classification of pain; routes of transmission of orofacial pain; the importance of pain for diagnosis in oral surgery; anatomy and innervation of the upper and lower jaws; control of intraoperative and postoperative pain; types and applications of special anesthesia techniques in oral surgery; developing a pain control plan for different types of oral surgery; complications during the performance of special methods of anesthesia.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: 1. Malamed SF. Handbook of Local Anesthesia. 7th ed. St. Louis: Elsevier; 2019. (selected chapters) 2. James R Hupp, Edward Ellis III, Myron R Tucker: "Contemporary Oral and Maxillofacial Surgery", Mosby, Inc. "Facial Neuropathology" 619-628				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic		60
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Biomaterials in Regenerative Periodontal Treatment				
Course Leader (Name, middle letter, surname): Zoran M. Aleksic				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I5_21		
Objectives of the course: To gain knowledge of the basics of passive and active periodontal regeneration and biomaterials used for this purpose.				
Outcomes of the course: After completing the course, the student should be able to: <ul style="list-style-type: none"> - demonstrate knowledge of the available biomaterials used for passive and active periodontal regeneration - differentiate between biomaterials and their mechanisms - demonstrate knowledge of the indications for using each material - describe materials used in regenerative periodontal treatment - describe materials used in soft tissue augmentation - describe surgical techniques in periodontal regeneration - describe surgical techniques in soft tissue augmentation - describe biomaterials application in comprehensive periodontal-implant-prosthetic rehabilitation 				
Contents of the course: Definition, types and classification of bone substitutes. Definition, types and classification of biomembranes used within the concept of guided bone regeneration (GBR). Definition, types and classification of the materials used for active regeneration. The use of different materials and their combinations. Expected treatment outcomes. Long-term treatment results.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: Lindhe J, Lang NP and Karring T. Clinical periodontology and implant dentistry. 5 th edition. Wiley-Blackwell, 2009. Pages: 901-955.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements		Total 40 points		Final exam 60 points
Participation in lectures				Written defense of a project on a selected topic 60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Gingival Recessions				
Course Leader (Name, middle letter, surname): Sasa M. Jankovic				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I5_22		
Objectives of the course: To expand students' knowledge regarding the importance of gingival recession treatment and the factors that affect the selection of surgical procedure and treatment outcome.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - recognize the indications and contraindications for treatment of single and multiple gingival recessions - know the surgical procedures for treatment of single and multiple gingival recessions - recognize the factors that affect treatment outcomes with regard to the gingival recession type				
Contents of the course: Classification of gingival recessions. Favorizing and predisposing factors, etiopathogenetic aspect. Surgical therapy of single and multiple gingival recessions. Surgical techniques for the treatment of gingival recessions (flap design, connective tissue graft, biomembranes, biologicals). Indications and contraindications for the appropriate surgical procedure. Factors that affect the treatment outcome.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: 1. Lindhe J. Lang NP, Karing T. Clinical periodontology and implant dentistry, 2 Volume Set 6th Edition. New York: Wiley; 2017. (pp. 576-649)				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	20		Written defense of a project on a selected topic	60
Participation in practicals			Practical exam	
Mid-term test(s)			Oral exam	
Seminars	20			
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Tissue Engineering in Periodontology				
Course Leader (Name, middle letter, surname): Iva Z. Milinković				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):			Course code:27I5_23	
Objectives of the course: To gain knowledge of the use and possible application of cell cultures, growth factors, and tissue matrices in periodontal regeneration promotion, in both <i>in vitro</i> and <i>in vivo</i> conditions.				
Outcomes of the course: Following the completion of this course, the student should be able to: <ul style="list-style-type: none"> - Understand and describe the principles, possibilities and methods of tissue engineering - Demonstrate knowledge of laboratory procedures for cell isolation, cell culture cultivation, and manipulation - Demonstrate basic knowledge of the application of stem cells in periodontal regenerative treatment - Demonstrate knowledge of the application of cell cultures in periodontal regenerative treatment and soft tissue augmentation - Demonstrate knowledge of different types of cell matrices and tissue matrices - Demonstrate knowledge of the growth factors used in tissue engineering protocols - Demonstrate knowledge of the clinical application of cell culture and tissue constructs' 				
Contents of the course: Definition and possibilities of tissue engineering application in periodontology. Getting to know how the cells are isolated, cultivated and how they create cell cultures. Laboratory and clinical procedures related to tissue engineering. Tissue engineering achievements and limitations in contemporary dentistry and periodontology.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: <ul style="list-style-type: none"> - Murata M, Um I.; Advances in Oral Tissue Engineering, Quintessence Publishing, USA, 2014; (pages 1-84) - Lynch, Samuel E.; Marx, Robert E.; Nevins, Myron; Wisner-Lynch, Leslie A. Tissue Engineering: Applications in Oral and Maxillofacial Surgery and Periodontics, Second Edition. Quintessence Publishing, 2012. (pages 3-132) - Milinkovic I, Aleksic Z, Jankovic S, et al. Clinical application of autologous fibroblast cell culture in gingival recession treatment. J Periodontal Res. 2015 Jun;50(3):363-70 - Tavelli L, McGuire MK, Zucchelli G, Rasperini G, Feinberg SE, Wang HL, Giannobile WV. Biologics-based regenerative technologies for periodontal soft tissue engineering. J Periodontol. 2019 Sept. (pages 1-8) 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching :15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements		Total 40 points	Final exam 60 points	
Participation in lectures			Oral defense of a project on a selected topic	60
Participation in practicals			Practical exam	
Mid-term test(s)			Oral exam	
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Specific Forms of Fixed Dental Restorations				
Course Leader(Name, middle letter, surname): Slobodan M. Dodić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V / 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_24		
Objectives of the course: To acquire knowledge of the indications and contraindications for designing specific forms of fixed dental restorations, minimally invasive therapeutic options, analog and digital workflows, planning and diagnostic approaches, specification of tooth preparation, taking impressions and temporarization, selection of restorative material: composite, ceramics or hybrid materials, risk factors, complications and causes of failure.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - describe the indications and contraindications for developing specific forms of fixed dental restorations; - describe the basics of analog and digital protocols; - describe the basics of tooth preparation; - explain adhesive cementation techniques and types of dental materials; - describe the specificities of different forms and types of specific dental restorations.				
Contents of the course: Indications and contraindications of therapy; Minimally invasive therapeutic options; Analog and digital operation protocols; Planning and diagnostic approach; Analysis of dentofacial and gingival aesthetics; Adhesive techniques in producing fixed dentures; Specific features of tooth preparation, making impression and temporarization; Adhesive cementing; Choice of restorative materials: composite, ceramic or hybrid materials; Adhesive crowns and bridges; Endocrowns; Veneers - vestibular, palatal and occlusal; Tooth abrasions and therapeutic solutions; Risk factors, complications and causes of failures.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: Galip Gurel. Porcelain laminate veneers. London: Quintessence Publ. Co ltd; 2003. 231-345 pp.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Esthetic Principles of Dental Restorations				
Course Leader (Name, middle letter, surname): Aleksandra B. Špadijer Gostović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V/ 10th semester		
Entry requirements (examinations passed in previous years): /		Course code: 2715_25		
Objectives of the course: To enable students to apply aesthetic analyses and aesthetic principles of planning and designing fixed, removable and implant supported restorations.				
Outcomes of the course: After completing the course, the student should be able to: - plan the esthetic aspects of prosthodontic and implant treatment; - perform esthetic analyses, diagnostic wax-up and mock-up procedures; - demonstrate knowledge of the colors in human dentition, conventional and instrumental methods of color matching and shading.				
Contents of the course: Aesthetic dentistry-introduction and development; Clinical aesthetic analyses of facial and dentofacial macro-aesthetics; Fundamental subjective and objective criteria for aesthetic integration; White and pink aesthetics; Dental teamwork and demands of interdisciplinary approach in planning, designing, aesthetic shaping and producing different types of conventional and implant restorations; Aesthetic elements based on photology, light/dark, contrast, assimilation and background effects, importance of photo documentation; Analog and digital workflows; Aesthetic considerations in implant prosthodontic therapy; Temporary restorations; Aesthetic principles of fixed and removable restorations; Color phenomenon - color perception, expression, harmonization and interaction; Colors in human dentition and their impact on aesthetic success; Color determination procedure- shade guide systems and instrumental methods.				
Recommended literature: Magne P. Belser U.: Porcelain bonded restorations, Quintessence publishing, 2003., pp 23-99, 129-239. Fradeani M., Barducci G.: Esthetic Rehabilitation In Fixed Prosthodontics Vol 1(all chapters) and Vol 2 (1 st , 2 nd and 3 rd chapter), Quintessence Publishing Co, Inc; 2012.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching: 15	Research paper:	
Teaching and learning methods: Small-group work, a combination of teacher's theoretical review and individual student participation through literature reviews of relevant topics in esthetic dentistry, analyses of different clinical cases with interactive discussions and a multidisciplinary approach.				
Assessment (maximum number of points: 100)				
Pre-exam requirements		Total 40 points	Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Ceramic Systems in Prosthodontics				
Course Leader (Name, middle letter, surname): Aleksandra D. Čairović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V/ 10 th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_26		
Objectives of the course: To inform students about different ceramic materials treated by technological and laboratory procedures to produce fixed prosthetic dental restorations.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: 1. demonstrate knowledge of the possibilities of using ceramic materials for fabricating fixed dental restorations 2. demonstrate knowledge of the laboratory and practical characteristics of the ceramic systems 3. select proper material to be used in dental therapy				
Contents of the course: The course comprises lectures dealing with the classification of ceramic systems, the indications for their use in dental practice, ceramic inlays, onlays, and veneers. The special segment will be dedicated to ceramic materials which are used in implantology and restorations of non-vital teeth. This course also deals with the aesthetic principles of reconstruction of damaged teeth using ceramic restorations, color phenomena and specificity in cementation procedures.				
Recommended literature: Recommended literature: 1..Rosenstiel S. Contemporary fixed prosthodontics. All ceramic restorations. Mosby, Elsevier, IV edition 2006,774-804. 2..Ahmad I. Protocols for predictable aesthetic restorations. Blackwell, 2006, 55-74.				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Zirconia in Prosthetic Dentistry			
Course Leader (Name, middle letter, surname): Katarina V. Radović			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: V / 10th semester	
Entry requirements (examinations passed in previous years):		Course code: 2715_27	
Objectives of the course: To develop a comprehensive understanding of the advantages, limitations, and potential drawbacks of zirconia in the fabrication of prosthetic restorations on natural teeth and dental implants.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> • determine the indications for the use of zirconia; • understand tooth preparation techniques for zirconia restorations; • describe the clinical and laboratory stages of fabrication; • demonstrate knowledge of both conventional and digital protocols in the fabrication of zirconia restorations. 			
Contents of the course: The origin, chemical and physical properties of zirconia; its esthetic characteristics; types of zirconia as a restorative material; contemporary concepts in the fabrication of zirconia fixed restorations, including layering, cut-back, monolithic designs, micro-veneering, and fully monolithic constructions; principles of tooth preparation for zirconia restorations; adjunctive aids in tooth preparation, including magnification; the application of zirconia restorations in implantology; conventional impression techniques for zirconia restorations; the concept and clinical implementation of digital impression taking; digital impressions of prepared teeth and their role in tooth-supported restorations; cementation protocols for zirconia fixed restorations; laboratory procedures in the fabrication of zirconia restorations; equipment used in zirconia processing and potential complications associated with working with zirconia.			
Recommended literature: Peláez J, Cogolludo PG, Serrano B, Lozano JF, Suárez MJ. A prospective evaluation of zirconia posterior fixed dental prostheses: three-year clinical results. <i>Journal of Prosthetic Dentistry</i> . 2012;107(6): 373-379. DOI: 10.1016/S0022-3913(12)60094-8 Agustín-Panadero R, Román-Rodríguez JL, Ferreiroa A, Solá-Ruíz MF, Fons-Font A. Zirconia in fixed prosthesis. A literature review. <i>Journal of clinical and experimental dentistry</i> . 2014;6(1): e66. Sailer I, Makarov NA, Thoma DS, Zwahlen M, Pjetursson BE. All-ceramic or metal-ceramic tooth-supported fixed dental prostheses (FDPs)? A systematic review of the survival and complication rates. Part I: Single crowns (SCs). <i>Dental Materials</i> . 2015;31(6): 603-623. Pjetursson BE, Sailer I, Malzarov NA, Zwahlen M, Thoma DS. All-ceramic or metal-ceramic tooth-supported fixed dental prostheses (FDPs)? A systematic review of the survival and complication rates. Part II: Multiple-unit FDPs. <i>Dental Materials</i> . 2015;31(6): 624-639. Schley JS, Heussen N, Reich S, Fischer J, Haselhuhn K, Wolfart S. Survival probability of zirconia-based fixed dental prostheses up to 5 yr: a systematic review of the literature. <i>European Journal of Oral Sciences</i> . 2010;118(5): 443-450. Kim H-K, Kim S-H, Lee J-B, Ha S-R. Effects of surface treatments on the translucency, opalescence, and surface texture of dental monolithic zirconia ceramics. <i>Journal of Prosthetic Dentistry</i> . 2016;115(6): 773-779. Stawarczyk B, Keul C, Eichberger M, Figge D, Edelhoff D, Lümke N. Three generations of zirconia: From veneered to monolithic. Part I. <i>Quintessence International</i> . 2017;48(5): 369-380.			
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 15
Lectures: 15	Practicals:	Other modes of teaching : 15	Research paper:
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Orofacial Pain in Prosthodontic Patients				
Course Leader (Name, middle letter, surname): Igor S. Đorđević				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: V/ 10th semester		
Entry requirements (examinations passed in previous years):		Course code: 2715_28		
Objectives of the course: To introduce students to the basics of clinical examination of the structures of the orofacial system in order to identify the origin of painful symptoms and determine appropriate therapeutic measures for pain control in the orofacial region.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - examine a patient presenting with pain and recognize the types and origins of the painful symptoms - use specialized questionnaires for the assessment and analysis of pain conditions - demonstrate knowledge of the therapeutic modalities of the control of orofacial pain				
Contents of the course: Students will expand their knowledge of the concept of orofacial pain, epidemiology, anatomical and physiological considerations of the onset of orofacial pain; patient assessment of the pain: triage screening and detailed clinical examination, diagnostic systems for orofacial pain and differential diagnosis, a multidisciplinary approach to the control of orofacial pain and algometric techniques and methods in the assessment of pain intensity, the concept of TMD and muscle pain dysfunction: appearance of acute and chronic muscle pain; a multidisciplinary approach in the control of orofacial pain. Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Recommended literature: 1. Okeson JP: Bell's orofacial pains, ed.5 Chicago, 1995, Quintessence Publishing (selected chapters) 2. de Leeuw R, Klasser G, eds. Orofacial Pain: Guidelines for Assessment, Diagnosis, and Management: American Academy of Orofacial Pain. Chicago, 2013, Quintessence Publishing (selected chapters)				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures:15	Practicals:	Other modes of teaching :15	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals	20			
Mid-term test(s)				
Seminars				
Other	20			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Maxillofacial surgery				
Professor in charge (Name, middle initial letter, surname): Vladimir T. Sinobad				
Course status (compulsory/elective): Compulsory				
ECTS: 9		Year of the study: VI / 11th, 12th semester		
Entry requirements (examinations passed in previous years):		Course code: ST27MAKS		
Objectives of the course: To acquire knowledge required for recognizing the diseases and types of injuries affecting soft and bone tissues, and to master diagnostic principles and surgical protocols in the maxillofacial region.				
Outcome of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Diagnose pathological conditions/infections, tumors, and other conditions in the maxillofacial region - Demonstrate knowledge of the protocol for management of soft and bone injuries in the maxillofacial region, including the basic procedures for the application of temporary immobilization and haemostasis - Demonstrate knowledge of the basic principles of application of medicamentous and surgical therapy for life-threatening infections in the maxillofacial region - Demonstrate knowledge of the principles of postoperative patients care - Demonstrate knowledge of dental patient care protocols following oncological treatment 				
Content of the course: Lectures – Oral and maxillofacial infections; Maxillofacial traumatology; Diseases of salivary glands tumors and cysts; Diseases of the maxillary sinus; Diseases of the temporomandibular joint; Benign and malignant tumors in the maxillofacial region; Cysts in the maxillofacial region; Dentofacial deformities; Cleft lip and palate. Practical teaching – Medical history, anamnesis and clinical examination; Ancillary diagnostic procedures and interpretation of findings; Principles of preparing the operator and assistant for work in sterile conditions and operational field preparation; Observation of surgical procedures alongside the explanations provided by the operator; Diagnosis and indication for outpatient and inpatient surgery treatment; Temporary immobilization in jaw fractures; Principles of planning and design of obturators and prostheses; Assisting during standard surgical interventions and postoperative treatment of patients.				
Recommended literature: Brennan PA, Schliephake H, Cascarini L, editors. Maxillofacial Surgery. 3rd ed. St. Louis: Churchill Livingstone; 2016. 1-1698pp Ehrenfeld M, Prein J, Manson PN, editors. Principles of Internal Fixation of the Craniomaxillofacial Skeleton: Trauma and Orthognathic Surgery. Davos: AO Foundation; 2012. 1-412pp				
Total number of classes in active teaching:				Professional practice/ independent work:
Lectures: 60	Practicals: 60	Other modes of teaching process:	Study research work:	
Methods of teaching process: Lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6 points	Practical exam	20 points	
Participation in practicals	28 points	Oral exam	40 points	
Mid-term test (s)	4 (2 x 2) points			
Seminars	2 points			
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course Otorhinolaryngology				
Course Leader (Name, middle letter, surname): Rade M. Kosanovic				
Course status (compulsory/elective): Compulsory				
ECTS: 5			Year of the study: VI / 11th semester	
Entry requirements (examinations passed in previous years):			Course code: ST27ORLA	
Objectives of the course: To introduce dental students to clinical assessment of basic otorhinolaryngological pathologies relevant to dental practice.				
<p>Outcomes of the course: After completing the course, the students should be able to:</p> <ul style="list-style-type: none"> - examine ENT patients - use all ENT instruments for ENT diagnosis and recognize the diagnostic procedures of audiometry, nasal endoscopy, indirect laryngoscopy (microlaryngoscopy) esophagoscopy and bronchoscopy, CT tomography - manage acute conditions in the ENT region - recognize the principles of malignant diseases and treatment of laryngectomized patients and patients with tracheostomy - understand the basic clinical principles in diagnostics and treatment of acute and chronic inflammation of the ear, nose and throat mucosa - understand the basic clinical testing of patients with vestibular disorders and principles of the main otorhinolaryngological operations 				
<p>Contents of the course: Anatomy of the ear, nose, throat and larynx. Congenital disorders of the ENT regions. Injuries of the ENT regions. Urgent conditions in ENT – epistaxis and tracheostomy. Acute inflammation of the ear, nose and throat, acute inflammation of the larynx. Chronic inflammation of the ear nose and throat. Tumors of the ear nose and throat, diagnosis and surgical therapy. Audiology, introduction to the basic clinical conditions and disorders of the inner ear. Surgical therapy of the inner ear diseases. Basic principles of phoniatory. Diseases of the oesophagus. Diseases of the trachea and bronchi.</p>				
<p>Recommended literature: Paparella MM, Shumrick DA, Gluckman JL, Meyerhoff WL, editors. Otolaryngology. 3rd ed. Philadelphia: Saunders; 1991.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 15	Practicals: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: Lectures, practicals involving small groups of students, clinical practice in wards and the outpatient clinic.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Written exam	60
Participation in practicals	28			
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Forensic medicine				
Professor in charge (Name, middle initial letter, surname): Dragana Ž. Puzović				
Course status (compulsory/elective): compulsory				
ECTS: 5		Year of the study: VI/11 th semester		
Entry requirements (examinations passed in previous years):/		Course code: ST27SUME		
Objectives of the course: To introduce students to various types of violent health impairments, principles, and medical criteria of the forensic medical expertise of body injuries, the importance of odontostomatological data in the process of identification of unknown living individuals and corpses. To introduce students to the obligations of the Doctor of Dental Medicine, keeping dental records, and criminal acts related to the medical profession.				
Outcome of the course: After completing the course, the student should be able to: -Demonstrate knowledge of the diagnostics and principles of the forensic medical expertise of maxillofacial mechanical injuries based on established findings and /or dental records. -Demonstrate knowledge needed to identify unknown living and deceased individuals based on odontostomatological data. -Demonstrate knowledge of the legal duties and criminal responsibility of dentists in their professional practice.				
Content of the course: Violent harm to health, expertise diagnostics, expertise of injuries based on medical documentation, significance of odontostomatological data for identification, responsibilities of a doctor related to criminal acts. Expertise of injuries of the maxillofacial region. Discussing the report on expertise of injuries.				
Recommended literature: Stefan Pollak, Pekka Saukko, Bernard Knight: "Knight's Forensic Pathology", 2026, CRC Press (Taylor & Francis). 1-800 pp.				
Total number of classes in active teaching:				Professional practice/ independent work:
Lectures: 30	Practicals: 15	Other modes of teaching process:	Study research work:	
Methods of teaching process: Lectures, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	10
Participation in practicals	28		Oral exam	50
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Block: Restorative Dentistry			
Course Leader (Name, middle letter, surname): Miroslav M. Andrić			
Course status (compulsory/elective): Compulsory			
ECTS: 8		Year of the study: VI / 12th semester	
Entry requirements (examinations passed in previous years):/		Course code: ST27BLO1	
Objectives of the course: To introduce an interdisciplinary approach to evaluation and treatment of patients regarding full mouth rehabilitation and to engage students in the preparation and execution of such treatments.			
Outcomes of the course: After completing this course, the student should be able to: <ul style="list-style-type: none"> - Evaluate the need for a complete dental treatment - Prepare a treatment plan - Evaluate local and systemic factors affecting the treatment plan - Identify and analyze potential risks - Demonstrate the ability to perform procedures related to the established treatment plan in the fields of oral surgery, periodontology, restorative dentistry, endodontics, and prosthodontics - Identify and treat possible complications - Establish and execute follow-up examinations. 			
Contents of the course: Analysis of different clinical cases. Clinical and radiographic examination, establishing a treatment plan for a particular patient, periodontal treatment – conservative and surgical procedures in periodontology, extraction of teeth, surgical treatment of apical periodontitis, restorative procedures, direct and indirect restorations, endodontic procedures, fixed and removable dentures.			
Recommended literature: Hupp JR, Ellis E, Tucker MR. Contemporary Oral and Maxillofacial Surgery. St. Louis: Mosby; 2008. pp. 73-127, 153-213, 291-363, 383-397. (209 pages) Bergenholtz G, Horsted-Bindslev P, Reit C. Textbook of Endodontology. Oxford: Wiley-Blackwell; 2009. (396 pages) Lindhe J. Lang NP, Karing T. Clinical periodontology and implant dentistry, 2 Volume Set 6th Edition. New York: Wiley; 2017. pp. 216-351, 414-429, 519-808 (439 pages) Rosenstiel S: Contemporary fixed prosthodontics, 4th.ed, St. Louis: Mosby; 2006. pp. 5-868 (863 pages) Zarb G et al. Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses. St. Louis: Mosby; 2012. (464 pages)			
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning: 180
Lectures: 60	Practicals: 60	Other modes of teaching: Research paper:	
Teaching and learning methods: Case analysis and presentations, practicals			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures	6	Presentation of clinical case	60
Participation in practicals	28		
Mid-term test (s)			
Seminars			
Other	Treatment planning 6		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Block: Pedodontics				
Course Leader (Name, middle letter, surname): Vanja V. Petrović				
Course status (compulsory/elective): Compulsory				
ECTS: 7			Year of the study: VI / 12th semester	
Entry requirements (examinations passed in previous years):/			Course code: ST27BLO2	
Objectives of the course: To enable students to independently create a therapy plan for preventive measures, complete treatment and necessary orthodontic treatment thereafter				
<p>Outcomes of the course:</p> <p>After successfully completing the course, the student should:</p> <ul style="list-style-type: none"> - Demonstrate the knowledge and competence to provide health education to children and parents - Demonstrate the knowledge required to develop a complete therapy plan - Demonstrate the knowledge required to diagnose risks for oral disease - Possess the knowledge for the diagnostics and therapy of caries and complications of caries from early childhood through adolescence - Demonstrate the knowledge required for diagnostics and therapy of periodontal diseases and soft oral tissues in children - Demonstrate the knowledge required for emergency diagnosis and therapy - Demonstrate the knowledge required for diagnosis of orthodontic irregularities - Demonstrate the knowledge required for model and occlusion analysis - Demonstrate the knowledge required for X- ray analysis - Demonstrate the knowledge required for diagnostics and implementation of preventive and interceptive measures in orthodontics - Demonstrate the knowledge required for treatment methods using removable orthodontic appliances - Demonstrate the knowledge required for removable functional therapy - Demonstrate the knowledge required for fixed appliance therapy - Demonstrate the knowledge required for handing over appliances and providing patients with carrying and storing instructions. 				
Contents of the course: Application of preventive and prophylactic measures, therapy of caries and caries complications in deciduous and permanent teeth, urgent situations and first aid procedures for tooth injuries, orthodontic rehabilitation.				
Recommended literature:				
<ol style="list-style-type: none"> 1. Koch G. et al. Pediatric Dentistry: a clinical approach. Third edition. Wiley Blackwell 2017. (pages 1-376) 2. John C. Benett, Richard P. McLaughlin. Fundamentals of Orthodontic Treatment Mechanics. Third edition. Le Grande Publishing 2014. (pages 1- 324). 				
Content of the professional practice: Professional practice encompasses supervised practical work with the aim of fostering students' practical skills and equipping them with the techniques required for establishing a good rapport with patients.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 75
Lectures: 30	Practicals: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: Case analysis and presentations, practicals				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Presentation of clinical case	60
Participation in practicals	28			
Mid-term test (s)				
Seminars				
Other	Treatment planning 6			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Implantology	
Course Leader (Name, middle letter, surname): Aleksa B. Marković	
Course status (compulsory/elective): Compulsory	
ECTS: 7	Year of the study: VI / 11th and 12th semester
Entry requirements (examinations passed in previous years):	Course code: ST27IMPL
<p>Objectives of the course: To enable students to understand the biological, surgical, and prosthetic principles of contemporary oral implantology, as well as to properly plan, perform, and monitor implant therapy in accordance with evidence-based principles and ethical standards. The course aims to train students to develop a comprehensive implant treatment plan based on anatomical, physiological, and systemic factors, as well as on the requirements of future prosthetic rehabilitation. Students will become familiar with the fundamentals of implant systems and with surgical and prosthetic techniques used in oral implant rehabilitation.</p>	
<p>Outcomes of the course: After completing this course, the student should be able to:</p> <ul style="list-style-type: none"> -explain the biological mechanisms of osseointegration and peri-implant tissue healing. -obtain a comprehensive dental and medical history, perform a clinical examination, and conduct the necessary diagnostic procedures for pre-implant assessment. -analyze anatomical and radiological parameters relevant to implant placement. -establish indications and recognize contraindications for implant therapy. -develop an implant treatment plan based on clinical and radiographic findings -inform patients about the advantages and disadvantages of implant therapy as part of the pre-implant consultation process. -demonstrate knowledge of materials used in oral implantology -demonstrate knowledge of indications and contraindications for oral implant placement. -apply the fundamental principles of implant therapy in clinical practice. -take impressions for study models. -demonstrate knowledge of the principles and procedures for fabrication of implant-supported prosthetic restorations. -plan prosthetic rehabilitation on dental implants. -identify prosthetic complications related to implant-supported restorations. -monitor and evaluate the clinical condition of dental implants. -instruct patients with dental implants on proper oral hygiene maintenance. -apply principles of maintenance and long-term follow-up for implant patients. -recognize complications related to implant therapy and propose appropriate treatment strategies. 	
<p>Contents of the course: Introduction to oral implantology. Anatomical consideration for treatment planning. Indications and contraindications for implant placement. Risk factors and possible complications of implant treatment. Surgical techniques for implant placement. Prosthetic techniques and procedures for prosthesis fabrication. Soft and hard tissue augmentation procedures. Characteristics of materials for bone augmentation procedures. Dental implant application in maxillofacial surgery. Bone biology and the biological basis of osseointegration. Implant surface characteristics and biomaterials used in implantology. Diagnostic procedures in implantology (clinical examination, radiographic analysis, CBCT interpretation). Treatment planning in implant therapy. Indications and contraindications for dental implants. Surgical protocols for implant placement. Healing processes and implant loading protocols. Pre-implant surgical procedures (bone augmentation, sinus floor elevation, guided bone regeneration). Prosthetic principles of implant-supported restorations. Types of implant-supported prostheses (single crowns, fixed partial dentures, overdentures, full-arch restorations). Occlusion in implant prosthodontics. Complications in implant therapy (biological and mechanical). Maintenance and long-term follow-up for implant patients. Ethical principles and evidence-based practice in implantology.</p>	
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Lang NP, Salvi GE. Implants in restorative dentistry. In: Lindhe J, Lang NP, Karring T, editors. Clinical periodontology and dental implantology. 5th English ed. Zagreb: Nakladni Zavod Globus; 2010. p. 1138–1144. 2. Silverman WB. Modern implant dentistry. Berlin: Quintessence Publishing; 2023. p. 252–302. 	

<p>3. Belser UC, Bernard JP, Buser D. Implant placement in the esthetic zone. In: Lindhe J, Lang NP, Karring T, editors. Clinical periodontology and dental implantology. 5th English ed. Zagreb: Nakladni Zavod Globus; 2010. p. 1146–1166.</p> <p>4. Belser UC, Bernard JP. Implants in the posterior region of the jaws. In: Lindhe J, Lang NP, Karring T, editors. Clinical periodontology and dental implantology. 5th English ed. Zagreb: Nakladni Zavod Globus; 2010. p. 1175–1203.</p> <p>5. Misch CE. Contemporary implant dentistry. 3rd ed. St Louis: Mosby Elsevier; 2008. p. 3–28, 51–102, 183–246, 347–420, 517–560, 601–645.</p> <p>6. Lindhe J, Lang NP, Karring T, editors. Clinical periodontology and implant dentistry. 6th ed. Oxford: Wiley-Blackwell; 2015. Vol. 2, p. 761–812, 815–870, 875–932, 945–980.</p> <p>7. Buser D, Belser U, Wismeijer D, editors. ITI treatment guide. Vol. 1–10. Berlin: Quintessence Publishing; 2007–2020. Vol. 1, p. 15–74; Vol. 4, p. 9–68; Vol. 8, p. 21–95.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning: 15
Lectures: 45	Practicals: 60	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals, small-group work				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	20
Participation in practicals	28		Oral exam	40
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dentofacial Orthopedics				
Course Leader (Name, middle letter, surname): Zorana Z. Stamenković				
Course status (compulsory/elective): Compulsory				
ECTS: 10			Year of the study: VI/ 11th and 12th semester	
Entry requirements (examinations passed in previous years):/			Course code: ST27ORTO	
Objectives of the course: To provide students with knowledge of the basics of etiology, prevention, diagnostics, and treatment of all types of malocclusions.				
Outcomes of the course: After completing this course, the student should: <ol style="list-style-type: none"> 1. Demonstrate knowledge of prenatal and postnatal growth and development of orofacial structures 2. Demonstrate knowledge of the characteristics of the correct occlusion in deciduous, mixed, and permanent dentition and determine the terms of normognathism, prognathism and retrognathism 3. Demonstrate knowledge of etiological factors which cause different malocclusion types 4. Perform a clinical examination of patients, produce study casts and perform occlusal diagnostic procedures 5. Analyze intraoral radiographs, orthopantomography and lateral cephalometrics (points, lines, angular and linear parameters) 6. Prevent malocclusion in the prenatal and postnatal period 7. Establish a diagnosis and treatment plan for patients with bite irregularities in sagittal, transversal and vertical direction 8. Demonstrate knowledge of biological principles of tooth movement and biomechanics 9. Demonstrate knowledge of the indications for application, fabrication, and treatment planning using active mobile and functional removable appliances 10. Demonstrate knowledge of the indications for application and phases of treatment using fixed appliances 				
Contents of the course: Growth and development of orofacial structures, main characteristics of deciduous, mixed and permanent dentition, orofacial functions and functional analysis, clinical examination in orthodontics, analysis of study casts, roentgen diagnostics in orthodontics, plan of treatment, prevention of different malocclusion, treatment in deciduous and mixed dentition by removable (active and functional) appliances, extraction in orthodontics, treatment with fixed appliances, retention and relapse.				
Recommended literature: <ol style="list-style-type: none"> 1. Proffit WR., Fields HW., Sarver DM.: Contemporary Orthodontics, 4th ed. St. Louis: Mosby; 2007. pp. 2-72; 130-234; 395-433; 617-635; 2. Ireland AJ., McDonald F.: Diagnosis of the Orthodontic Patient, Oxford, 1998. pp. 10-79; 				
Total number of contact classes (active teaching and learning)				Professional practice/ independent learning: 30
Lectures: 60	Practicals: 75	Other modes of teaching:	Research paper:	
Teaching and learning methods: lectures, practicals, small-group work				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures	6		Practical exam	20
Participation in practicals	28		Oral exam	40
Mid-term test (s)	6			
Seminars				
Other				

Table 5.2. Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Thesis Defence	
Course status (compulsory/elective): Compulsory	
ECTS: 3	Year of the study: VI / 12th semester
Entry requirements (examinations passed in previous years): Students are required to pass all courses within the study program Integrated Academic Studies of Dental Medicine	Course code: ST27ZARA
<p>Objectives of the course: To strengthen students' capacities in terms of research methodology and writing scientific and professional papers; demonstrating systematized knowledge within the scientific disciplines of clinical dentistry, clinical medicine and basic sciences; using information systems to search national and international databases; and gaining experience in presenting scientific research results.</p>	
<p>Outcomes of the course: After defending the thesis the student will be expected to: efficiently and effectively search national and international literature from the field; critically evaluate the validity and relevance of published research articles; assess clinical procedures performed in terms of their relevance to dentistry and justify their presentation to the members of the discipline community; collect data from practice; identify and define a clinical or research problem; systematize and present research findings in writing, and prepare a presentation of their research. In the process of conducting research and publishing the results obtained, the student will be expected to adhere to ethical principles and critically evaluate their own findings.</p>	
<p>General contents: Students will choose a topic independently and according to their own interests. Supervisors suggest a range of topics associated with clinical dentistry, clinical medicine or basic courses. The thesis can take one of the following forms: 1. A clinical case report underpinned by the relevant theoretical background of the dental problem addressed; 2. A research paper based on an experiment or analysis of medical records data; 3. An overview of data obtained from current literature in the field. The thesis should contain: *title *introduction -an overview of the theoretical postulates related to the experimental or clinical procedures performed in the scientific disciplines of clinical dentistry, clinical medicine or basic sciences; it is particularly important to consider current scientific and expert knowledge on the given subject matter; at the end of this chapter, the aim of the work is stated *a clinical case report, experimental and results report or research problem formulation. This section of the thesis contains a detailed description of the methods applied; This section should be supplemented with suitable appendices and statistical analysis. In a review paper, this part is presented as a single chapter with appropriate thematic subchapters. *discussion – the case report involves an expert commentary based on previous scientific research, a critical assessment of clinical or research procedures and their possible outcomes and highlights the significance of continuous evaluation of the achievements. In a review paper, this is an integral part of the previous section *References – The Vancouver referencing style should be used; the references should be numbered consecutively according to their order of appearance in the text.</p>	
<p>Mode of delivery: Students must submit a print copy of their thesis. The thesis will be evaluated by a Thesis Committee comprised of three faculty members whose specific scientific field corresponds to the particular field of the thesis. The corresponding departments propose Thesis Committee members who are then appointed by the Vice Dean for Teaching and Learning at the beginning of each academic year.</p>	
Grade range: from 5 to 10 (Maximum number of points: 100)	

Elective courses – 6th year

- 27I6_01 Indirect Tooth Restorations*
- 27I6_02 Treatment of Tooth Discoloration in the Esthetic Zone*
- 27I6_03 Behavioral Management Techniques and Minimal Sedation in Pediatric Dentistry*
- 27I6_04 Deontological Aspects of Dental Practice*
- 27I6_05 Endoscopic Operations of the Nose and Paranasal Sinuses*
- 27I6_06 Treatment of Head and Neck Malignant Tumors*
- 27I6_07 Dental Treatment of Oncological Patients*
- 27I6_08 Postoperative Treatments in Maxillofacial Surgery*
- 27I6_09 Patients Preparation for Surgical Correction of Dentofacial Deformities*
- 27I6_10 Facial Surgery*
- 27I6_11 3D Digital Technologies in Orthodontics*
- 27I6_12 The Fundamentals of Treatment with Fixed Orthodontic Appliances*
- 27I6_13 Orthodontic Management of Impacted Teeth*
- 27I6_14 Lingual Orthodontics*
- 27I6_15 Multidisciplinary Therapy in Orthodontics*
- 27I6_16 Orthodontic Mini-Implants*
- 27I6_17 Presurgical Orthodontic Treatment*
- 27I6_18 The use of CBCT in Orthodontics and Dentofacial Orthopedics*
- 27I6_19 Contemporary Radiology in Dentistry*
- 27I6_20 Computerized Dentistry*
- 27I6_21 Treatment Possibilities with Removable Orthodontic Appliances*
- 27I6_22 Digital Technologies in Implant Prosthodontics*
- 27I6_23 Materials in Implantology*
- 27I6_24 Design of Implant-Supported Restorations*

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Indirect Tooth Restorations				
Course Leader (Name, middle letter, surname): Bojan D. Dželetović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 11th semester		
Entry requirements (examinations passed in previous years):			Course code: 27I6_01	
Objectives of the course: To acquire knowledge of the principles and methods of restorative treatment by indirect intracoronal and extracoronal restorations.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - describe the types of indirect restorations - determine the indications for tooth reconstruction using indirect restorations - describe the cavity preparation methods for indirect restorations - describe the steps for making and placing indirect restorations - explain the techniques for the fabrication of indirect restorations - describe the materials used for indirect restorations - demonstrate knowledge of the principles of occlusion important for indirect restoration placement 				
Contents of the course: Definitions of indirect tooth restorations; classification of indirect restorations; advantages and disadvantages of indirect restorations; cavity preparation for indirect restorations; methods for the fabrication of indirect restorations; CAD/CAM method of fabrication of indirect tooth restoration; materials for indirect tooth restorations.				
Recommended literature: <ol style="list-style-type: none"> 1. Kidd EAM et al. Indirect cast metal, porcelain and composite intracoronal restorations. In: Kidd EAM(editor). Pickard’s manual of operative dentistry. Eighth edition. Oxford University Press, Oxford, 2003. Pages:177-187. 2. Miles JP, Schulze KA, Castagna D. Selecting indirect restorative materials. In: Geissberger M (editor). Esthetic dentistry in clinical practice. First edition. Wiley Blackwell, Ames, USA, 2010. Pages:199-208. 3. Hakim F, Vallee J. Preparation design for indirect restorations in esthetic dentistry. In: Geissberger M (editor). Esthetic dentistry in clinical practice. First edition. Wiley Blackwell, Ames, USA, 2010. Pages:221-239. 4. Schulze KA, Lubman RG. Luting agents for dental restorations. In: Geissberger M (editor). Esthetic dentistry in clinical practice. First edition. Wiley Blackwell, Ames, USA, 2010. Pages:275-288 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Treatment of Tooth Discoloration in the Esthetic Zone				
Course Leader (Name, middle letter, surname): Tatjana V. Savic-Stankovic				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: VI / 11th semester	
Entry requirements (examinations passed in previous years):			Course code: 2716_02	
Objectives of the course: To acquire knowledge of the optical characteristics of hard dental tissues; the types and causes of dental discoloration; the clinical significance of dental discoloration; the mechanisms of its formation; whitening mechanisms for hard dental tissues; agents used for this purpose; clinical methods of vital and non-vital teeth whitening; side effects of therapy; causes of hypersensitivity during therapy; contraindications; and post-treatment procedures for enamel remineralization.				
Outcomes of the course: After completing the course, the student should be able to: - describe the main factors causing vital and non-vital teeth discolorations - describe the characteristics of tooth whitening agents - explain the characteristics of different clinical teeth whitening methods - describe all the procedures preceding the non-vital teeth whitening process - develop a treatment plan for tooth discoloration - explain the therapeutic procedure and take care of possible side effects of the procedure - develop a plan for post-treatment procedures that include remineralisation of dental tissues				
Contents of the course: Optical properties of hard dental tissues; definition, causes and classification of tooth discoloration; mechanism of tooth discoloration; agents in the treatment of dental discoloration and the mechanism of their action; classification of clinical teeth whitening methods; the process of preparing vital teeth for a whitening therapy; the process of preparing non-vital teeth for a whitening therapy; methods for vital teeth whitening; methods for whitening non-vital teeth; contraindications in bleaching therapy; side effects of the therapy; definition and factors of tooth hypersensitivity during therapy; revitalization; post-therapeutic procedures for hard dental tissues.				
Recommended literature: 1. Goldstein, Ronald E., and David A. Garber. Complete dental bleaching. Quintessence Publishing (IL), 1995; p. 1-159. 2. Frank Setzer. Bleaching procedures. U: Hargreaves, Kenneth M., and Louis H. Berman. Cohen's pathways of the pulp expert consult. Elsevier Health Sciences, 2016. e96-e113				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	40			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine	
Level of studies: Second	
Course: Behavioral Management Techniques and Minimal Sedation in Pediatric Dentistry	
Course Leader (Name, middle letter, surname): Ivana S. Radovic	
Course status (compulsory/elective): Elective	
ECTS: 3	Year of the study: VI / 11th semester
Entry requirements (examinations passed in previous years):	Course code: 2716_03
Objectives of the course: To acquire knowledge of behavioral techniques and minimal sedation used in pediatric dentistry.	
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> - Explain the goals of the behavioral approach in pediatric dentistry - Differentiate between universally accepted and controversial behavioral methods - Describe the types of universally accepted behavioral techniques - Recognize the need to apply a particular behavioral technique - Combine different behavioral techniques in pediatric dental treatment - Develop a plan for adapting the patient to dental interventions using behavioral techniques - Explain the characteristics of controversial behavioral techniques - Explain the goals and importance of minimal sedation in pediatric dentistry - Distinguish minimal sedation from deeper levels of sedation - Understand the characteristics of different levels of sedation - Recognize the need for the use of minimal sedation in pediatric dentistry - Describe the application of minimal sedation in pediatric dentistry - Understand the characteristics of minimal peroral sedation - Identify the medications that can be used to achieve minimal peroral sedation in pediatric dentistry - Understand how to conduct procedures under minimal peroral sedation in pediatric dentistry - Understand the characteristics of minimal nitrous oxide / oxygen inhalation sedation - Demonstrate an understanding of the application method for minimal nitrous oxide / oxygen inhalation sedation - Make a plan for dental interventions using minimal sedation techniques 	
<p>Contents of the course: Definition of behavioral management; basic goals of behavioral management; prerequisites for successful implementation of behavioral techniques; scientific basis of behavioral management; classification of behavioral techniques in dentistry; universally accepted behavioral techniques: “tell-show-do”, desensitization, positive reinforcement, modelling, distraction, voice control; controversial behavioral techniques: presence/absence of parents, protective stabilization; factors that influence the choice of behavioral techniques in pediatric dentistry. Definition of sedation; sedation levels: minimal sedation, moderate sedation, deep sedation, general anesthesia; characteristics of different levels of sedation; ASA classification of patients; basic goals and importance of applying minimal sedation in pediatric dentistry; preconditions for successful minimal sedation; selection of patients for minimal sedation; factors influencing the decision to choose a specific minimal sedation technique in pediatric dentistry; the importance of combining minimal sedation with the mandatory use of behavioral techniques; minimal peroral sedation - characteristics, medications and clinical technique; minimal nitrous oxide / oxygen inhalation sedation - characteristics and clinical technique.</p>	
<p>Recommended literature:</p> <ul style="list-style-type: none"> - Wright GZ, Kupietzky A. Non-Pharmacologic Approaches in Behavior Management. Chapter in textbook: Behavior management in dentistry for children. Editors: Wright GZ, Kupietzky A. Wiley Blackwell 2014 (page 63-93) - American Academy of Pediatric Dentistry: AAPD Guideline on Behavior Guidance for the Pediatric Dental Patient 2024: https://www.aapd.org/globalassets/media/policies_guidelines/bp_behavguide.pdf (page 379-399) - American Academy of Pediatric Dentistry: Use of Protective Stabilization for Pediatric Dental Patients 2024: https://www.aapd.org/globalassets/media/policies_guidelines/bp_protective.pdf (page 400-406) 	

- Anthonappa, Robert P et al. "Non - pharmacological interventions for managing dental anxiety in children." The Cochrane Database of Systematic Reviews vol. 2017,6 CD012676. 5 Jun. 2017, doi:10.1002/14651858.CD012676 (page 1-15)
- Wilson S. Sedation for the pediatric patient. Chapter in textbook: Behavior management in dentistry for children. Editors: Wright GZ, Kupietzky A. Wiley Blackwell 2014 (page 131-145)
- Emmanouil D, Kupietzky A. Nitrous oxide / oxygen inhalation sedation in children. Chapter in textbook: Behavior management in dentistry for children. Editors: Wright GZ, Kupietzky A. Wiley Blackwell 2014 (page 145-159)
- Wilson S. Minimal and moderate sedation agents. Chapter in textbook: Behavior management in dentistry for children. Editors: Wright GZ, Kupietzky A. Wiley Blackwell 2014 (page 159-177)

Total number of contact classes (active teaching and learning):

Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	Professional practice/ independent learning:

Teaching and learning methods:

Small-group work, seminars, interactive discussions, case reviews and analysis.

Assessment (maximum number of points: 100)

Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Academic debate	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Deontological Aspect of Dental Practice				
Professor in charge (Name, middle initial letter, surname): Dragana Ž. Puzović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI/11th semester		
Entry requirements (examinations passed in previous years):/		Course code: 2716_04		
<p>Objectives of the course: The course aims to expand students' knowledge of patients' rights and obligations, the professional duties, and the criminal acts related to the medical profession. Particular emphasis will be placed on medical malpractice as a criminal act, while emphasizing the importance of adequately composed medical documentation for conducting forensic medical expertise which is performed for the court in cases where there is a suspicion that this criminal act has been committed.</p>				
<p>Outcome of the course: After completing the course and passing the exam, the student should be able to: -demonstrate knowledge of the rights and obligations of patients, the legal framework of medical practice, and especially the elements of the criminal act as a medical malpractice -demonstrate knowledge of the methods for composing adequate medical documentation and its significance in criminal acts, especially when it comes to forensic expertise of medical negligence.</p>				
<p>Content of the course: The obligations and rights of patients and professional duties of doctors. Criminal acts in medical practice, emphasis on medical negligence. The role and significance of adequately composed medical documentation in forensic medical expertise.</p>				
<p>Recommended literature: Oxford handbook of forensic medicine. Wyatt J, Squires T, Norfolk G, Payne- James J. Oxford University Press, 2011.</p>				
Total number of classes in active teaching:				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Endoscopic Operations of the Nose and Paranasal Sinuses				
Course Leader (Name, middle letter, surname): Rade M. Kosanović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 11th semester		
Entry requirements (examinations passed in previous years):		Course code: 2716_05		
Objectives of the course: To gain knowledge of the latest diagnostic and therapeutic endoscopic procedures in the nose and paranasal cavities. Introducing students to the pathology of paranasal cavities and presentation of treatment options using endoscopic techniques. Acquainting students with possible complications of endoscopic surgery and methods for treating them.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - understand the options for treating the pathologies of the nose and paranasal cavities in terms of endoscopic techniques, - demonstrate knowledge of the principles of performing endoscopic procedures, - demonstrate knowledge of the role of endoscopic methods in the treatment of chronic rhinosinusitis, nasal polyposis and oroantral fistulas, - recognize the patient's condition that requires treatment by using endoscopic techniques, - adopt the concept of endoscopic surgery in the treatment of paranasal cavity diseases.				
Contents of the course: History and basic diagnostic procedures, ENT examination, nose endoscopy. Analysis of computed tomography imaging necessary for performing endoscopic procedures. Principles of method selection in the treatment of sinus pathology. Indication analysis and presentation of endoscopic operations of the nose and paranasal cavities. Presentation of Contemporary Navigation Endoscopic Sinus Surgery. Presentation of complications of endoscopic surgical interventions and treatment principles.				
Recommended literature: RhinoLOGY : diseases of the nose, sinuses, and skull base / edited by David W. Kennedy, Peter H. Hwang. — 1st ed. Thieme Medical Publishers, Inc New York 2014 (271-335, 370-380, 425-456pp).				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Treatment of Head and Neck Malignant Tumors				
Professor in charge (Name, middle initial letter, surname): Milan B. Petrović				
Course status (compulsory/elective): elective				
ECTS: 3		Year of the study: VI/12th		
Entry requirements (examinations passed in previous years):		Course code: 27I6_06		
Objectives of the course: Acquiring knowledge on etimology, symptomatology, diagnosis and treatment of head and neck malignant tumors.				
Outcome of the course: Upon accomplishment of the course and passing the exam, a student is able to: <ul style="list-style-type: none"> - Recognize risk factors for development of head and neck malignant tumors - Recognize the symptoms that indicate the presence of intraoral malignant tumor - Evaluate which diagnostical measures can be used to confirm the presence of malignant tumor in maxillofacial region - Refer patients with suspected cancer to a medical specialist for adequate treatment - Independently propose the plan for dental preoperative preparation of oncological patients - Explain to the patient the sequence of steps to be taken in the treatment of a head and neck malignant tumor - Perform postoperative dental protection in oncology patient 				
Content of the course: Definition of malignant tumors. Types of head and neck malignant tumors. Symptomatology of certain malignant tumors in maxillofacial region. Diagnostic methods used for head and neck oncology patients. Preoperative preparation of oncology patients – dental and general medical. Types of treatment of malignant tumors. Postoperative care. Postoperative dental treatment. Intraoperative and postoperative complications in oncology patients in maxillofacial surgery.				
Recommended literature: Jatin. P Shah. Head and neck surgery and oncology, Philadelphia: Elsevier – Mosby; 2012. (102-150)				
Total number of classes in active teaching:				Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	Study research work:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Dental Treatment of Oncological Patients				
Course Leader (Name, middle letter, surname): Nikola D. Miković				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_07		
Objectives of the course: To gain knowledge required for dental treatment of oncological patients during and after radiotherapy and chemotherapy.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Demonstrate knowledge of the specifics of oncological therapy - Perform a clinical examination and establish a diagnosis based on the consequent signs of a disease indicating dental treatment - Recognize the risks in dental practice resulting from the effects of oncological therapy - Develop a dental therapy plan for oncological patients while eliminating the risks - Describe the necessary therapeutic procedures - Predict and prevent complications in a timely manner. 				
Contents of the course: Therapeutic procedures in the treatment of malignant diseases, surgical treatment, radio and chemotherapy, consequences of oncological treatment, specifics of dental treatment of these patients, risk assessment, planning of therapeutic procedures, therapeutic treatment, the most common complications after therapy.				
Recommended literature: Jatin. P Shah. Head and neck surgery and oncology, Philadelphia: Elsevier – Mosby; 2012. (102-150)				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Postoperative Treatments in Maxillofacial Surgery				
Course Leader (Name, middle letter, surname): Boban Z. Aničić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 11th semester		
Entry requirements (examinations passed in previous years):		Course code: 2716_08		
Objectives of the course: To gain knowledge of the diseases of the maxillofacial region requiring postoperative treatment by maxillofacial surgeons and dentists after initial surgical treatment; introducing students to treatment modalities.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Describe the postoperative treatments to be performed - Develop a plan for postoperative therapy - Implement some of the simpler therapeutic procedures in the dental office - Predict and prevent the onset of complications in the postoperative period 				
Contents of the course: Therapeutic procedures and postoperative treatment in maxillofacial surgery, the role of the dentist in postoperative period, dental treatment after treating (traumatology, orthognathic surgery, cysts, tumors, cleft...), specificity of dental treatment of these patients, risk assessment, planning therapeutic procedures, therapeutic treatment, the most common complications following therapy.				
Recommended literature: 1. Jatin. P Shah. Head and neck surgery and oncology, Philadelphia: Elsevier – Mosby; 2012.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		30		
Other		30		

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Patient Preparation for Surgical Correction of Dentofacial Deformities				
Course Leader (Name, middle letter, surname): Zoran M. Jezdić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_09		
Objectives of the course: To gain knowledge of the principles and procedures involved in preparing patients for corrective jaw surgery.				
Outcome of the course: After completing the course and passing the exam, the student should be able to: - recognize and distinguish between dentofacial deformities - demonstrate knowledge of the basic principles and protocols of preparation for corrective jaw surgery - be familiar with the procedures involved in the analysis and planning of surgical correction				
Content of the course: Definition and contemporary classification of skeletal jaw deformity; The role of the dentist in preparing patients with dentofacial deformity for surgical correction; Consiliary and multidisciplinary approach to correction of dentofacial deformity; Analyses used for planning corrective jaw surgery; Surgery of study models and use of intersplint and definitive splints; Surgical methods used for corrections; Modern 3D planning of surgical correction.				
Recommended literature: 1. Peter Brennan, Henning Schliephake, G.E. Ghali, Luke Cascarini. Maxillofacial Surgery, 3rd Edition ISBN : 9780702060564. ELSEVIER 2016. 1048-1153				
Total number of classes in active teaching:				Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	Study research work:	
Teaching and learning methods: Work in small groups, appliance planning using software, and learning how to 3D print the appliance				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written exam	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: second				
Course: Facial Surgery				
Course Leader (Name, middle letter, surname): Vitomir S. Konstantinović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_10		
Objectives of the course: To introduce students to the principles of maxillofacial surgery related to facial esthetics.				
Outcome of the course: After completing the course and passing the exam, the student should: - Demonstrate knowledge of the proportions and dimensions of the ideal face - Demonstrate knowledge of the possibilities of correction of craniofacial deformities - Demonstrate knowledge of the esthetic surgical procedures performed on the face.				
Content of the course: Facial anatomy, histology of the skin of the face, correction of skeletal deformities in order to achieve facial harmony, surgical correction of the auricula, nose, complications of correction of the craniofacial deformities.				
Recommended literature: Janis, J. E. (Ed.). (2018). <i>Essentials of Aesthetic Surgery</i> . Thieme.372-402, 429-462, 528-551, 565-620, 645-711.				
Total number of classes in active teaching:				Professional practice/ independent work:
Lectures: 30	Practicals:	Other modes of teaching process: 30	Study research work:	
Teaching and learning methods: Work in small groups, appliance planning using software, and learning how to 3D print the appliance				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written exam	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: 3D Digital Technologies in Orthodontics				
Course Leader (Name, middle letter, surname): Branislav R. Glišić				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_11		
Objectives of the course: To introduce students to 3D technologies used in orthodontics for the purpose of orthodontic analyses. 3D study models construction. Technology of designing simple orthodontic appliances and 3D printing.				
Outcomes of the course: After completing the course, students should be able to: - Demonstrate knowledge of individual intraoral scanning - Demonstrate knowledge of 3D model construction using software - Design simple orthodontic appliances using software - Demonstrate knowledge of 3D printing of simple orthodontic appliances with the help of an orthodontic technician				
Contents of the course: Intraoral scanning 3D model construction Planning simple orthodontic appliances 3D printing of simple orthodontic appliances				
Recommended literature: The 3D Printing Handbook: Technologies, design and applications Hardcover – November 14, 2017 by Ben Redwood, Filemon Schöffner, Brian Garret i 3D Printing Projects Paperback – October 3, 2017 by DK				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, appliance planning using software, and learning how to 3D print appliances				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals	20			
Mid-term test(s)				
Seminars				
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: The Fundamentals of Treatment with Fixed Orthodontic Appliances				
Course Leader (Name, middle letter, surname): Evgenija S. Marković				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_12		
Objectives of the course: To introduce students to the fundamentals of diagnosis and treatment of malocclusions using fixed orthodontic appliances, and to the basic principles, methods, and mechanics involved in orthodontic treatment with fixed appliances.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: -understand and perform diagnostic methods, identify malocclusions, -evaluate the need for orthodontic treatment with fixed appliances; -identify parts of fixed appliances, - demonstrate understanding of the basics of treatment objectives.				
Contents of the course: Diagnosis; Biomechanics; Radiographic analysis; Treatment planning; Phases of orthodontic treatment with fixed appliances; Orthodontic materials and instruments; Bonding and types of appliances; Orthodontic treatment with extractions; Retention and relapse; Case reports;				
Recommended literature: Proffit WR, WHITE JR, Sarver DM. Contemporary Treatment of Dentofacial Deformity. St.Louis: Mosby; 2002. Rakosi T, Jonas I, Graber TM. Orthodontic Diagnosis. Thieme; 1993.Thieme Medical PublishersInc, New York				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Research paper analysis	60
Participation in practicals				
Mid-term test(s)				
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Orthodontic Management of Impacted Teeth				
Course Leader (Name, middle letter, surname): Tina S. Pajević				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI/ 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 2716_13		
Objectives of the course: To acquire knowledge of the types of impacted teeth, methods of diagnostic procedures and preventions, interceptive treatment, and orthodontic treatment principles in patients with impacted teeth.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - demonstrate knowledge of etiology, prevalence and types of impacted teeth, - conduct diagnosis of impaction; - recognize the indications and contraindications related to the application of diagnostic procedures - perform radiographic examination - recognize the need for further observation or to refer the patient to an orthodontist in a timely manner based on clinical and radiographic examination - demonstrate knowledge of the basic treatment options, modalities and techniques - demonstrate knowledge of the basic principles of surgical modalities in the management of impacted teeth, including the prognosis and complications of orthodontic treatment 				
Contents of the course: Etiology, prevalence and types of impacted teeth, diagnosis of impactions (clinical and radiographic examination), indications for various radiographic methods, including CBCT; classification and location of impacted teeth, prevention and interceptive treatment, treatment methods, prognosis, complications.				
Recommended literature: <ol style="list-style-type: none"> 1. M.Hirschhaut et al. Orthodontic management of ectopic and impacted teeth. Seminars in Orthodontics (2025), https:// doi.org/10.1053/j.sodo.2025.04.001 2. Proffit RW, Fields HW, Sarver DM. Contemporary orthodontics. 3rd ed. St Luis: Mosby; 2000. pages 77-91, 196-239, 538-542. 3. Papadopoulos S, Ziakas I, Panteris E, Chatziagianni A. The genetic basis of tooth impaction: a systematic review. Clin Oral Investig. 2025;29(10):469. 4. Bedoya MM, Park JH. A review of the diagnosis and management of impacted maxillary canines. J Am Dent Assoc. 2009;140(12):1485-93. 				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Lingual Orthodontics				
Course Leader (Name, middle letter, surname): Zorana Z. Stamenković				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI/ 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_14		
Objectives of the course: To acquire knowledge related to the basics of lingual orthodontics, indications and contraindications for treatment with lingual fixed appliances, the mechanism of their application, and action and treatment effects.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: 1. Differentiate between standard vestibular and lingual techniques of treatment with fixed appliances 2. Demonstrate knowledge of the basics and mechanics of lingual fixed appliances 3. Define the differences between 2D and 3D lingual brackets				
Contents of the course: Defining basic characteristics of lingual orthodontics, properties of 2D and 3D lingual brackets, instruments required for lingual positioning of brackets, incognito treatment method, stages of treatment, case reports of patients treated with lingual fixed appliances.				
Recommended literature: 1. Harfin J., Urena A. Achieving Clinical Success in Lingual Orthodontics. Cham: Springer; 2015. Pages 1-264 2. Scuzzo G., Takemoto K.: Lingual Orthodontics. London: Quintessence Pub.; 2010. Pages 1-58, 99-117 3. Romano R. Lingual and esthetics orthodontics. Chicago: Quintessence; 2011. Pages. 80-120 4. Arora P., Gupta R.: Biomechanics of lingual orthodontics. Saarbrucken: LAP LAMBERT Academic Publishing; 2017. Pages 1-30, 80-102				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars		20		
Other		20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Multidisciplinary Therapy in Orthodontics				
Course Leader (Name, middle letter, surname): Željko B. Milosavljević				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: VI / 12th semester	
Entry requirements (examinations passed in previous years):			Course code: 2716_15	
<p>Objectives of the course: To acquaint students with the possibilities for a cooperation between orthodontists and other dental specialists and the orthodontist's role in trauma therapy in children, preparation for prosthodontic-implantology rehabilitation, treatment of periodontally compromised patients, combined ortho-surgical therapy in patients with maxillo-facial deformities and cleft palates, the role of oral surgery in patients with excessive or impacted teeth. To gain an understanding of the need to incorporate other dental specialists in solving complex orthodontic cases.</p>				
<p>Outcomes of the course: After completing the course and passing the exam, the students should be able to: -recognize when it is necessary to include orthodontic therapy as part of the preparation for a definitive management of complex cases, -recognize when they should include other dental specialists in pre-treatment of complex orthodontic patients -demonstrate understanding of the importance of a multidisciplinary approach to the doctrines of contemporary dentistry.</p>				
<p>Contents of the course: Orthodontics and pediatric dentistry, orthodontics and oral and maxillofacial surgery and implantology, the cooperation between orthodontists and specialists in the fields of periodontology, odontology, and prosthodontics; the role of the orthodontist in a multi-specialist team care. The first part of the course is devoted to the role of orthodontics in other branches of dentistry, while the second part focuses on the role of other branches in orthodontics.</p>				
<p>Recommended literature: 1. Lauwers L, Wojcik T, Delbarre A, Movaghar R, Ferri J.: Hypodontia: therapeutic strategy elaborated from 30 cases. J Esthet Restor Dent. 2012 Apr;24(2):88-100. 2. Nienkemper M, Pauls A, Ludwig B, Wilmes B, Drescher D.: Preprosthetic molar uprighting using skeletal anchorage. J Clin Orthod. 2013 Jul;47(7):433-7. 3. Richelme J.: Esthetics and pre – prosthetic orthodontic treatment. J Dentofacial Anomalies and Orthodontics 2012.15(03):307. 4. Shetye PR.: Orthodontic management of patients with cleft lip and palate. APOS Trends Orthod 2016;6:281-6. 5. Haryani J, Nagar A, Mehrotra D, and Ranabhatt R: Management of severe skeletal Class III malocclusion with bimaxillary orthognathic surgery Contemp Clin Dent. 2016 Oct-Dec; 7(4): 574–578. 6. Lygidakis, N.N., Chatzidimitriou, K., Theologie-Lygidakis, N. et al.Evaluation of a treatment protocol for unerupted maxillary central incisors: retrospective clinical study of 46 children Eur Arch Paediatr Dent (2015) 16: 153. 7. Cao T, Xu L, Shi J, Zhou Y.Combined orthodontic-periodontal treatment in periodontal patients with anteriorly displaced incisors AJO DO 2015;148(5):805-813. 8. Proffit, W.R.White, R.P. Jr.Combined surgical-orthodontic treatment: How did it evolve and what are the best practices now? AJO DO 2015;147(5):205-215. 9. Rodriguez, J. C.; Suarez, F.; Chan, H. L.; Padial-Molina, M.; Wang, H. Implants for Orthodontic Anchorage: Success Rates and Reasons of Failures Implant Dentistry: 2014;23 (2):155–161.</p>				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam compulsory activities		Total 40 points	Final exam 60 points	
Participation in lectures		20	Written defense of a project on a selected topic	60
Participation in practicals		20	Practical exam	
Mid-term test(s)			Oral exam	
Seminars				
Other				

Table 5.2 Course specification

Study Program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Orthodontic Mini-Implants				
Course Leader (Name, middle initial letter, surname): Nenad Lj. Nedeljkovic				
Course status (compulsory/elective): Elective				
ECTS: 3			Year of the study: VI / 12th semester	
Entry requirements (examinations passed in previous years):			Course code: 27I6_16	
Objectives of the course: To acquire basic knowledge in the field of advanced possibilities for providing a secure absolute anchorage with orthodontic mini-implants in the treatment of orthodontic malocclusions.				
Outcome of the course: After completing the course and passing the exam, the student should be able to: - identify and describe the types of anchorage - understand the basics of skeletal anchorage - understand the basic indications for the use of orthodontic mini-implants in the treatment of orthodontic irregularities - recognize basic biomechanical principles based on orthodontic mini-implants				
Content of the course: Types of support and skeletal anchorage bases; parts and characteristics of orthodontic mini-implants, types of orthodontic mini-implants; the manner and site of application; safe zones for mini-implant applications; loading of mini-implants and biomechanics of tooth movement; indications and contraindications for the use of orthodontic mini-implants; therapeutic options.				
Recommended literature: 1. Melsen B, Verna C, Luzi C. Mini-implants and their clinical applications: The Arhus experience. Edizioni Martina, Bologna, Italy, 2013. pp. 2-20. 2. Park HS. Mikroimplants in orthodontic treatment. Dentos Co, Daegu, Korea, 2015. pp. 8-138. 3. Lietz T. Mini-screws – Aspects of assessment and selection among different systems. In: Ludwig B, Baumgartel S, Bowman S. Mini-implants in orthodontics – inovative anchorage concepts. Quintessence Publishing Co Ltd, London, 2008. pp.11-63. 4. Wilmes B. Achieving optimal esthetics with palatal mini-implants – The Benefit technique. In: Nanda R. Esthetics and biomechanics in orthodontics. Elsevier Saunders, St. Louis, 2015. pp. 360-391. 5. Lee SJ, Kim JK, Park YC, Vanarsdall RL. Treatment planing, surgical procedures and mechanics and limitations. In: Applications of Orthodontic mini-implants. Quintessence Publishing Co Ltd, Chicago, 2007. pp.51-146.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching: 30	Research paper:	
Teching and learning methods: Small-group work, interactive method that involves brief theoretical remarks by teachers, small groups, seminars, interactive discussions, presentations and case analysis. The final exam consists of a writing project - a seminar paper.				
Assessment (maximal number of points 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Presurgical Orthodontic Treatment				
Course Leader (Name, middle letter, surname): Ivana V. Šćepan				
Course status (compulsory/elective): Elective				
ECTS:3		Year of the study: VI / 12th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_17		
Objectives of the course: To acquire basic knowledge of orthognathic surgery diagnostics, including establishing adequate indications for pre-surgical orthodontic treatment and proper and timely referral of the patient to specialists in orthodontics.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - Demonstrate knowledge and understanding of the indications for combined orthodontic and surgical treatment of dentofacial deformity - Clearly explain the purpose, plan and possible complications of the treatment - Demonstrate knowledge of the possibilities and limitations of orthodontic therapy, and the possibilities of modern orthognathic surgical treatment - Demonstrate knowledge of the principles of orthodontic therapy of patients with various dentofacial deformities of the face and jaw in order to prepare them for a surgical correction - Demonstrate knowledge of cephalometric planning as well as treatment planning on study models for patients with dentofacial deformity 				
Contents of the course: Indications for orthognathic surgical treatment, psychosocial considerations in orthodontics and surgery, medical documentation before surgery, differential diagnosis of dentoalveolar and skeletal anomaly, specificities of orthodontic therapy in combined orthognathic surgical treatment.				
Recommended literature: Proffit RW, Fields HW. Contemporary orthodontics, 3rd edition. 2000, Mosvz, St Louis, pp. 2-147,674-709 Proffit WR, WHITE JR, Sarver DM. Contemporary Treatment of Dentofacial Deformity. 2002, Mosby, St.Louis, 2-269, 417-644				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points		Final exam 60 points	
Participation in lectures			Written defense of a project on a selected topic	60
Participation in practicals				
Mid-term test(s)				
Seminars	30			
Other	10			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: The use of CBCT in Orthodontics and Dentofacial Orthopedics			
Course Leader (Name, middle letter, surname): Neda Lj. Stefanovic			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: VI/11th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I6_18	
Objectives of the course: To gain fundamental knowledge of orthodontic diagnosis based on the analysis of the DICOM dataset obtained using a CBCT scanner.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: - understand the indications for CBCT scanning in potential orthodontic patients - demonstrate knowledge of available CBCT image analyses for orthodontic diagnostic purposes - describe the position of impacted teeth that need to be treated orthodontically - recognize signs of root resorption			
Contents of the course: - Indications for CBCT scanning in orthodontics and dentofacial orthopedics - CBCT image analysis - Software programs for CBCT image analysis - CBCT image orientation - Generating profile and frontal cephalograms, panoramic-like images and TMJ tomograms from the DICOM dataset obtained using a CBCT scanner - Visualization and analysis of the position of impacted teeth that need to be treated orthodontically - Three-dimensional tooth position analysis - Evaluating root resorption			
Recommended literature: 1. Palomo JM, El H, Stefanovic N, Eliliwi M, Elshebiny T, Pugliese F. 3D Cephalometry. In: Retrouvey JM, Abdallah MN (eds) 3D Diagnosis and Treatment Planning in Orthodontics. Springer, Cham. 2021. pp. 93-128 2. Palomo JM, El H, Stefanovic N, Bazina M. Diagnostic Value of 3D Imaging in Clinical Orthodontics. In: Kadioglu O, Currier G. (eds) Craniofacial 3D Imaging. Springer, Cham. 2019. pp. 113-140 3. Palomo JM, El H, Stefanovic N, Bous R, Elshebiny T. Treatment Planning, Outcome Assessment, and Upper Airway Imaging Using CBCT in Clinical Orthodontics. In: Kadioglu O, Currier G. (eds) Craniofacial 3D Imaging. Springer, Cham. 2019. pp. 141-165 4. Palomo JM, Valiathan M, Hans MG. 3D orthodontic diagnosis and treatment planning. Y: Kapila S, editor. Cone beam computed tomography in orthodontics: indications, insights, and innovations. Ames, Iowa: John Wiley & Sons Inc.; 2014. pp. 221-246. 5. Cevidanes L, Benavides E, Ludlow JB, de Oliveira Ruellas AC. Orthodontic diagnosis and treatment planning with cone beam computed tomography imaging. Y: Graber LW, Vanarsdall RL, Vig KWL, Huang GJ. Orthodontics: Current Principles and Techniques. 6th ed. St. Louis: Elsevier Health Sciences; 2016. pp. 302-318. 6. Palomo JM, El H, Palomo L, Strohl KP. Upper Airway, Cranial Morphology, and Sleep Apnea. Y: Graber LW, Vanarsdall RL, Vig KWL, Huang GJ. Orthodontics: Current Principles and Techniques. 6th ed. St. Louis: Elsevier Health Sciences; 2016. pp. 319-352. 7. Stefanovic N. The Use of Cone Beam Computerized Tomography in Airway Analysis, 2013. Andrejevic Endowment, Belgrade, Serbia; Monograph, pp. 60-89			
Total number of contact classes (active teaching and learning):			Professional practice/independent work:
Lectures:30	Practicals:	Other modes of teaching :30	
Research paper:			
Teaching and learning methods: Small-group work, seminars			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars	40		
Other			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Contemporary Radiology in Dentistry			
Course Leader (Name, middle letter, surname): Biljana B. Marković Vasiljković, Aleksa M. Janović			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: VI / 11th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I6_19	
<p>Objectives of the course: The aim of the course Contemporary Radiology in Dentistry is to familiarize students with modern imaging methods used to diagnose diseases of the maxillofacial region (computed tomography, ultrasound, magnetic resonance, etc.), the principles of image acquisition and interpretation, including the principles of patient protection from ionizing radiation. Students will be able to gain knowledge of the significance of follow-up imaging in various maxillofacial diseases. Additionally, the aim is to become familiar with the contemporary concept of diagnostic radiology, advances in the development of imaging techniques (e.g. dental magnetic resonance) and the application of artificial intelligence in dental radiology.</p>			
<p>Outcomes of the course: After attending the course and passing the exam, the student should be able to: -demonstrate knowledge of principles of imaging techniques used in contemporary dento-maxillofacial radiology (ultrasound, computed tomography, magnetic resonance, hybrid imaging methods), including: - imaging methods and examination technique - indications and selection of the most appropriate imaging method based on clinical findings - radiological presentation of the most common pathological conditions in dento-maxillofacial region - advantages and disadvantages of imaging methods</p>			
<p>Contents of the course: Possibilities of analog and digital orthopantomography and cone-beam technique in diagnosing pathological changes in the dento-maxillofacial region. Computed tomography: principles and examination techniques. Application in various dento-maxillofacial diseases. Magnetic resonance imaging: Principles and examination techniques. Application in various dento-maxillofacial diseases. Ultrasound imaging: Principles and examination techniques. Application in various dento-maxillofacial diseases. Basic principles of hybrid imaging and its application in the various dento-maxillofacial diseases. Principles of imaging method selection and comparative studies in the follow-up examinations. The importance of medical board examination of patients with diseases of the face and jaws.</p>			
<p>Recommended literature:</p> <ol style="list-style-type: none"> 1. Mallya S.W., Lam E.W.N. White and Parah's oral radiology. Principles and interpretation. 8th edition. Elsevier 2019. 1958 str. 2. Orhan Kaan. Ultrasonography in Dentomaxillofacial Diagnostics 1st ed. Springer, 2021.- 363 pp. 3. Orhan Kaan, Rohan Jagtap. Artificial Intelligence in Dentistry. 1st ed. Springer, 2023. - 370 pp. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:: 30	Other modes of teaching:	
<p>Teaching and learning methods: Lectures are organized in small groups and designed to be interactive, combining short theoretical notes delivered by the teacher with individual student reports on assigned topics. Based on previously analyzed literature, each topic is further discussed through the analysis of clinical cases. A mid-term test is conducted as part of the pre-exam activities, while the final exam takes the form of a written defense of a project on an assigned topic.</p>			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	60
Participation in lectures		Written defense of a project on a selected topic	60
Participation in practicals			
Mid-term test(s)			
Seminars			
Other	40		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Computerized Dentistry				
Course Leader (Name, middle letter, surname): Aleksandar B. Todorović				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI / 11th semester		
Entry requirements (examinations passed in previous years):		Course code: 27I6_20		
Objectives of the course: To obtain theoretical and practical knowledge of computer technology and its applications in dentistry.				
Outcomes of the course After completing this course, the student should be able to: -demonstrate theoretical knowledge concerning the application of computer technologies in the following areas: management in dentistry, e-learning, expert systems, databases, simulations, diagnosis and treatment, computer aided inspection, computer aided design, computer aided manufacturing, computer application in diagnosis and treatment of TMJ disorders, digital photography, digital radiology, computer-guided implantology, and analysis of the models and images in the diagnosis of malocclusion.				
Contents of the course The subject of computerized dentistry is based on the premise that information technology has the potential to help dentistry realize its vision of improving individual and general oral health systematically and consistently. Advances in the integration of computer technology, as well as innovations in digital imaging, signal processing, intra- and extra-oral digitalization, data visualization, information and knowledge representation can fundamentally improve therapeutic and diagnostic treatments in dentistry. The lectures cover the application of computers in education, therapy and diagnostics, CAD/CAM technologies, computer-guided implantology, including computer applications in orthodontics and endodontics. The practical training involves digital shade matching, computer applications in implant planning, basic functions of CAD/CAM systems, computer simulation for orthodontic treatment planning, digital intra- and extraoral photo imaging, and analysis of digital images.				
Recommended literature: Titus Schleyer, HeikoSpallek, Gisela Spallek: Computing in Dentistry, School of Dental Medicine, University of Pittsburgh. Philippe B. Tardieu, Alan L.Rosenfeld:The Art of Computer - Guided Implantology, Quintessence publishing Co, 2009				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written defense of a project on a selected topic	60	
Participation in practicals		Practical exam		
Mid-term test(s)		Oral exam		
Seminars	20			
Other	20			

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine				
Level of studies: Second				
Course: Treatment Possibilities with Removable Orthodontic Appliances				
Course Leader (Name, middle letter, surname): Jovana T. Juloski				
Course status (compulsory/elective): Elective				
ECTS: 3		Year of the study: VI/12th semester		
Entry requirements (examinations passed in previous years): /		Course code: 2716_21		
Objectives of the course: To introduce students to orthodontic treatment with removable orthodontic appliances and to enable them to plan therapy using removable orthodontic appliances, either active or functional.				
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - evaluate the indications for therapy with active removable orthodontic appliances to determine appropriate patient selection - evaluate the indications for therapy with functional removable orthodontic appliances to determine appropriate patient selection - plan and design a removable orthodontic appliance (active or functional) - predict the outcome of therapy with a removable orthodontic appliance - recognize the active, functional and retention components of removable orthodontic appliances 				
Contents of the course: History and development of active removable orthodontic appliances; History and development of functional removable orthodontic appliances; Biomechanics; Principles of operation of functional appliances; Orthodontic analysis of the face, function, study models and radiographs; Therapy planning; Planning and design of removable orthodontic appliances.				
Recommended literature: Isaacson K.G. Muir J.D. Reed R.T. Removable Orthodontic Appliances. Elsevier Science; 2002. Pp. 1-121. Khalaf K, Mando M. Removable appliances to correct anterior crossbites in the mixed dentition: a systematic review. Acta Odontol Scand. 2020;78(2):118-125.				
Total number of contact classes (active teaching and learning):				Professional practice/ independent learning:
Lectures: 30	Practical: 30	Other modes of teaching:	Research paper:	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.				
Assessment (maximum number of points: 100)				
Pre-exam requirements	Total 40 points	Final exam 60 points		
Participation in lectures		Written resolution of clinical situations	60	
Participation in practical	20			
Mid-term test(s)				
Seminars	20			
Other				

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Digital technologies in implant prosthodontics			
Course Leader (Name, middle letter, surname): Miodrag Lj. Šćepanović, Aleksa B. Marković			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: VI/11th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I6_22	
Objectives of the course: To enable students to effectively use digital technologies in implant prosthodontics.			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to:</p> <ul style="list-style-type: none"> • operate intraoral scanning systems; • apply digital smile design (DSD) platforms for clinical treatment planning; • utilize software for computer-guided implant surgery; • critically evaluate digital technologies used in contemporary dental laboratory workflows. 			
<p>Contents of the course:</p> <ul style="list-style-type: none"> • Clinical application and workflow strategies for intraoral scanning in implant prosthodontics; • Scanning protocols for conventional and videogrammetric scan bodies in fully edentulous cases; • Comparative analysis and clinical utilization of digital platforms for virtual implant planning; • The role of standardized photographic documentation and structured photo protocols in implant prosthodontic treatment. 			
<p>Recommended literature:</p> <ul style="list-style-type: none"> • Yu Pan, Edmond H. N. Pow, Katherine C. M. Leung, Walter Y. H. Lam: "Prosthodontics and Restorative Dentistry", CRC Press, 1st Edition, 2026. • Todd R. Schoenbaum: "Implant Prosthodontics: Protocols and Techniques for Fixed Implant Restorations", Quintessence Publishing, 1st Edition, 2022. • Wael Att, Siegbert Witkowski, Jörg R. Strub: "Digital Workflow in Reconstructive Dentistry", Quintessence Publishing, 1st Edition, 2019. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written resolution of clinical situations	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Materials in Implantology			
Course Leader (Name, middle letter, surname): Ana R. Todorović, Aleksa B. Marković			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: VI /11th semester	
Entry requirements (examinations passed in previous years):		Course code: 2716_23	
Objectives of the course: The aim of this course is to provide students with advanced knowledge of biomaterials used in modern dental implantology, including their mechanical, chemical, and biological properties, mechanisms of osseointegration, and interactions with hard and soft tissues, thus enabling informed clinical decision-making and long-term treatment predictability.			
Outcomes of the course: After completing the course and passing the exam, the student should be able to: <ul style="list-style-type: none"> - explain the principles of biocompatibility and osseointegration. - analyze the mechanical properties of titanium and titanium alloys used in implant dentistry. - differentiate between various implant surface modifications and their clinical relevance. - evaluate the indications and limitations of zirconia implants. - compare different bone graft materials and barrier membranes used in guided bone regeneration (GBR). - critically interpret scientific literature related to implant biomaterials. - recognize material-related complications in implant dentistry. 			
Contents of the course: Introduction to biomaterials in dentistry, biocompatibility and tissue response, titanium and titanium alloys (Grade 4 and Grade 5), implant surface modifications (SLA, anodization, laser treatment, hydroxyapatite coatings), micro- and nanotopography of implant surfaces, biological mechanisms of osseointegration, zirconia as an alternative implant material, implant biomechanics and load distribution, bone graft materials (autografts, allografts, xenografts, synthetic substitutes), barrier membranes for guided bone regeneration, material-related peri-implant complications, emerging technologies (bioactive surfaces, nanotechnology, 3D printing).			
Recommended literature: <ol style="list-style-type: none"> 1. Hotchkiss KM, Reddy GB, Hyzy SL, Schwartz Z, Boyan BD, Olivares-Navarrete R. Titanium surface characteristics, including topography and wettability, alter macrophage activation. <i>Acta Biomater.</i> 2019;97:497-510. PMID: 31108106. 2. Gittens RA, Scheideler L, Rupp F, Hyzy SL, Geis-Gerstorf J, Schwartz Z, et al. A review on the wettability of dental implant surfaces II: Biological and clinical aspects. <i>Acta Biomater.</i> 2020;102:1-20. PMID: 31706965. 3. Roehling S, Schlegel KA, Woelfler H, Gahlert M. Performance and outcome of zirconia dental implants: a systematic review and meta-analysis. <i>Clin Oral Implants Res.</i> 2022;33 Suppl 23:134-159. PMID: 34984817. 4. Wennerberg A, Jimbo R, Stubinger S, Obrecht M, Dard M, Berner S. Nanostructured implant surfaces: from experimental models to clinical evidence. <i>Periodontol 2000.</i> 2021;85(1):172-192. PMID: 33320986. 5. Schwarz F, Derks J, Monje A, Wang HL. Peri-implantitis. <i>J Clin Periodontol.</i> 2022;49 Suppl 24:124-152. PMID: 35088401. 6. Donos N, Calciolari E. Dental implants and bone regeneration: state of the art and future perspectives. <i>Clin Oral Investig.</i> 2021;25(6):3519-3530. PMID: 33835325. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures:30	Practicals:	Other modes of teaching : 30 Research paper:	
Teaching and learning methods: Lectures with multimedia presentations, Seminar discussions, Case-based learning, Analysis of scientific literature			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written resolution of clinical situations	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		

Table 5.2 Course specification

Study program: Integrated Studies of Dental Medicine			
Level of studies: Second			
Course: Design of Implant-Supported Restorations			
Course Leader (Name, middle letter, surname): Mirko V. Glišić			
Course status (compulsory/elective): Elective			
ECTS: 3		Year of the study: VI/11 th semester	
Entry requirements (examinations passed in previous years):		Course code: 27I_6_24	
<p>Objectives of the course: To acquire knowledge of proper planning and design of implant-supported restorations for partial and complete edentulism by integrating the principles of prosthetic planning and biomechanics, aesthetics, function, surgical installation, and long-term proper maintenance.</p>			
<p>Outcomes of the course: After completing the course and passing the exam, the student should be able to: - understand the basic steps of proper planning and designing implant-supported restorations; - determine the optimal prosthetic compensation for each patient in accordance with the patient's aesthetic requirements, and ensure predictable therapeutic outcomes; - conduct an aesthetic analysis of the patient using digital workflows; - analyze the condition of soft and bone tissue using digital technologies, select the optimal implant type, select the appropriate abutment according to key criteria, determine the restoration retention method, and select definitive restoration building material, all of which influence the design of the surgical treatment plan.</p>			
<p>Contents of the course: Diagnostic procedures and analysis of CBCT images, principles and techniques of aesthetic analysis, including patient-specific risk factors, stages of prosthetic planning using digital technologies, abutment selection, conditioning of peri-implant soft tissues, selection of methods for retaining the restoration on implants, and review of definitive construction materials.</p>			
<p>Recommended literature:</p> <ol style="list-style-type: none"> Gomez-Meda R, Esquivel J, Blatz MB. The esthetic biological contour concept for implant restoration emergence profile design. <i>J Esthet Restor Dent.</i> 2021;33: 173–184. Puisys, A., Janda, M., Auzbikaviciute, V., Gallucci, G. O., & Mattheos, N. (2023). Contour angle and peri-implant tissue height: Two interrelated features of the implant supracrestal complex. <i>Clinical and Experimental Dental Research</i>, 9, 418–424. Esquivel J, Gomez Meda R, Villarroel M. Timing implant provisionalization: Decision- making and systematic workflow. <i>J Esthet Restor Dent.</i> 2024; 36(6):858-867. Laleman, I., Lambert, F., Gahlert, M., Bacevic, M., Woelfler, H., & Roehling, S. (2023). The effect of different abutment materials on peri-implant tissues—A systematic review and meta-analysis. <i>Clinical Oral Implants Research</i>, 34(Suppl. 26), 125–142. Wittneben JG, Joda T, Weber HP, Brägger U. Screw retained vs. cement retained implant-supported fixed dental prosthesis. <i>Periodontol 2000.</i> 2017 Feb;73(1):141-151. 			
Total number of contact classes (active teaching and learning):			Professional practice/ independent learning:
Lectures: 30	Practicals:	Other modes of teaching : 30	
Teaching and learning methods: Small-group work, seminars, interactive discussions, case reviews and analysis.			
Assessment (maximum number of points: 100)			
Pre-exam requirements	Total 40 points	Final exam 60 points	
Participation in lectures		Written resolution of a clinical situation	60
Participation in practicals			
Mid-term test(s)			
Seminars	20		
Other	20		