



**UNIVERSITY  
OF LJUBLJANA**

**MF**

**Faculty of  
Medicine**

**PRESENTATION DOCUMENT**

*PRESENTATION DOCUMENT*

*UNIFORM SOCEND-LEVEL MASTER'S PROGRAM*

*DENTAL MEDICINE*

*Academic Year 2026/2027*

**Ljubljana  
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**Title**

PRESENTATION DOCUMENT  
UNIFORM SECOND-LEVEL MASTER'S  
PROGRAM DENTAL MEDICINE

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## PRESENTATION OF THE PROGRAM

### 1. Information about the course of study

The uniform second-level Master's degree study of Dental Medicine lasts six years (12 semesters) and consists of a total of 360 credit points.

### 2. The basic objective of the program and obtained competences

The essential goal of the uniform Master's study program of Dental Medicine is to train an expert to perform professional duties and tasks in the field of dental medicine, and also give him a sound basis for further professional training in the field of specializations and continuing the study onto the PhD level

#### General competencies

- Ability to analyze, synthesize and envisage solutions and consequences,
- mastery of research methods, procedures and processes, development of critical and self-critical judgement,
- ability to apply knowledge in practice,
- autonomy in professional work,
- development of communication abilities and skills,
- ethical reflection and commitment to professional ethics,
- cooperativeness, teamwork, and working in an international environment.

#### Subject-specific competencies

- Knowledge and understanding of the role and development of medicine and dental medicine,
- the ability to solve specific work problems using scientific methods and procedures,
- specific mastery of basic knowledge, and the ability to integrate knowledge from different fields and its use,
- the ability to include new information and interpretations in the context of dental medicine,
- understanding the general structure of dental medicine and the connection between its sub-disciplines,
- understanding and use of methods of critical analysis, development theories and their usage in solving specific work problems,
- development of skills and abilities in the use of knowledge in the field of dental medicine,
- use of information and communication technologies and systems in the field of dental medicine

#### Medicine-specific competencies

- Knowledge of normal and pathological structures on the cellular level and on the level of human organism,
- knowledge of basic biological, behavioral and social factors of health and disease development,
- understanding the place and role of dental medicine in society,
- knowledge of the molecular basis and mechanisms of normal and pathological functioning of the human organism,
- communication skills with patients,
- knowledge of public health problems treatment methods,
- the ability to examine a patient with emphasis on the orofacial region,
- knowledge of the role of environment in the emergence and development of diseases,
- understanding of disease states, their signs and symptoms with emphasis on the orofacial region,
- knowledge of the role of lifestyle in the formation and development of diseases, communication skills with patients,
- knowledge of disease diagnostics and treatment with particular emphasis on the orofacial region, knowledge of preventive measures in dental medicine,
- integration of knowledge and skills at work with a patient at clinical practical course,
- scientific research in the field of dental medicine

### 3. Curriculum evaluation and credit requirements according to ECTS

See Annexes 1 and 2.

## 4. Conditions and requirements for enrolment

In the Uniform second-level Master's degree of Dental Medicine may be enrolled:

- a. those that have passed the general maturity examination,
- b. those who have completed any four year secondary school program before June 1st 1995.

All applicants must demonstrate knowledge of the Slovenian language at B2 level according to the Common European Framework of Reference for Languages (CEFR) and provide appropriate certification. Relevant proof of compliance for this entry condition shall be:

- a pass certificate from an examination of the Slovenian language at B2 level, approved by the Slovenian Language Examination Centres, certified by ALTE
- a Republic of Slovenia elementary school certificate of completion, or completion from a foreign elementary school where Slovenian was a taught language,
- a high school graduation certificate or a certificate of completion of the final year of a high school vocational program in which one completed subject was Slovenian,
- a certificate of completion in bilingual high school education (Slovenian and a foreign language) or completion from a foreign high school institution where Slovenian was a taught language,
- a diploma of acquired education in a study program from a higher education institution in the Republic of Slovenia, and a certificate (statement) that the candidate completed the program in the Slovenian language.

Candidates who undertake (have undertaken) a general high school examination or high school vocational examination in the Republic of Slovenia need not send proof of knowledge in the Slovenian language, the required information is submitted to the higher education and information service by the State Examination Centre.

In the case of limited enrolment, the applicants under a) will be selected according to:

- the general grade in the general maturity examination, 30 % of points
- the general grade in third and fourth year, 10 % of points
- success in individual subjects of the general maturity examination:
- mathematics, a foreign language and one natural science subject
- (biology, physics or chemistry). 60 % of points

Candidates under point b), by:

- the general grade in the final examination, 30 % of points
- the general grade in third and fourth year, 10 % of points
- grade in mathematics or a foreign language in the final examination
- and grade from one of the natural science subjects (physics, chemistry
- or biology) in the final exam or in the last year of secondary school,
- when the subject was taught. 60 % of points

## 5. Criteria for recognition of knowledge and skills acquired prior to enrolment in the program

UL MF recognizes acquired knowledge, qualifications or abilities to candidates only in case when this knowledge is acquired in formal forms of education, when candidates transfer to UL MF from other medical study programs. The recognition process is led by the Commission for Student Affairs individually for each candidate. On the basis of the reports of the course lecturers, the Commission identifies differences in the program and recognizes only formally acquired knowledge that corresponds to the general or subject-specific competencies defined in the uniform Master's study program of Dental Medicine.

## 6. Evaluation method

Evaluation method is specified in Regulations for assessment of knowledge and skills for the uniform master's study programs of medicine and dental medicine, which is available on the web site of Medical Faculty.

Final grades for the course exams are as follows:

- 10 – (excellent: exceptional knowledge without or with negligible faults),
- 9 – (very good: very good knowledge with some minor faults),
- 8 – (very good: good knowledge with certain faults),
- 7 – (good: solid knowledge but with several faults),
- 6 – (satisfactory: knowledge only meets minimal criteria),
- 5 – (unsatisfactory: knowledge does not meet minimal standards).

For visiting students, the obtained grades are converted into the ECTS system:

- A – excellent (10),
- B – very good (9),
- C – good (8),
- D – satisfactory (7),
- E – sufficient (6),
- F – insufficient (5),

## 7. The requirements for advancement in the program

The requirements for advancement in the program are distinctly specified in the document called *»Pravila študija UL Medicinske fakultete za Enovita magistrska študijska programa 2. stopnje Medicina in Dentalna medicina«*. A student of the Uniform second-level Master's study programme of Dental Medicine who enrolled into the first year of study in the academic year 2017/2018 or later, may progress to the next year if he fulfils the requirements defined in the program. To advance to the next year of study, the student must collect at least 54 credit points from the current year of study with passed exams in subjects, which are necessary for a successful work in the next year of study.

### 7.1. The requirements for advancement in the program

- From the 1. to the 2. year of study: 54 credit points.
- From the 2. to the 3. year of study: 54 credit points from the 2. year of study and passed all exams in the year of study.
- From the 3. to the 4. year of study: 54 credit points from the 3. year of study and passed all exams in the 1. and 2. year of study.
- From the 4. to the 5. year of study: 54 credit points from 4. year of study and passed all exams from 1., 2. and 3. year of study and from the 4. year of study: Clinical Physiology of Stomatognathic System.
- From the 5 th to the 6 th year of study: 54 credit points from 5. year of study and passed all exams from 1., 2., 3., 4. year of study and from 5. year of study: Periodontology 2.

## 7.2 Advancement in the program—exceptional advancement to the next year of study

A student may progress exceptional to the next year of study - exceptional advancement to the next year of study, even if she/he fails to meet conditions (54 credit points), if she/he:

- has justifiable and sufficient reasons
- has collected at least 46 credit points with passed exams in subjects from the current year of study and

has:

- From the 2nd to 3rd year of study: passed all exams from the 1st year
- From 3rd to 4th year of study: passed all exams from 1st, and 2nd year
- From 4th to 5th year of study: passed all exams from 1st, 2nd, and 3rd year and from the 4th year of study: Clinical physiology of stomatognathic system
- From 5th to 6th year of study: passed all exams from 1st, 2nd, 3rd and 4th year of study and from 5th year of study: Periodontology 2

## 7.3 Terms for repetition of a year

A student who has not completed the requirements for advancing to the next year can re-enter a year of study once during the period of study if he has fulfilled at least half of the requirements from the current year of study (30 credit points) and has during the period of study not yet changed the study program or study course.

The Commission for Student Affairs may exceptionally permit enrolment of a student who does not meet the conditions for re-enrolment (exceptional extension of a student status), if the statutory requirements were not met because of the justifiable reasons, which are defined in the document *»Pravila študija UL Medicinske fakultete za Enovita magistrska študijska programa 2. stopnje Medicina in Dentalna medicina«*.

## 8. Transitions between study programs

According to the Criteria for transfers between study programs, the Senate of the Faculty of Medicine defines the number of available places for continuation of study for each year. The terms and number of available places are published in Call for enrolment.

Transition is understood as termination of studies in one study program and continuation of studies in a new study program on the Faculty of Medicine—Uniform second-level Master's degree study of Medicine.

Applications for transitions between study programs in Medicine or Dental Medicine are examined by the Commission for Student Affairs. If there are more applications than free enrolment places, the candidates will be selected on the basis of the average grade of the study so far.

Transitions between study programs are possible:

1. if both study programs ensure acquisition of comparable competences after their completion,
2. if it is possible to acknowledge at least half of the obligations from the first study program under the European Credit Transfer and Accumulation System (hereinafter: ECTS), which are similar to the obligatory courses of the second study program.

The transition from other study programs to the uniform Master's study program of Medicine is possible to the second or third year of study. The candidate must fulfil the requirements for enrolment in to the first year of study regarding the knowledge of the Slovenian language. He must have also passed the general maturity examination, successfully completed the first or the first two years of his current study program (he must have gained 60 credit points for each year of study) and have an average grade of at least 8,5.

The Commission for Student Affairs checks the number of credit points and average grade of the 1<sup>st</sup> year of study or 1<sup>st</sup> and 2<sup>nd</sup> year of the medicine study for candidates who requests for advancement to the 2<sup>nd</sup> or 3<sup>rd</sup> year of study, according to the Criteria for transfers between study programs.

The Commission for Student Affairs defines bridging examination for the subjects, which differ from the study program of the uniform Master's study program of Medicine.

The application for the transition between study programs of medicine or dental medicine must be accompanied by certified photocopies (report cards from 3<sup>rd</sup> and 4<sup>th</sup> years of high school, general certificate of high school education with a report card for the general high school examination and a certificate of passed examinations in a previous course of medicine or dental medicine, including the course of study—for the latter two the document must include information on the scope of the subjects and assessments of completed exams according to ECTS).

Transition is possible if the candidate meets the general requirements for enrolment in accordance with the Higher Education Act of the Republic of Slovenia and the uniform Master's study program of Medicine.

Transitions between study programs is possible only if The Commission for Student Affairs confirms the candidates

Application and only under the conditions, which are defined by The Commission for Student Affairs.

## 9. The mode of study

The Uniform second-level Master's degree study of Dental Medicine is available to study as full-time study program.

## 10. Conditions for completing the program

A student completes his study program and graduates when he completes all obligations of the study program and achieves 360 credit points.

## 11. Field of study program according to the classification KLASIUS and scientific discipline according to the Field of Science and Technology classification FRASCATI

The Uniform second-level Master's degree study of Dental Medicine is classified on classification KLASIUS: On the first classification level KLASIUS-P-16, the study program is classified under field Health and Welfare. On the second classification level KLASIUS-P-16, the study program is classified under field Health. On the third classification level KLASIUS-P-16, the study program is classified under field Dental studies.

1<sup>ST</sup> LEVEL 09

2<sup>ND</sup> LEVEL 091

3<sup>RD</sup> LEVEL 0912

The study program is according to the classification FRASCATI classified under Medical Sciences, which include subgroups Basic Medicine, Clinical Medicine and Public Health.

## 12. Classification within the Slovenian Qualifications Framework, Framework for Qualifications of the European Higher Education Area and European Qualifications Framework

Slovenian Qualifications Framework /SQF/: level 8

### **13. Professional title acquired with completing the program**

The professional title acquired by the graduate is a Doctor of Dental Medicine (D.M.D.).

## Annex No. 1: Study program subjects with lecturers

Legend: L – Lectures; S – Seminars; PPC – Preclinical Practical Courses; CPC – Clinical Practical Courses; OFS – Other Forms of Study; SIW – Student's Individual Work; ECTS Credits – European Credit Transfer and Accumulation, System Credits

1 <sup>st</sup> year of study, 1 <sup>st</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1.	<b>Anatomy for Dental Medicine</b>	Erika Cvetko, Marija Hribernik, Marija Meznarič, Iztok Štamfelj, Nejc Umek	23	14	51			62	150	5
2.	<b>Medical Biophysics</b>	Jure Derganc	25		25		25	75	150	5
3.	<b>Cell Biology for Dental Medicine</b>	Rok Romih	40	2	48			90	180	6
4.	<b>Principles of Biochemistry</b>	Marko Goličnik, Damjana Rozman, Tea Lanišnik Rižner	55	47	33			135	270	9
5.	<b>Introduction to Clinical Dental Medicine 1</b>	Štefan Grosek, Sergej Pirkmajer, Zvonka Z. Slavec, Maja Šoštarič, Ksenija Rener Sitar, Marija Petek Šter	15	10	5		15	15	60	2
6.	<b>Elective subject</b>							90	90	3
TOTAL			158	73	162		40	467	900	30

1 <sup>st</sup> year of study, 2 <sup>nd</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Anatomy for Dental Medicine</b>	Erika Cvetko, Marija Hribernik, Marija Meznarič, Iztok Štamfelj, Nejc Umek	37	61	54			178	330	11
2	<b>Introduction to Clinical Dental Medicine 1</b>	Štefan Grosek, Sergej Pirkmajer, Zvonka Z. Slavec, Maja Šoštarič, Ksenija Rener Sitar, Marija Petek Šter	49	19	18	4	45	45	180	6
3	<b>Research in Dental Medicine 1</b>	Marko Goličnik, Mojca Pavlin, Andreja Erman, Andrej Kasrtin	6	21	18			45	90	3
4	<b>Histology and Embryology for Dental Medicine</b>	Aleksandra Milutinović Živin, Danijel Petrovič, Ines Cilenšek, Ruda Zorc Pleskovič	30	13	52		10	105	210	7
5	<b>Elective subject</b>							90	90	3
TOTAL			122	114	142		55	463	900	30

2 <sup>nd</sup> year of study, 3 <sup>rd</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Functional and Clinically Applied Morphology and Embryology of the Dental Organ	Janja Jan, Iztok Štamfelj	16		10			34	60	2
2	Public Health in Dental Medicine	Barbara Artnik	26	16	18			60	120	4
3	Research in Dental Medicine 2	Maja Pohar Perme	13	17	15			45	90	3
4	Biochemistry and Genetics for Dental Medicine	Aljoša Bavec, Petra Hudler	43	44	33			120	240	8
5	Physiology for Dental Medicine	Žarko Finderle, Ksenija Cankar, Helena Lenasi	50	5	30			65	150	5
6	Microbiology and Immunology for Dental Medicine	A. Ihan, K. Seme, M. Pirš, M. Petrovec, P. M. Vodičar, T. Matos, A. Šterbenc Železnik	50		25			75	150	5
7	Elective subject							90	90	3
TOTAL			198	82	131		0	489	900	30

2 <sup>nd</sup> year of study, 4 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Functional and Clinically Applied Morphology and Embryology of the Dental Organ	Janja Jan, Iztok Štamfelj	19		30			41	90	3
2	Physiology for Dental Medicine	Žarko Finderle, Ksenija Cankar, Helena Lenasi	40	10	45			115	210	7
3	Introduction to Clinical Dental Medicine 2	D. Petek, I. Štamfelj, J. Jan, K. Rener Sitar, M. Rus Makovec, S. Gaberšček	39	40	44	12	60	75	270	9
4	Dental Materials and Technology of Dental Materials	Aleš Fidler, Bojan Božič, Čedomir Oblak	50	2	6		2	60	120	4
5	Introduction to Diagnostics and Minimally Invasive Dentistry	Boris Gašpirc, Janja Jan	30	20	10			60	120	4
6	Elective subject							90	90	3
TOTAL			177	77	111	32	62	441	900	30

3 <sup>rd</sup> year of study, 5 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Pathophysiology for Dental Medicine</b>	Uroš Kovačič, Dušan Šuput, Fajko Bajrovič, Helena H. Chowdhury, Mara Bresjanac, Marko Živin, Nina Vardjan, Robert Zorec, Samo Ribarič, Sergej Pirkmajer, Tomaž Marš	12	18	15			45	90	3
2	<b>Dental Preclinical Practicum</b>	Ksenija Rener Sitar, Janja Jan, Iztok Štamfelj	20		55			75	150	5
3	<b>Pathology for Dental Medicine</b>	Metka Volavšek	60	15	15			90	180	6
4	<b>Pharmacology for Dental Medicine</b>	Mojca Kržan, Metoda Lipnik Štangelj, Katarina Černe		33	12			45	90	3
5	<b>Clinical Skills in Medicine</b>	Davorina Petek, Igor Frangež, Nataša Ihan Hren, Primož Gradišek, Simona Gaberšček, Uroš Golobič Ahčan, Marko Snoj, Tadeja Pintar, Marija Petek Šter	21	14	35			50	120	4
6	<b>Basics of Dental Occlusion</b>	Ksenija Rener Sitar	12		4	29		45	90	3
7	<b>Research in Dental Medicine 3</b>	Aleš Blinc, Maja Ovsenik, Štefan Grosek, Urh Grošelj, Jadranka Buturovič Ponikvar, Maja Pohar Perme, Lijana Zaletel Kragelj	20	10			15	45	90	3
8	<b>Elective subject</b>							90	90	3
TOTAL			145	90	136	29	15	485	900	30

3 <sup>rd</sup> year of study, 6 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Pathophysiology for Dental Medicine</b>	Uroš Kovačič, Dušan Šuput, Fajko Bajrovič, Helena H. Chowdhury, Mara Bresjanac, Marko Živin, Nina Vardjan, Robert Zorec, Samo Ribarič, Sergej Pirkmajer, Tomaž Marš	27	18	15			60	120	4
2	<b>Dental Preclinical Practicum</b>	Igor Kopač, Janja Jan, Iztok Štampfelj	40		65			105	210	7
3	<b>Dental Prophedeutics 2</b>	Alenka Pavlič, Aleš Fidler, Boris Gašpir, Janja Jan, Katarina Šurlan Popović, Ksenija Rener Sitar, Maja Ovsenik, Nataša Ihan Hren	60	15		30		105	210	7
4	<b>Pharmacology for Dental Medicine</b>	Mojca Kržan, Metoda Lipnik Štangelj Katarina Černe		33	12			45	90	3
5	<b>Clinical Skills in Medicine</b>	Davorina Petek, Igor Frangež, Nataša Ihan Hren, Primož Gradišek, Simona Gaberšček, Uroš Golobič Ahčan	16	19				55	90	3
6	<b>Painless Dentistry</b>	Boris Gašpir, Janja Jan, Mojca Kržan, Nataša Ihan Hren	30	15				45	90	3
7	<b>Elective subject</b>							90	90	3
TOTAL			173	100	92	30		505	900	30

4 <sup>th</sup> year of study, 7 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Infectious Diseases for Dental Medicine</b>	Janez Tomažič, Tadeja Kotar	14	4		27		45	90	3
2	<b>Pediatrics for Dental Medicine</b>	Marko Kavčič, Janez Jazbec, Tadej Avčin, Tadej Battelino	15	15		15		45	90	3
3	<b>Medical Clinic 1</b>	B. Koritnik, B. Škodlar, J. But Hadžić, A. Fidler, N. Ihan Hren, K. Šurlan Popović	30	30		30		90	180	6
4	<b>Medical Clinic 2</b>	Polona Jaki Mekjavič, Mateja Dolenc Voljč, Saba Battelino	22	8		30		60	120	4

5	<b>Surgery for Dental Medicine</b>	Igor Frangež	36		9			45	90	3
6	<b>Internal Medicine for Dental Medicine</b>	Simona Gaberšček	15	30				45	90	3
7	<b>Dental Diseases 1</b>	Janja Jan	15		30			45	90	3
8	<b>Fixed Prosthodontics 1</b>	Čedomir Oblak, Ksenija Rener Sitar	10	10	10			30	60	2
9	<b>Elective subject</b>							90	90	3
TOTAL			157	97	49	102	0	495	900	30

4 <sup>th</sup> year of study, 8 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Dental Diseases 1</b>	Janja Jan				45		45	90	3
2	<b>Periodontology 1</b>	Boris Gašpiric	15			30		45	90	3
3	<b>Maxillofacial and Oral Surgery 1</b>	Nataša Ihan Hren, Andrej Kansky	15			30		45	90	3
4	<b>Fixed Prosthodontics 1</b>	Čedomir Oblak, Ksenija Rener Sitar	5	10		60	60	15	150	5
5	<b>Paediatric and Preventive Dentistry 1</b>	Alenka Pavlič	15			30		45	90	3
6	<b>Removable Prosthodontics 1</b>	Peter Jevnikar, Milan Kuhar	15	7		30	8	60	120	4
7	<b>Orthodontics and Dentofacial Orthopedics 1</b>	M. Ovsenik, M. Drevenšek, J. Primožič	2	13		30		45	90	3
8	<b>Clinical Physiology of Stomatognathic System</b>	Ksenija Rener Sitar	30			15		45	90	3
9	<b>Elective subject</b>							90	90	3
TOTAL			97	30	0	270	8	495	900	30

5 <sup>th</sup> year of study, 9 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Paediatric and Preventive Dentistry 2	Alenka Pavlič	10		6	26	8	70	120	4
2	Dental Diseases 2	Janja Jan	15			60		105	180	6
3	Removable Prosthodontics 2	Milan Kuhar, Peter vnikar	13	8		39		60	120	4
4	Fixed Prosthodontics 2	Čedomir Oblak	15	10		45		80	150	5
5	Periodontology 2	Boris Gašpirc, Eva Skalerič	25			50		75	150	5
6	Maxillofacial and Oral Surgery 2	Nataša Ihan Hren, Andrej Kansky	20			25		45	90	3
7	Elective subject							90	90	3
	TOTAL		98	18	6	245	8	525	900	30

5 <sup>th</sup> year of study, 10 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Paediatric and Preventive Dentistry 2	Alenka Pavlič	10		6	26	8	40	90	3
2	Dental Diseases 2	Janja Jan				60		30	90	3
3	Removable Prosthodontics 2	Milan Kuhar, Peter Jevnikar	14	7		39		60	120	4
4	Fixed Prosthodontics 2	Čedomir Oblak	10	10		45		55	90	4
5	Oral Medicine	Boris Gašpirc, Eva Skalerič	15			30		45	90	3
6	Orthodontics and Dentofacial Orthopedics 2	Maja Ovsenik, Martina Drevenšek	15	15		25		45	90	3
7	Gerontostomatology	A. Fidler, A. Kansky, Č. Oblak, J. Markovič Božič, M. Kuhar, R. Gašperšič	15	5		25		45	90	3
8	Maxillofacial and Oral Surgery 2	Nataša Ihan Hren, Andrej Kansky	20			25		45	90	3
9	Elective subject							90	90	3
	TOTAL		99	37	6	280	8	470	938	30

6 <sup>th</sup> year of study, 11 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Paediatric and Prevent. Dentistry 3	Alenka Pavlič	4	0	16	40		60	120	4
2	Removable Prosthodontics 3	Milan Kuhar, Peter Jevnikar	6	4		35		45	90	3
3	Dental Diseases 3	Janja Jan				75		75	150	5
4	Fixed Prosthodontics 3	Čedomir Oblak	5	10		45		60	120	4
5	Parodontology 3	Boris Gašpiric	15			30		45	90	3
6	Orthodontics and Dentoafacial Orthopedics 3	M. Ovsenik, M. Drevenšek, J. Primožič	15			30		45	90	3
7	Maxillofacial and Oral Surgery 3	Nataša Ihan Hren, Andrej Kansky				90			90	3
8	Dentist in a Professional Environment (Content Set 1: Dentist in a Prof. Environment)	Lijana Zaletel Kragelj, Maja Ovsenik, Tomaž Zupanc	5	17	4		4	30	60	2
8	Elective subject							90	90	3
TOTAL			50	63	24	345	9	409	900	30

6 <sup>th</sup> year of study, 12 <sup>th</sup> semester										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Removable Prosthodontics 3	Milan Kuhar, Peter Jevnikar				45		45	90	3
2	Dental Diseases 3	Janja Jan				60		60	120	4
3	Fixed Prosthodontics 3	Čedomir Oblak				60		60	120	4
5	Periodontology 3	Boris Gašpiric	15			30		45	90	3
4	Maxillofacial and Oral Surgery 3	Nataša Ihan Hren, Andrej Kansky		15				105	120	4
6	Dental Implantology	N. Ihan Hren, Č. Oblak, M. Kuhar, R. Gašperšič	15	5	5	5		60	90	3

7	<b>Anesthesiology and Emergencies in the Dental Office</b>	Jasmina Markovič Božič	12	5	8	20		45	90	3
8	<b>Dentist in a Professional Environment</b> (Content Set 1: Forensic Medicine)	Lijana Zaletel Kragelj, Maja Ovsenik, Tomaž Zupanc	30			15		45	90	3
9	<b>Elective subject</b>							90	90	3
TOTAL			72	25	13	235		555	900	30

## Information on elective subjects

Elective subjects in 1 <sup>st</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Selected Topics in Cell Biology</b>	Peter Veranič, Damjan Glavač, Mateja Erdani Kreft, Rok Romih	15	15	5		10	45	90	3
2	<b>Selected Topics of Anatomy</b>	Erika Cvetko, Marija Meznarič, Nejc Umek	15		15		15	45	90	3
3	<b>Selected Topics in Biochemistry</b>	Tea Lanišnik Rižner, Marko Goličnik, Damjana Rozman,	15	30				45	90	3
4	<b>Selected Topics in Biophysics</b>	Bojan Božič, Gregor Gomišček	15	10			20	45	90	3
5	<b>Selected Topics from Histology and Embryology</b>	Aleksandra Milutinović Živin, Danijel Petrovič, Ines Cilenšek, Ruda Zorc Pleskoviič	5	40				45	90	3
6	<b>Selected Topics in Research in Dent. Medicine 1</b>	Andreja Erman, Mojca Pavlin, Nina Ružič Gorenjec, Aljoša Bavec					45	45	90	3
7	<b>Selected Topics from Clinical Dental Medicine 1</b>	Štefan Grosek, Urh Grošelj, Ksenija Rener Sitar, Maja Šoštarič, Marija Petek Šter, Sergej Pirkmajer, Zvonka Zupanič Slavec	15	15	15			45	90	3
8	<b>Sports and Healthy Lifestyle of Students</b>	Matej Majerič, Tomaž Marš	5		45			40	90	3

Elective subjects in 2 <sup>nd</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Selected Topics in Biochemistry and Genetics for Dental Medicine</b>	Aljoša Bavec, Petra Hudler	15	30				45	90	3
2	<b>Selected Topics in Physiology</b>	Žarko Finderle, Ksenija Cankar, Helena Lenasi, Nejka Potočnik		20			25	45	90	3
3	<b>Selected Topics in Public Health in Dental Medicine</b>	Barbara Artnik, Andreja Kukec	10	10		25		45	90	3
4	<b>Selected Topics of Clinical Dental Medicine 2</b>	Janja Jan, Boris Gašpirc, Čedomir Oblak, Ksenija Rener Sitar, Maja Rus Makovec, Simona Gaberšček, Iztok Štamfelj, Vesna Homar	15	15			15	45	90	3
5	<b>Selected Topics in Microbiology and Immunology</b>	A. Ihan, K. Seme, M. Pirš, M. Petrovec, P. M. Vodičar, T. Matos, A. Šterbenc Železnik	15	15			15	45	90	3
6	<b>Selected topics in dental medical research 2</b>	Maja Pohar Perme	5	20	20			45	90	3
7	<b>Research in Dental Medicine</b>	All lecturers of the programme		10			5	75	90	3
8	<b>Research Work for the Prešeren Student Award</b>	All lecturers of the programme		20			5	155	180	6
9	<b>Sports and Healthy Lifestyle of Students</b>	Matej Majerič, Tomaž Marš	5		45			40	90	3

Elective subjects in 3 <sup>rd</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Selected Topics in Pathology for Dental Medicine</b>	Metka Volavšek	15	5	25			45	90	3
2	<b>Selected Topics in Pharmacology in Dental Medicine</b>	Katarina Černe, Metoda Lipnik Štangelj, Mojca Kržan		45				45	90	3
3	<b>Selected Topics in Clinical Skills in Medicine</b>	Davorina Petek , Igor Frangež, Nataša Ihan Hren, Primož Gradišek, Simona Gaberšček, Uroš Golobič Ahčan	15	15			15	45	90	3
4	<b>Selected Pathophysiology Topics for Dental Medicine</b>	Uroš Kovačič, Dušan Šuput, Fajko Bajrovič,, Helena H. Chowdhury, Mara Bresjanac, Marko Živin, Nina Vardjan, Robert Zorec, Samo Ribarič, Sergej Pirkmajer, Tomaž Marš	10	35				45	90	3
5	<b>Selected Topics in Research in Dental Medicine 3</b>	Aleš Blinc, Maja Ovsenik, Štefan Grosek, Urh Grošelj, Jadranka Buturović Ponikvar, Maja Pohar Perme, Lijana Zaletel Kragelj	13	16			16	45	90	3
6	<b>Selected Topics in Dental Propaedeutics</b>	B. Gašpirc, J. Jan, M. Ovsenik, A. Pavlič, K. Rener Sitar, N. Ihan Hren, A. Fidler, K. Šurlan Popovič		30			15	45	90	3
7	<b>Research in Dental Medicine</b>	All lecturers of the programme		10			5	75	90	3
8	<b>Research Work for the Prešeren Student Award</b>	All lecturers of the programme		20			5	155	180	6
9	<b>Selected topics in Clinical Skills in Dental Medicine</b>	B. Gašpirc, J. Jan, M. Ovsenik, A. Pavlič, K. Rener Sitar, N. Ihan Hren, A. Fidler, K. Šurlan Popovič		30			15	45	90	3
10	<b>Sports and Healthy Lifestyle of Students</b>	Matej Majerič, Tomaž Marš	5		45			40	90	3

Elective subjects in 4 <sup>th</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Selected Topics of Orthodontics and Dentofacial Orthopaedics 1	Maja Ovsenik	5	30	10			45	90	3
2	Selected Topics of Fixed Prosthodontics 1	Čedomir Oblak, Ksenija Rener Sitar	5	30			10	45	90	3
3	Selected Topics in Clinical Physiology of the Stomatognathic System	Ksenija Rener Sitar		21		24		45	90	3
4	Selected Topics of Periodontology 1	Boris Gašpiric	5	20			20	45	90	3
5	Selected Topics of Dental Diseases 1	Janja Jan	5	30	10			45	90	3
6	Selected Topics in Paediatric and Preventive Dentistry 1	Alenka Pavlič		24	16		5	45	90	3
7	Selected Topics in Surgery for Dental Medicine	Igor Frangež	30	10	15	15		20	90	3
8	Selected Topics from Internal Medicine for Dental Medicine	Simona Gaberšček	15	30				45	90	3
9	Selected Topics of Remov. Prosthodontics 1	Peter Jevnikar	5	10	30			45	90	3
10	Research Work for the Prešeren Student Award	All lecturers of the programme		20			5	155	180	6
11	Research in Dental Medicine	All lecturers of the programme		10			5	75	90	3
12	Sports and Healthy Lifestyle of Students	Matej Majerič, Tomaž Marš	5		45			40	90	3

Elective subjects in 5 <sup>th</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	<b>Selected Topics of Removable Prosthodontics 2</b>	Milan Kuhar	5	40				45	90	3
2	<b>Selected Topics of Fixed Prosthodontics 2</b>	Čedomir Oblak	5	30	10			45	90	3
3	<b>Selected Topics of Orthodontics and Dentofacial Orthopaedics</b>	Alenka Pavlič, Maja Ovsenik	5	30	10			45	90	3
4	<b>Selected Topics of Dental Diseases 2</b>	Janja Jan	5	30	10			45	90	3
5	<b>Selected Topics of Periodontology 2</b>	Boris Gašpirc		45				45	90	3
6	<b>Selected Topics of Oral Medicine</b>	Boris Gašpirc, Eva Skalerič	5	40				45	90	3
7	<b>Selected Topics of Maxillofacial and Oral Surgery</b>	Andrej Kansky, Nataša Ihan Hren	5	5	20	15		45	90	3
8	<b>Tropical and Travel Medicine</b>	Tadeja Kotar	84	20	10	10	24	32	180	6
9	<b>Sports and Healthy Lifestyle of Students</b>	Matej Majerič, Tomaž Marš	5		45			40	90	3
10	<b>Research in Dental Medicine</b>	All lecturers of the programme		10			5	75	90	3
11	<b>Research Work for the Prešeren Student Award</b>	All lecturers of the programme		20			5	155	180	6

Elective subjects in 6 <sup>th</sup> year of study										
Seq. No.	Subject	Lecturer	Contact hours					SIW	Total hours	ECTS credits
			L	S	PPC	CPC	OFS			
1	Selected Topics of Orthodontics and Dentofacial Orthopaedics 3	Maja Ovsenik	5	30	10			45	90	3
2	Selected Topics of Removable Prosthodontics 3	Milan Kuhar	3	40	2			45	90	3
3	Selected Topics of Fixed Prosthodontics 3	Čedomir Oblak	5	10	30			45	90	3
4	Selected Topics of Dental Diseases 3	Janja Jan	5	15		25		45	90	3
5	Selected Topics of Periodontology 3	Boris Gašpirc		15	20	10		45	90	3
6	Selected Topics of Maxillofacial and Oral Surgery 3	Nataša Ihan Hren				45		45	90	3
7	Selected Topics in Anesthesiology and Emergencies in the Dental Office	Jasmina Markovič Božič	12	5	8	20		45	90	3
8	Selected Topics from Dentistry in the Work Environment	Ivan Eržen, Ksenija Rener Sitar	12	14	0		19	45	90	3
9	Tropical and Travel Medicine	Tadeja Kotar	84	20	10	10	24	32	180	6
10	Sports and Healthy Lifestyle of Students	Matej Majerič, Tomaž Marš	5		45			40	90	3
11	Research in Dental Medicine	All lecturers of the programme		10			5	75	90	3
12	Research Work for the Prešeren Student Award	All lecturers of the programme		20			5	155	180	6

## Annex No. 2: Presentation of individual subjects

### Anatomy for dental medicine (16 ECTS)

#### Aims

Student is familiar with functional macroscopic anatomy and original latin and slovene terminology. Understands terms, structures and their relationships, essential for clinical application.

#### Contents

##### Content 1 - Body Anatomy

Upper extremity: Osteology. Functional anatomy of joints and muscles. Spinal nerve, brachial plexus and peripheral nerves. Superficial and deep vessels and lymph nodes. Topographical regions.

Lower extremity: Osteology. Functional anatomy of joints and muscles. Lumbosacral and pudendal plexuses and peripheral nerves. Superficial and deep vessels and lymph nodes. Topographical regions.

Thorax: Osteology. Functional anatomy of joints and muscles. Diaphragm. Mammary gland. Esophagus, trachea, bronchial tree and lung. Pleura. Heart: chambers, valves, blood vessels, innervation. Pericardium. Pulmonary blood system. Fetal circulatory system. Mediastinum. Lymph vessels and lymph nodes. Auscultatory points of the heart and lungs. Topographical regions.

Abdomen: Abdominal wall and inguinal canal. Stomach, duodenum, small and large intestine, rectum. Liver and pancreas, spleen. Development and situs of the organs. Peritoneum. Abdominal blood vessels. Kidney and suprarenal gland, urether, bladder. Pelvis major and minor. Male and female urethra. Female reproductive system, pregnancy. Male reproductive system, descent of the testis. Retro- and subperitoneal space. Lymph vessels and lymph nodes. Topographical regions.

Head and neck: Osteology. Topografic regions of head and neck: scalp, trigonum colli laterale, trigonum submandibulare, trigonum caroticum, retromandibular fossa, infratemporal fossa. Nasal cavity. Oral cavity and salivary glands. Pharynx. Larynx. Blood vessels, lymphatics and nerves.

Central nervous system: Principals of organisation of the CNS. Vegetative nervous system. Spinal cord and spinal nerve. Brain stem and cranial nerves. Cerebellum. Cerebrum. Liquor system. Meninges and blood vessels of the CNS. Organ of hearing. Organ of sight. General sensory pathways. Corticospinal tract and motor pathways of the brainstem. Connections of basal ganglia and cerebellum.

##### Content 2 - Tooth anatomy

Student learns anatomy and histology of permanent and deciduous teeth and principles of occlusion; learns and understands terms form tooth anatomy and histology; understands anatomical and histological principles and concepts and can use them in clinical courses.

### Medical biophysics (5 ECTS)

#### Aims

Students learn the fundamental physical concepts and laws important for understanding of biological processes, human physiology, medical diagnostics and therapies.

#### Contents

Quantitative description of phenomena in medical sciences. Exponential change. Graph plotting, linearization.

Equilibrium and motion of the body. Forces and torques in the muscles and the skeleton with examples from orthopedics and orthodontics. Energetics of motion. Molecular motors. Mechanical properties of solids. Mechanical properties of liquids: pressure, buoyancy, viscosity, surface tension, capillary action, Law of Laplace. Viscous drag. Sedimentation rate. Blood circulation, aneurysm, stenosis. Viscoelasticity. Lungs, compliance, surfactants. Periodic phenomena, vibration, natural frequencies of molecular vibrations.

Laws of thermodynamic. Temperature. Calorimetry. Chemical reactions, enthalpy, entropy, free enthalpy, chemical potential. Solubility of gases and decompression sickness. Osmotic pressure. Air humidity. Transport of heat, diffusion, generalized Ohm's Law. Trans-membrane transport.

Electric and magnetic properties of matter. Dipole. Electrostatic interactions between molecules. Electric conductivity of solutions. Origins of membrane potential, Nernst equation, Goldman equation. Electric current,

propagation of nerve impulses. Biological effects of electric and magnetic fields. Electrocardiography, electromyography, electroencephalography, magnetoencephalography.

Structure of matter and molecular interactions.

Nuclear medicine. Nuclear stability and decay.

Wave phenomena, refraction, diffraction, interference, scattering. Absorption, photometry and spectroscopy, pulse oximetry. Sound and the ear. Ultrasound. Biological effects of ultrasound. Electromagnetic spectrum. Light and the properties of the eye. Laser. Optical instruments, microscope. Biological effects of electromagnetic radiation.

Ionizing radiation. Biological effects of ionizing radiation and radiotherapy. Diagnostic imaging. X-ray imaging, CT, MRI, ultrasound, PET, scintigraphy.

## Cell biology for dental medicine (6 ECTS)

### Aims

Students are familiar with basic characteristics of cell structure, cell organelle structure and function, as well with the elements of complex molecular structure and function, especially about the communication within cells, cell to cell and cell with the extracellular environment. Students are familiar with genetic principles of Mendel's laws and exceptions to the Mendel's law. They learn the techniques of cell biology.

### Contents

Biological membranes, membrane transport principles - interconnections between different transport systems, cell junctions, cell polarity, intracellular communication and signaling. Cytoskeleton and cell movement: Microtubules, actin and intermediate filaments. Abnormal cytoskeleton structure and function as the foundation of the occurrence of certain diseases. Biosynthetic secretory pathways and endomembranic system: Endoplasmic reticulum, Golgi apparatus, vesicles and intercellular transport, lysosomes and degradation of macromolecules, exocytotic and endocytotic pathways. Endocytotic pathways: Endosomes and the different pathways of macromolecules in the cell. Normal and abnormal exo-and endo-cytotic pathways. Energy conversion organelles: Mitochondria. Nucleus – genome carrier. Definition of gene, types of genes in genome. Interphase nucleus, transport in/out of nucleus, nucleolus, chromatin packing, chromosomes. Gene, chromosome and genome mutations. Epigenetic modification. Genome imprinting. Regulation of cell cycle: phases of cycle, checkpoints, signal transduction in normal and cancer cells, replication of DNA, telomeres, mitotic and meiotic cell divisions, gene recombination. Homologous recombination in meiosis and DNA repair. Nonhomologous recombination. Cell aging, cell death as a balance of cell division, necrosis and apoptosis. Mendel's law of segregation and inheritance at the cellular level, different types of inheritance, autosomal dominant and recessive inheritance, x linked (recessive and dominant) inheritance and y linked inheritance. Exceptions to Mendel's law. Mitochondrial inheritance, polygene and multifactorial inheritance. Gene polymorphism and the principles of genetics of immunity, Progenitor cells and stem cells, spermatogenesis and oogenesis. Cellular and molecular basis of fertilization, sex determination. Early stages of embryonic development.

## Principles of biochemistry (9 ECTS)

### Aims

1. The student independently apply knowledge of molecular biomedical processes in the human body.
2. The student independently uses the knowledge, principles and facts of basic molecular biomedical processes in clinical decision making.
3. The student applies the principles and knows the methods of scientific research and the limitations of research in medicine.
4. The student uses his knowledge for the development of medicine as a research-based science..

### Contents

#### Physico-chemical foundations of living organisms

The structure of the atom and the periodic table with the focus on bioelements;

The structure and properties of ionic and covalent compounds in biological systems;

The properties of weak molecular interactions in biological systems;

#### Water and water solutions

The interactions in aqueous systems;  
The physico-chemical properties of water solutions;  
Acids, bases and buffers;

#### Bioenergetics and biochemical reactions

Bioenergetics and chemical equilibrium;  
Chemistry of carbon and principles of bioorganic chemistry;  
Functional groups and reactions of  
alcohols, thiols and ethers  
aldehydes and ketones  
carboxylic acids and their derivatives  
amines and amides

#### Structure, function and reactions of standard and nonstandard aminoacids

#### Structure and function of biologically important peptides

#### Folding, 3D-structures and functions of proteins

The structure of fibrillar and globular proteins;  
Keratin, collagen, myoglobin, hemoglobin, immunoglobulins, actin, myosin;

#### Enzymes

The mechanisms of enzyme catalysis and kinetics;  
Water-soluble vitamins, coenzymes and enzyme-catalyzed reactions;  
Enzyme regulation;

#### Structure, function and reactions of biologically important carbohydrates, and glycoconjugates

#### Structure, function and reactions of nucleotides and nucleic acids

#### Structure, function and reactions of biologically important lipids

#### Kinetics and bioenergetics of membrane transport

Transporters, channels and pumps;

#### Biosignalling

The structure and properties of proteins and molecules in signal transduction.

## **Introduction to clinical dental medicine 1 (8 ECTS)**

### **Aims**

The student will:

- be able to communicate empathetically and holistically with patients, colleagues, the public, health insurance companies and health authorities;
- be able to participate and work in multi-professional teams;
- respect confidentiality and cultural and social diversity;
- be able to make ethical and evidence-based decisions;
- be able to recognize their own limitations and take responsibility for their actions and seek advice and help;
- adhere to high ethical and professional standards;
- identify life-threatening patients, perform basic resuscitation procedures and provide first aid to life-threatening patients.

### **Contents**

The subject is composed of content compounds:

- Medical ethics and professionalism
- Medical terminology
- History of medicine with medical humanities
- Communication
- Emergency medical care

## **Research in dental medicine 1 (3 ECTS)**

### **Aims**

The aim of the course is to provide the student with a basic understanding of dental medicine as an evidence-based science that requires the incorporation of the best research evidence into the clinical knowledge, in line with unique values and circumstances of the patient. The aim is also to encourage critical thinking about science and to equip students with knowledge that will allow them to find, understand and critically evaluate

professional resources, the findings of which can help in later decision-making in clinical work.

### **Contents**

Introduction to informatics, biostatistics and evidence based dental medicine.

## **Histology and embryology for dental medicine 1 (7 ECTS)**

### **Aims**

Aknowledge medicine as a science

During the course students learn about basic preclinic and clinical characteristics of histology. Histology is to be addressed from functional point of view with the special emphasis on normal histology.

Students learn about major characteristics of human development. Embriology is to be addressed from functional point of view, with special emphasis on normal development and on disfunctional development.

### **Contents**

Course of Histology and Embryology is focused on general and special histology, on human development – embryology, and irregularities in development.

Epithelia and glands. Types of epithelia. Glandular epithelia. Regeneration of epithelia. Connective tissues. Cells in connective tissues. Interstitial fluid and fibres. Mesenchyme, dense and proper connective tissue. Cartilage. Adipose tissue. White and brown fat tissue. Bone. Types of osification. Muscles. Histofiziolgy of muscles contraction. Peripheral and central nervous system. Neurons, neuroglia. Peripheral nerve, ganglion. Spinal cord marrow. Cerebellum. Synapses. Nerve endings. Choroid plexus. Skin. Structure and functional histology. Hair, nails, sweat glands. Mammary gland. Endocrine glands and functional histology of each of them. Thyroid gland. Parathyroid glands. Adrenal glands. Pituitary. The pineal gland. Diffuse endocrine system. Paraganglion. Blood and blood cells. Plasma. Hemopoiesis and phases of hemopoiesis. Immune and lymphatic organs. Lymph nodes. Spleen. Thymus. Tonsils. Circulatory system. Heart. Capillaries. Arterioles. Venules. Arteries. Veins. Lymph vessels. Gastrointestinal tract. Esophagus. Stomach. Small and large intestine. Liver. Pancreas. Respiratory system. Nasal cavity. Larinx. Trachea. Lungs. Urinary system. Kidney. Ureter. Bladder. Uretra. Male reproductive system. Testis. Seminal duct. Accesory glands. Penis. Female reproductive system. Ovaries. Follicular growth. Ovulation. Ovio duct. Uterus. Vagina. Sense organs. Eye. Ear. Embryology. Blastocyst formation. Embryo. Fetus. Brachial organs development. Placenta and fetal membranes development. Bone and cartilage development. Development of muscles. Skin, nails, teeth and hair development. Basics of nervous system development. Heart development. Vessels development. Respiratory system development. Urogenital system development. Male and female genitals development. Gastrointestinal system development. Senses development: eye, ear. Teratology. Teratogenic substances. Congenital development irregularities. Anomalies caused by genetic and environmental factors.

## **Functional and clinically applied morphology and embryology of the dental organ (5 ECTS)**

### **Contents**

Histology of the dental organ: histological structure of enamel, dentine, dental pulp, cementum, periodontal ligament, gingiva, and alveolar process.

Embryology of the dental organ: orofacial development, odontogenesis, amelogenesis, dentin and root formation, dental pulp formation, periodontium formation, repair and regeneration of dental tissues, tooth eruption.

Anatomical basis of tooth modeling: wax carving of individual types of permanent teeth.

## **Public health in dental medicine (4 ECTS)**

### **Contents**

- I. Basic public health concepts
- II. Basic determinants of health of social and physical environment
- III. Complex determinants of health
- IV. Methods of studying population health
- V. Public health measures

## VI. Major public health problems and vulnerable population groups

### Research in Dental Medicine 2 (3 ECTS)

#### Contents

Basics of biostatistics. Basic concepts of probability and statistics, Probability distributions. Fundamentals of parameter estimation and statistical hypothesis testing. Confidence intervals. Basic statistical test: t-test, chi-square, ANOVA, nonparametric tests. Regression models.

### Biochemistry and Genetics for Dental Medicine (8 ECTS)

#### Aims

General course objective is to understand dental medicine as a science. The student will acquire the following competencies: a) will know how to confidently use the knowledge of biochemical and genetic processes in the human body and oral cavity b) will gain independent understanding of knowledge, principles and facts of basic biomedical sciences relevant for clinical decision making.

#### Contents

##### Dental biochemistry

Introduction to metabolism. Basic mechanisms of organic reactions. Experimental approaches to the study of cellular metabolism. Metabolic pathways. Bioenergetics and oxidative processes. Reactions in glycolysis, Krebs cycle and oxidative phosphorylation. Regulation of glycolysis, Krebs cycle and oxidative phosphorylation. Oxidative breakdown of fatty acids. Metabolism of ketone compounds and ethanol. Oxygen toxicity and free radicals. Protection against ROS. Carbohydrate metabolism. Digestion, absorption and transport of carbohydrates. Metabolism of glycogen and other carbohydrates. Synthesis of glycosides, lactose, glycoproteins and glycolipids. Pentose phosphate pathway. Gluconeogenesis. Regulation of carbohydrate metabolism by hormones. Lipid metabolism. Digestion, absorption and transport of lipids. Synthesis of fatty acids, triacylglycerols and membrane lipids. Lipoprotein metabolism. Metabolism of cholesterol, bile acids, sex hormones, vitamin D and eicosanoids. Regulation of lipid metabolism by hormones. Amino acid metabolism Digestion, amino acid absorption and protein recycling. Nitrogen removal and urea cycle. Amino acid synthesis and degradation. Metabolism of thyroid hormones and biogenic amines in nerves and muscles. Erythrocyte metabolism. Nucleotide metabolism. Nucleotide synthesis, degradation, and recycling. Tetrahydrofolate, vitamin B12 and S-adenosylmethionine. Regulation of metabolism and homeostasis

Integration of amino acid metabolism. Integration of carbohydrate and lipid metabolism. Integration by regulating the metabolism of tissues and organs. Biomineralization. Composition of hard dental tissues. Crystallization of hydroxyapatite. Biomineralization of dental dentin and enamel. The process of demineralization and remineralization in dental hard tissues. Biochemical properties of proteins in hard tissues. Calcium and phosphate metabolism

Calcium and phosphate homeostasis. Regulation of calcium and phosphate metabolism by hormones. Dental diseases associated with impaired mechanisms of calcium and phosphate metabolism. Biochemistry of saliva Composition and role of inorganic and organic components in saliva. Structure and role of important proteins in saliva. The role of saliva in the prevention of caries. Biochemical processes on the tooth surface The origin and role of the pellicle. Metabolic activities of bacteria in the oral cavity. Metabolism of carbohydrates and amino acids in biofilms and dental plaque. Biochemistry of periodontal tissues

Biochemical properties of proteins in periodontal tissues. Biochemical processes in periodontal tissues.

##### Genetics

DNA as genetic material, Storage and preservation of genetic information - replication complex and replication of nuclear and mitochondrial DNA in eukaryotes. Fundamentals of DNA replication in prokaryotes. DNA damage and DNA repair. Mutations and genetic variability and their significance in dental medicine., Genetic information transfer (expression), Regulation of genetic expression, genetic and epigenetic mechanisms of gene expression. Biosynthesis and processing of RNA. Non-coding RNA. Protein biosynthesis, Genetic technology and molecular approaches for nucleic acids analysis., Fundamentals of recombinant DNA technology and its use in dental medicine. Fundamentals of molecular genetic methods, Genetics of developmental defects of dental organ components and periodontal tissues

Genetics of tooth development and developmental defects of enamel and dentin with clinical cases. Genetics of periodontal disease with clinical cases, Fundamentals of diagnostic methods in genetics, Molecular genetics and cytogenetic diagnostics, Basics of inheritance and human population genetics, Mendel's laws deviations from Mendel's laws in inheritance, patterns of inheritance: autosomal dominant and recessive, sex-linked inheritance, mitochondrial inheritance. Population genetics.

## Physiology for dental medicine (12 ECTS)

### Aims

The student will learn about the function of a normal organism. He will master fundamental concepts in physiology. He will get to know the principles of physiology phenomena measurements and will be, in accordance with concepts, getting used to interpreting the results of measurements. Lessons in physiology will be based on the knowledge gained from the lessons of biophysics, biochemistry, biology and normal morphology. The ability to independently solve problems and critical thinking will be developed. The habit of self-education will be encouraged.

### Contents

Physiological principles: Physiology as science, homeostasis. Transport phenomena in the body and across the cell membranes. System analysis and regulation in biological systems. Membrane potential. Electrical communication (localized and propagating potentials). Skeletal muscle. Smooth muscle. Blood circulation and the heart: General description, division, cardiac cycle. Electrical activity of the heart. Heart muscle cell, heart energetics. Monitoring of the cardiac function. Hemodynamics. Arteries and veins. Microcirculation (capillary exchange, regulation). Regulation of cardiac output. Regulation of arterial pressure. Respiration: Structure – function relationship of the respiratory system. Ventilation. Mechanics of breathing. Diffusion in lungs. Pulmonary blood flow. Blood transport of gases. Ventilation, diffusion, perfusion matching. Regulation of breathing.

Kidneys and the traffic of electrolytes in the body: Structure – function relationship. Glomerular filtration and renal blood flow. Renal function tests, renal clearance. Transtubular transport of matter. Countercurrent multiplier system. Transport of water in the body, osmolality control. Transport of sodium and water in the body. Transport of potassium in the body. Acid-base physiology – buffers and Davenport's diagram. Physiology of acid-base balance – kidneys and the regulation of pH in the body. Digestion: Gastric and intestinal wall structure and its impact on the digestive functions, neural and hormonal control of the digestive tract, characteristic motor activity of the digestive tract, secretion of saliva, gastric secretion, exocrine pancreas, secretion and the role of bile, absorption of nutrients in the gastrointestinal tract.

Endocrine system: Principles of endocrine functions, control of hormone secretion, major classes of hormones and their actions, nervous system – endocrine system interactions, hormones of adeno- and neuro- hypophysis, thyroid and adrenal glands, homeostasis of calcium and phosphate, sex hormones, pregnancy and childbirth.

Metabolism: Transformations of matter and energy in the body, the metabolism in different physiological states of the organism, regulation of blood glucose concentration, basal metabolism, regulation of body temperature.

Nervous system: General properties and functions of the nervous system, organization of the nervous system, homeostasis of the nervous functions, synaptic transmission, general properties of the sensory systems, somatosensory system, the physiology of pain, optics of vision, photoreception, neurophysiology of vision, psychophysics of vision, conduction of sound to the inner ear and sound transduction, psychophysics of hearing, vestibular apparatus, smell and taste, the general scheme of the motor system, motor role of the spinal cord, motor role of the brain stem, cortical control of movement, motor functions of the cerebellum and basal ganglia, control of eye movements, the role of the vegetative nervous system, integrative functions of the brain stem, nerve control of instinctive behaviors, speech control.

## Introduction to Clinical Dental Medicine 2 (9 ECTS)

### Aims

The course assists the student to:

- be able to use knowledge and clinical skills for a team approach and patient-centered care;
- be able to work safely in a clinical environment;
- be able to understand the processes of student's own learning of clinical medicine and the motivation to develop their abilities throughout life;
- be able to cooperate and work in multi-professional times;
- be capable of empathic and holistic psychosomatic communication with patients, their owners and co-workers;
- respect confidentiality and cultural and social diversity;
- be able to recognize personal limitations, take responsibility for one's own actions in seeking advice and assistance;
- be able to take care of personal mental, physical and relationship health;
- to adhere to high ethical and professional standards.

### Contents

- Team work
- Psychological Medicine
- General propedeutics
- Dental propedeutics 1

## Microbiology and immunology for dental medicine (5 ECTS)

### Contents

Bacterial cell, Metabolism, bacterial reproduction, bacterial genetics, bacterial classification, spread of germs. Normal bacterial flora. Diagnostics of bacterial infections. Collection and transport of samples for bacterial examination. Disinfection and sterilization. Antibiotics and chemotherapeutics. The purpose of the use of antibiotics. Mechanisms of bacterial resistance against antibiotics. Current problems in bacterial resistance, antibiogram. General properties of viruses. Replication of viruses. Genetics of viruses and origin of viruses. Direct and indirect methods for detection of viruses. Pathogenesis of viral infections. Viral oncogenesis. Natural antiviral resistance in immune antiviral response. Chemotherapy of viral diseases.

Characteristics of fungi and mold, dimorphism. The agents of cutaneous mycosis, dermatophytes. The agents of subcutaneous and systemic fungal infections.

Characteristics of parasites causing infections in humans and animals.

Natural immunity. Immune system. Antigens. Antibodies. Hypersensitivity. Autoimmunity. T-cell receptor and MHC molecules. Activation of lymphocytes, immune tolerance. Regulation of immune response. Immune response in microbial infections. Infections due to lowered resistance. Immunosuppression. Vaccines and regular vaccination program.

## Dental materials and technology of dental materials (4 ECTS)

### Contents

The students knows:

- dental stones and plasters, investment materials, hardening process, volumetric changes, influence on the precision of casting
- elastomeric impression materials and their properties, chemical characteristics
- different dental cements: classical dental cements, composite cements, glassionomer cements
- metals: structure and characteristics like ductility, hardness, elasticity, plastic deformation
- dental alloys: composition, properties, selection for clinical use
- different dental ceramics and their properties
- precision casting

- polymers, process of polymerisation
- dental acrylates, their polymerisation and properties
- soldering and laser welding
- materials for temporary fillings
- amalgam: composition, characteristics, hardening, usage
- adhesives, different generations, characteristics, bonding to enamel and dentine
- composite resins, polymerisation, properties, use
- glassionomer materials, compomers, composition, characteristics
- materials for root canal filling: composition, properties, use
- materials for fissure sealing and for pediatric dentistry
- materials for use in orthodontics: metals, wires, metal elements, acrylates
- waxes: natural, artificial, composition and usage
- polishing materials and instruments.

## Introduction to diagnostics and minimally invasive dentistry (4 ECTS)

### Contents

- Recognition and treatment of dental caries and other dental hard tissue disorders.
- Recognition of disease conditions of periodontal tissues and oral mucosa.

## Pathophysiology for dental medicine (7 ECTS)

### Contents

The content encompasses pathophysiology of the following diseases and pathological processes:

Changes of body temperature. Starvation. Diabetes. Hypoglycemia. Diseases of the thyroid gland. Burns. Radiation disease. Cell death in disease.

Inflammation. Response to stress. Free radicals. Cancerogenesis and neoplastic cell. Changes in body fluids. Dehydration. Acidosis and alkalosis. Changes in calcium and phosphorus metabolism. Renal failure and tests of renal function. Hemorrhagic states. Thrombosis.

Respiratory dysfunction. Hypoxia and cyanosis. Dysfunctions due to changes of air pressure. Cough. Dyspnea. Asthma and obstructive lung diseases. Pneumothorax. Bleeding and shock. Hypertension. Hypotension

Heart failure and edema. Atherosclerosis. Complications of transfusion. Ischemic muscle necrosis.

Liver diseases and liver function tests. Patobiochemistry of alcoholism. Peptic ulcer disease. Gastrointestinal dysfunctions.

Dysfunction of neuromuscular transmission. Disturbances of consciousness. Dysfunction of locomotion and paralysis. Pathologic pain. Headache. Increased intracranial pressure. Parkinson's disease. Psychic and psychosomatic diseases. Stroke.

## Dental Preclinical Practicum (12 ECTS)

### Contents

#### 1. Dental Diseases

Biological considerations, caries management, nomenclature and classification of cavity preparations, field isolation, instrumentation, amalgam restorations, adhesion to enamel and dentin, composite restorations, fluoride-releasing materials, treatment of vital pulp conditions, treatment of the necrotic pulp, endodontic microbiology, root canal instrumentation, retreatment, root filling materials, root filling techniques.

#### 2. Prosthodontics

Preparations for crowns, classical and digital impression, rotary and hand instruments, diamond burs and instruments for crown preparations, metal casting and welding procedures, procedures for crown preparations (full metal crowns, porcelain fused to metal crowns) with impression techniques, classic and digital dental laboratory procedures, definitive casts and dies, wax patterns, metalceramic restorations, direct and indirect post and core

procedures, allceramic restorations, investing and casting, milling, additive techniques for framework, design provisional restorations, removable partial dentures full dentures.

## Pathology for dental medicine (6 ECTS)

### Contents

Basic pathology: cell injury and adaptation, inflammation, regeneration and reparation, circulatory disorders, immunopathology, neoplasms, genetic and pediatric disorders, infectious and environmental diseases.

Organ pathology: the most important diseases of the cardiovascular, gastrointestinal, respiratory systems, kidney, liver, pancreas and biliary tract, central and peripheral nervous system, female genital tract and breast, musculoskeletal and hematopoietic systems.

Oral pathology: disorders of the oral cavity and pharynx, salivary glands, cervical lymph nodes, cysts of the head and neck, jaws, and developmental, inflammatory and neoplastic conditions of the teeth and periodontal tissues.

## Pharmacology for dental medicine (6 ECTS)

### Aims

The student acquires basic knowledge about the functioning and use of medicines. It recognizes target molecules for drugs and molecular processes that arise as a result of drug-target interaction. It recognizes the effects of the drug in the organism and the pharmacokinetic properties of medicines and their fate in the organism.

### Contents

#### 1. General pharmacology:

- general principles and molecular aspects in pharmacodynamics: target molecules and mechanisms of drug actions
- pharmacokinetic processes and the fate of the drug in the body: absorption, distribution, metabolism, excretion/elimination
- nonclinical testing and clinical drug trials
- harmful drug effects

#### 2. Overview of drugs by pharmacodynamic groups and organ systems where they operate:

- mechanisms of action
- drug effects (therapeutic, side effects)
- indications and contraindications
- pharmacokinetic properties
- posology and use of drugs

#### 3. Pharmacological treatment of diseases

#### 4. Experimental models in pharmacology

## Clinical Skills in Medicine (7 ECTS)

### Aims

The course assists the student to:

- be able to use knowledge and clinical skills to manage common general clinical conditions
- be competent to manage life threatening conditions
- be able to work safely in a clinical environment;
- be curious, motivated for life-long learning of clinical medicine and motivated for professional development;
- able to collaborate with the coworkers of the dental team (dental assistants, dental technicians, oral hygienists)
- develop the ability to cooperate and work in multi-professional times;
- be capable of empathic and holistic and motivational psychosomatic communication with patients, their relatives and co-workers;
- make decisions according to ethics and evidence-based medicine
- be able to recognize personal limitations, take responsibility for his/her actions in seeking advice and assistance;

- adhere to high ethical and professional standards.

### Contents

Special clinical examination and basics of surgery; Advanced life support and emergencies; Interprofesional collaboration.

## Basics of Dental Occlusion (3 ECTS)

### Contents

Theoretical foundations of static and dynamic dental occlusion, analysis of dental occlusion on the patient and in the articulator, selection and use of articulators with face-bow, various registrations of inter-jaw relationships, preparation of study gypsum models and articulation procedure, anterior and posterior occlusal determinants, selection of appropriate occlusion concept for new prosthetic occlusion.

## Dental prophedeutics 2 (7 ECTS)

### Aims

The course assists the student to be:

- able to justify and perform all types of clinical examination of a dental patient;
- able to empathise and communicate holistically with patients;
- able to synthesise history and clinical examination data;
- able to justify the need for imaging diagnostics and interpret the results of basic types of imaging examinations
- able to work safely in a clinical environment;

### Contents

- Methods and ways of examining a dental patient
- Examination of a dental patient with associated systemic diseases
- Imaging examinations in dentistry

## Painless dentistry (3 ECTS)

### Aims

The course assists the student to:

- be able to recognize the signs and symptoms of fear and anxiety in a dental patient;
- be able to work safely and painlessly in a clinical environment;
- be able to anticipate, identify and adequately address possible complications of local anesthesia;
- be capable of empathic and holistic psychosomatic communication with patients, their owners and co-workers;

### Contents

- Pharmacology of local anesthetics
- Techniques of local anesthesia in dentistry
- Complications of local nesthesia
- Management of the fearful dental patient

## Research in dental medicine 3 (3 ECTS)

### Aims

To gain an indepth understanding of the principles of research in dental medicine, to build upon the knowledge gained in the first two years and be able to transfer the gained competences to critical appraisal of the literature and active research. Learning about the research options in various areas of dental medicine. disorders. Stroke.

### Contents

1. Ethical principles of research in medicine and dentistry;
2. Clinical research in medicine and dentistry;

3. Research in the field of public health;
4. Designing medical research according to the research question;
5. Critical reading of a scientific article;
6. Digitization in medicine and medical/dental research;
7. Artificial intelligence / machine learning in database analysis

## Infectious Diseases for Dental Medicine (3 ECTS)

### Contents

- Content Part 1: Infectious diseases and epidemiology

Basic epidemiology, etiopathogenesis, clinical manifestations, complications, diagnosis, differential diagnosis, empirical and specific treatment, prevention of most important and most frequent infectious diseases and prevention and control of hospital-acquired infections will be presented. Students will become acquainted with infectious diseases (history, physical examination, basic laboratory and microbiological examinations), basic antimicrobial medications (antimicrobial stewardship, antibacterial, antiviral, antimycotic, antiparasitic treatment and antimicrobial treatment of pregnant and breastfeeding women), fever (pathogenesis, measurement, treatment, fever seizures), systemic infection (definition of sepsis and bacteremia, pathogenesis, etiology and treatment), infectious exanthems, basic infections of organs and tissues, basic approach to infections in immunocompromised patients, selected chapters from traveller medicine, infections with herpesviruses, sexual transmitted infections, most important zoonosis and parasitic diseases, fungal infections, health associated infections, prevention of infections (active and passive vaccination, chemoprophylaxis) and bioterrorism associated infections.

- Content Part 2: Global Health

Definition of global health, historical overview, importance of global health for the individual and society, global health inequalities and challenges, international humanitarian aid; health systems an overview of health systems around the world. The most important infectious diseases in the world, the global footprint of antibiotic use in the world, multi-resistant bacteria, the basics of the epidemiology of infectious diseases, vaccinations, eradication treatments, chemoprophylaxis. The most important diseases in travelers, migrants and refugees. Medical tourism. Medicine in exceptional circumstances - pandemics and their impact on global health; medical care in humanitarian crises (wars, natural disasters). Global burden of disease, WHO Millennium Development Goals, poverty and inequality, climate change and its impact on health. Overview of the global burden of disease and causes of death Preventing and controlling the spread of disease. One world, one health. Maternal and child health.

## Surgery for Dental Medicine (3 ECTS)

### Aims

A student of dental medicine will get to know surgical Foundation course in the same extend as students of general medicine. He will also learn the ways how to build a diagnosis of surgical illnesses or injuries from case records informations and searches, which are all connected to teeth organs. A student will also learn to be independant in giving of first aid help at these illnesses or injuries, and he will get familiar with current methods of treatment and also learn the possible future development of healing method.

### Contents

The subject content is divided into:

- circumstances for surgical work, the basic surgical instruments, surgical materials, the basic operational technique
- identification of healing principals and treatment of surgical infections
- general traumatology
- general plastic surgery and plastic surgery of the face
- general neurosurgery and surgery healing of neuralgia trigeminus
- differential diagnosis and identification of halitosis
- disaster medicine

## Medical Clinic 1 (6 ECTS)

### Aims

- Content module Neurology:

The student will be introduced to the basics of neurological examination and neurological diseases. He will be able to recognize the main categories of neurological diseases and will be oriented in the differential diagnosis of symptoms and signs that may occur in the field of dental medicine due to nervous system involvement. He will also be able to recognize neurological emergencies and take appropriate action within their competence.

- Content module Mental Disorders:

The aim of the course in mental disorders is to provide basic knowledge in psychological and social characteristics of the population which should be taken into account in everyday clinical work of the dental medical doctor. Individual mental disorders might hinder dental diagnostic and therapeutic interventions and have an important impact on the patient's collaboration. The student learns how to deal with these possible clinical problems.

- Content module Oncology:

The student will be able to recognize clinical symptoms and signs of oncological disease in the head and neck area, theoretically plan diagnostics and identify necessary treatment. He will be able to act in case of complications of the disease and treatment.

- Content module Radiology with Imaging Diagnostics:

The student learns the importance and principle of radiological and other imaging methods used in the diagnosis of congenital conditions, diseases and injuries of the maxillofacial area. They become familiar with digital X-ray imaging, computed tomography, interventional radiology, diagnostic ultrasound and magnetic resonance tomography.

Knowledge of clinical indications for individual imaging techniques.

Knowledge of the general principles of analysis and interpretation of X-ray images and other imaging examinations.

### Contents

Module 1. Propaedeutic of dermatovenereology, treatment of skin diseases, bacterial skin infections, skin tuberculosis, viral diseases of skin and mucous membranes, dermatomycology, parasitic skin diseases, sexually transmitted diseases, non-sexually transmitted diseases of external genitalia, allergic and reactive skin diseases, autoimmune skin diseases, photodermatoses, erythematosquamous skin diseases, diseases of the sebaceous glands, genodermatoses, skin tumours, disorders of pigmentation, diseases of the nails, hairs and sweat glands, metabolic skin disorders, vasculitic skin manifestations, chronic venous insufficiency, tropical skin diseases, diseases of the oral cavity.

Module 2. Functional units of the central nervous system, symptoms and signs of neurological diseases, classification of neurological diseases, a way to a neurological diagnosis, selected emergency situations in neurology, chronic neurological and psychiatric diseases, neurological complications of diseases in other organ systems.

Module 3. The content of the lectures meaningfully connects the knowledge about etiology and the development of individual groups of mental disorders, their clinical picture and therapeutic treatment, with special emphasis on the needs of dental practitioner.

Contents that are specifically relevant for dentists are put in a way that give to the student the possibility to obtain complementary skills while working with experts (relaxation methods, psychotherapy, working with anxious people...).

## Dental Diseases 1, 2, 3 (24 ECTS)

### Aims

The student will upgrade his knowledge and understanding of pre-clinical subjects; from the stomatology subjects these are: "Oral Biology", "Pre-clinical Practicum", "Dental Materials" and "Dental Propedeutics". He will gain clinical knowledge and skills, he will get knowledge about developmental defects of the dental organ, developmental defects of teeth eruption, number, size and shape of teeth, dental defects of the functional period among adults, he will explain the etiopathogenetic mechanisms, he will make a diagnosis and will describe therapeutic interventions in developmental defects and defects of the functional period, he will be trained for independent clinical work on a patient while treating conservative and endodontic cases (in the sixth year of study he treats patients completely).

### Contents

Upgrading of the knowledge obtained at pre-clinical subjects at practical course, seminars and elective courses. At clinical practical course the emphasis is on endodontic and conservative treatment of the patient (in the sixth year of study with an integrated approach), on causal factors of developmental abnormalities of teeth, on abnormal number of teeth, on abnormal teeth eruption, on abnormal shape and size of teeth, on developmental abnormalities of dental hard tissues caused by external factors or genetic defects, on acute mechanical damage of teeth in the active period among adults, on creating a list of acute injuries of teeth, on dental hard tissue abrasion, on resorption of teeth, on tooth staining, on teeth whitening after endodontic treatment, on dentin and cement production in diseased tooth.

## Periodontology 1, 2, 3 (14 ECTS)

### Aims

The aim of studying oral diseases is having knowledge about epidemiology, etiopathogenesis and a clinical picture of the most common oral mucosal disorders. The student will get to know differential diagnostics and the basics of treating conditions and oral mucosal disorders. The aim of studying parodontics is that student becomes acquainted with epidemiology, etiopathogenesis, diagnostics and parodontal tissue disease treatment. The student will be able to recognize different forms of parodontal tissue diseases and will understand their importance for oral and systemic health. He will perform the hygienic phase and maintenance phase of parodontal disease treatment. The student will also get familiar with basics of planning and of the surgical part of dental implant procedures.

### Contents

Contents of the subject include the following items:

8<sup>th</sup> semester. Introduction to parodontology, gum, dentogingival epithelium, epithelial differentiation, periodontium, cement, alveolar bone, vascular, lymphatic and nervous system of parodontium, classification of parodontal diseases, parodontal indices, epidemiology of parodontal diseases, dental plaques, dental tartar, microorganisms associated with parodontal disease, microorganisms associated with parodontal disease II, pathogenesis of parodontal disease.

9<sup>th</sup> semester. Modifying factors, susceptibility to parodontal disease, gum inflammation that was not caused by dental plaques, gum inflammation caused by dental plaques, parodontitis, aggressive parodontitis, necrotizing parodontal disease, parodontal disease as a risk factor for systemic diseases, parodontal abscesses, acute parodontal diseases, lesions of endodontic origin, peri-implant mucositis, peri-implantitis, examination of patients with parodontal disease, treatment planning of parodontal diseases, systemic phase of parodontal disease treatment.

10<sup>th</sup> semester. Developmental abnormalities, hereditary diseases, mechanical, chemical and thermal injuries, changes in the oral mucosa due to medication, tongue disorders, lip diseases, viral infections, changes in the oral cavity due to HIV infection, bacterial infections, fungal infections, autoimmune diseases, skin diseases accompanied with changes in the oral mucosa, changes in the mouth due to blood diseases, changes in the oral mucosa due to vitamin deficiency.

11<sup>th</sup> semester. Motivational interview, mechanical and chemical control of supragingival plaque, non-surgical treatment of parodontal disease, basics of parodontal surgery 1 and 2, anaesthesiology, accessories, lobe operations 1 and 2, root bifurcation treatment, endodontics and parodontics, regenerative parodontal treatment, mucogingival surgery, parodontal plastic surgery 2, parodontal plastic microsurgery.

12<sup>th</sup> semester. Antibiotics in parodontal treatment, toothless alveolar ridge, healing after tooth extraction, reconstruction of toothless ridge, traumatic occlusion, orthodontics and parodontics, principles of osseointegration, selection of patients and dental implant surgery 1 and 2, supportive parodontal treatment, halitosis, complex parodontal treatment – clinical cases.

## **Maxillofacial and Oral Surgery 1, 2, 3 (16 ECTS)**

### **Aims**

The student will learn the theoretical basics of tooth extraction and all associated conditions. He will acquire knowledge about dentoalveolar illnesses and oral cavity conditions that require oromaxillofacial surgical treatment. He will become acquainted with the injuries and illnesses of the facial skeleton, facial soft tissue structures and neck. At clinical practical course he will learn directed oromaxillofacial examination, differential diagnostics and basic skills for tooth extraction and surgical treatment of intraoral inflammatory conditions. In addition, he will learn first medical aid and how to guide oromaxillofacial patients from dental toward specialist treatment.

### **Contents**

8<sup>th</sup> semester. Indications and contraindications for tooth extraction, basic and simple techniques for tooth extraction, endangered patient and antibiotic prophylaxis at oral surgery interventions. Local anesthesia. Complications during or after tooth extraction. Treatment of not fully erupted teeth, surgical and surgical-orthodontic treatment of not fully erupted teeth. Surgical extractions, hemisections and dental root amputation. The etiology and pathogenesis of odontogenic infections, diagnosis and treatment of odontogenic infections. Specifics of tooth extraction and odontogenic infections among children.

9<sup>th</sup> semester. Characteristics and treatment for osteomyelitis of the jaws. Surgical treatment of chronic periapical parodontitis. Odontogenic diseases of the maxillary sinus. Jaw cysts and their treatment. Pre- prosthetic surgery: fundamentals, interventions in local and general anesthesia. Basics of osteointegration and implantology care for toothless patients.

10<sup>th</sup> semester. Tumors of the facial skin. Melanoma and other pigment changes in the oral cavity. Odontogenic tumors and other similar odontogenic changes. Non-odontogenic tumors of the jaws. Pre-malignant changes in the oral cavity. Tumor diagnostics. Oral cavity carcinomas. Soft tissue neoplasms and lymphomas. Indurations in the neck. Salivary gland tumors. Tumors of the maxillary sinus. Surgical treatment of head and neck tumors and their multidisciplinary treatment. Congenital anomalies of the head and neck – syndromes. Cheilognathopalatoschises, their surgical and multidisciplinary treatment. Dysgnathias and their treatment. Arthropathy of temporomandibular joints. Atypical facial pain.

11<sup>th</sup> semester. Clinical practical course.

12<sup>th</sup> semester. Seminars in selected topics of oromaxillofacial surgery.

## **Fixed Prosthodontics 1, 2, 3 (24 ECTS)**

### **Aims**

The student will get acquainted with the biological, technological and clinical principles of the subject, he will gain manual dexterity, skills and theoretical knowledge, so that he will be qualified for diagnostics, planning and manual work in the fourth, fifth and sixth years of study. The student will be qualified for performing fixed prosthodontic treatment and combined fixed and removable prosthodontic treatment, for understanding implant prosthodontic care and for interdisciplinary cooperation with other dental professionals and for independent work on a patient.

### **Contents**

8<sup>th</sup> semester. Introduction and overview of modern methods for fixed prosthodontic care and rehabilitation.

Overview of doctrinal viewpoints on fixed prosthetic care and rehabilitation: anchor and construction systems. Phases of work in clinical fixed prosthodontics. Fixed prosthodontic diagnostics and assessment of biological conditions. The needs index after prosthodontic care. Fixed prosthodontic planning: biological aspects of planning dental bridges, analysis of gaps in the tooth row, static aspects of planning dental bridges, decision-making algorithms in fixed prosthodontic planning. Sanitation and preparatory procedures before fixed prosthodontic care. Oral hygiene of prosthodontic patients and preventive aspects of prosthodontics. Preparations in fixed prosthodontics: in general and for individual restoration, drill selection, marginal preparation, cementing and preparation. Fixed prosthodontic upgrades of vital and endodontically fitted teeth. Impression: methods, materials, selection. Temporary fixed prosthodontic care: protection against dental lesion and temporary fixed prosthodontic care. Bite registration and concepts of new prosthetic occlusion.

9<sup>th</sup> semester. Communicating with a dental laboratory and the principles of alloy selection. Methods of color selection in fixed prosthodontics. Verification of fixed prosthodontic constructions. Cementing in fixed prosthodontics: types of cements and clinical selection, temporary and permanently cementing: classical and adhesive; dentin and enamel bonding. Clinic for individual restoration: full, partial, metal, composite, ceramic, combined. Fixed prosthodontic care of partial teeth loss: Static, firm, biological aspects of dental bridges, types of dental bridges and dental joints. Clinic for metal, composite, and ceramic techniques: selection, indications, comparisons. Aesthetics in fixed prosthodontics and the concept of an aesthetic stomatology or multidisciplinary approach in fixed prosthodontics.

10<sup>th</sup> semester. Combination of fixed and detachable prostheses: five levels. Prosthetic ligaments and conical constructions. Fixed prosthodontic care during childhood. Fixed prosthodontic care of elderly patients. Parodontal prosthetics. Local and systemic effects of fixed prosthodontic care, corrosion, galvanism, allergies to dental materials. Epidemiology of needs after prosthodontic care. Quality criteria of fixed prosthodontic care and the impact of prostheses on quality of life.

11<sup>th</sup> semester. The rules of good clinical practice in fixed prosthodontics and interdisciplinary cooperation. Course of execution of complete fixed prosthodontic care, diagnostic modulation in wax, temporary construction, permanent construction, malocclusion care, bite lift. Implant prosthodontic care. The revision of doctrinal viewpoints of fixed prosthodontic care and rehabilitation.

12<sup>th</sup> semester. Integration of theoretical knowledge and clinical practice.

## Internal Medicine for Dental Medicine (3 ECTS)

### Aims

Basic objective of the subject: to teach dental medicine students basics of recognition/diagnostics and management of the most frequent and most important medical conditions in internal medicine. Diagnostics is based on medical history, clinical symptoms and signs, as well as on clinical examination of the patient. These elements are upgraded by a focused medical history and diagnostic methods, that are specific for a disease. Since the subject is dedicated to students of dental medicine, the main focus is on medical history, clinical signs and symptoms as well as on diagnostic and therapeutic procedures that are associated with the most frequent medical conditions in internal medicine, with the diseases of the upper part of the body, neck and head, as well as emergency situations. These are conditions that doctors of dental medicine may encounter in their practice.

### Contents

Content is organized by internal medicine theme units: shock, acute coronary syndrome and resuscitation; atherosclerosis, diseases of arteries and veins, pulmonary embolism; heart failure, heart arrhythmias; allergies and anaphylactic shock; lung diseases: COPD, asthma, pneumonia, cancer; diseases of gastrointestinal tract: peptic ulcer, cancer, inflammatory disease, acute abdomen, hemorrhagic shock; diseases of kidney and urinary tract: acute and chronic failure, inflammation, cancer, electrolyte disturbances; anaemias, acute and chronic leukemias, failure of hemostasis; systemic connective tissue diseases and syndromes with vasculitis; endocrine glands diseases; type 1 and type 2 diabetes and complications; internal oncology. The content of the thematic set is presented combined. Lecturer/mentor of the seminar helps students in theme-associated literature search, and also presents them with cases of patients whose medical condition coincides with the topic of the seminar. Students prepare and present a seminar. The lecturer/mentor of the seminar then prepares and summarizes all the key points of the presented medical condition. The emphases are adapted to the everyday clinical work of a

doctor of dental medicine..

## Paediatric and Preventive Dentistry 1, 2, 3 (14 ECTS)

### Aims

At the completion of graduate studies, the student has theoretical and practical clinical skills required for performing basic preventive and basic curative work in children's and youth dentistry.

### Contents

8<sup>th</sup> semester. At the lectures, the student will get acquainted with the following items: aspects of pediatric dentistry, mental development of children and the impact on oral cavity health, behavioural characteristics and problems of children and adolescents, growth, development and child's health, anamnesis and clinical examination in pediatric dentistry, radiological examination and diagnosis in pediatric dentistry, pain and pain prevention in pediatric dentistry, local anesthesia, sedation and general anesthesia in pediatric dentistry. At the seminar, the student will present a patient case in the form of a seminar paper (anamnesis, clinical examination, radiological examination, additional diagnostic tests, diagnosis, plan of treatment). The purpose will be to acquire skills of taking anamnesis and to learn the clinical procedure of dental examination of child or adolescent, with an emphasis on the systematics and recording of the findings. During clinical practical training the student will become acquainted with the basics of preventive and curative procedures for treating caries and dental pulp diseases of deciduous and permanent teeth.

9<sup>th</sup> semester. At the lectures, the student will get acquainted with the following items: special features and treatment of carious lesions in different age groups, filling materials in pediatric dentistry, traumatic injuries of primary and permanent teeth with immature root development (classification of traumatic injuries types, immediate care, clinical monitoring of patients after traumatic injuries of teeth, complications following teeth injuries and treatments in such cases).

At the preclinical tutorials the student will install the rubber dam on an arch model of primary and mixed dentitions; he will seal fissure of permanent tooth, make enameloplasty, class II restoration and preparation for the stainless steel crown (SSC), completion of a tooth with a strip crown and pulpotomy.

At clinical practical training the student will perform a dental examination of a child or adolescent, will make a diagnosis and a plan of treatment. Under supervision or with the participation of an assistant, the student will learn basic procedures for prevention or treatment of dental diseases on deciduous and permanent teeth.

10<sup>th</sup> semester. At the lectures, the student will get acquainted with the following items: developmental changes in number and shape of teeth and their treatment, innate and acquired developmental disorders of hard dental tissues, eruption and loss of deciduous teeth, development of occlusion, preventive and interceptive orthodontics, usage of local anaesthesia in paediatric dentistry, sedation and dental treatment under general anaesthesia. At the preclinical tutorials the student will take care of "damaged teeth" on a model of traumatised teeth: he will take care for complicated trauma of tooth crown with an exposed dental pulp and will make reposition and immobilization after tooth avulsion. Within clinical practical training the student will continue with work from 9th semester.

11<sup>th</sup> semester. At the lectures, the student will get acquainted with the following items: characteristics and parodontal tissue disease treatment among children and adolescents, oral mucosal lesions among children and adolescents, basic dental and oral surgery in pediatric dentistry, temporomandibular joint disorders, impacts on oral health and dental treatment of children with chronic diseases and children with special needs. The student will select and present in the form of a seminar paper one of the following items: dynamics of caries development; motivation of preschool, elementary or secondary school children for their own oral health; fluorides (presence in the environment, entry into the body and metabolism; physiochemical interactions between fluoride and enamel, application forms, fluoride action on bacteria, fluoride toxicity). At the clinical practice the student will continue and upgrade his work of this course from the 10th semester. At clinical practical course the student learns about and is partly involved in performing preventive programs within the framework for primary dental care of children and adolescents (in preschool educational institutions, elementary schools, institutions for children and adolescents with special needs). He will also get familiar with dispensary work in pediatric dentistry clinics at examinations with counseling

for one-year, two-year and three-year-old children.

## Removable Prosthodontics 1, 2, 3 (18 ECTS)

### Aims

The student will acquire clinical and laboratory knowledge and skills that are required for clinical rehabilitation of partly or completely toothless patients with removable dental prostheses. At the lectures he will acquire knowledge about biological features and modern theoretical principles for making a full dental prosthesis, immediate prosthesis, parodontally supported full prosthesis, acrylic partial prosthesis, partial prosthesis with a molded base, obturator prosthesis, dental facade prosthesis and removable diagnostic appliances. At seminary lessons he will use his knowledge acquired at lectures for autonomous planning of removable prosthodontic care. At clinical practical course he will be trained for self-reliant decision making about the treatment of partially or completely toothless patients (clinical examination, recognizing different states, planning, writing records, providing different removable prosthetic appliances, work evaluation, communicating with a patient or with a wider team of various experts). At laboratory practical course he will become acquainted with work in a dental laboratory.

### Contents

8<sup>th</sup> semester. Full dental prosthesis: biological basics for a full prosthesis, retention and stabilization principles and methods of installing removable prosthetic teeth, making a full prosthesis in a dental clinic and laboratory, prosthesis polymerization methods, reocclusion of the prosthesis in the articulator, relining and repairing of full prostheses, production of a full immediate prosthesis. Partial prosthesis I: biological basics for partial prosthesis, modern principles of partial prosthesis in terms of transferring chewing forces onto supporting teeth, denture base of the acrylic partial prosthesis and partial prosthesis with a molded base, types of partial prostheses, elements of a partial prosthesis with a molded base, parallelometer in terms of molded bases and its use.

9<sup>th</sup> semester. Partial prosthesis II: planning using analysis of forces for treatment with partial prosthesis with a molded base, creation of a partial prosthesis with a molded base in the dental clinic and in the laboratory, programs of removable prosthodontic care, transformation of supporting and anchoring teeth and protective procedures following the transformation, theoretical basics of intentional crowns, shafts and modern elements of anchoring, dental attachments and working with them, theoretical basics of milling, telescopic and conical crowns and work with them, repairing and relining of partial prostheses.

10<sup>th</sup> semester. Parodontally supported full prosthesis: theoretical basics and work with modern anchoring elements. Special prostheses – theoretical basics: prostheses on congenital and acquired defects of jaw bones, dental facade prosthesis, removable molded metal splint, Dahl's splint.

11<sup>th</sup> and 12<sup>th</sup> semester. An integral treatment of patients with an emphasis on removable prosthodontic rehabilitation.

## Orthodontics and Dentofacial Orthopedics 1, 2, 3 (10 ECTS)

### Aims

The student will learn about diagnostic procedures. He will become familiar with irregularities of individual teeth, groups of teeth, irregularities of the dental arches and the skeletal abnormalities of the orofacial system. At clinical practical course he will learn to perform the basic dental and gnathic orthopedic examination. The student will get familiar with the development of the craniofacial system, with its physiological functioning and pathological deviations. He will acquire knowledge about critical periods for the formation of developmental abnormalities. The student will become familiar with the benefits of orthodontic treatment based on the developmental periods, with simple interceptive interventions and will recognize abnormalities that necessitate orthodontic treatment. At clinical practical course he will perform preventive and basic interceptive interventions on patients that are in different periods of development.

The student will get familiar with measures for creating conditions for normal development of the craniofacial system and for preventing the occurrence of developmental abnormalities. He will get acquainted with interceptive treatment – orthodontic-parodontal, orthodontic-surgical, orthodontic-prosthetic treatment and cooperation with specialists of other dental and medical sciences. At clinical practical course he will become

acquainted with planning singular stages of orthodontic treatment with removable and non-removable orthodontic appliances.

### Contents

The epidemiology of developmental abnormalities, classification of orofacial system irregularities, diagnostic procedures in jaw and dental orthopedics – basic gnatho-orthopedic examination with function analysis (lip posture, ways of breathing, swallowing, chewing, speaking, temporomandibular joint function, habits), analysis of study models, X-ray image analysis (local and panoramic X-ray images). Growth and development of the craniofacial system. Planning of orthodontic treatment according to different kinds of irregularities of the orofacial region in class I, class II and class III. Biological and physical processes following orthodontic teeth movement. Planning, monitoring and evaluation of orthodontic treatment. Benefits of orthodontic treatment according to developmental periods. Basic preventive and interceptive interventions. Active orthodontic appliances (removable and non-removable appliances). Myofunctional therapy. Dental extractions in jaw and dental orthopedics. Orthodontic treatment of certain types of anomalies. Combined orthodontic treatment.

## Medical Clinic 2 (4 ECTS)

### Aims

Content module Ophthalmology:

- Getting knowledge about frequent eye diseases especially those concerning orbit and paranasal sinuses originating in a pathologic process that is common to ophthalmology and dental medicine.
- Recognition of urgent ophthalmic situations and independent measures in some urgent ophthalmologic situations which can happen in dental medicine practice. During clinical practice they learn to perform basic ophthalmological skills.
- Integral treatment of the patients without too narrow focusing on only one disease.

Content module Otorinolaryngology:

- The student get knowledge about diseases of ears, nose and paranasal sinuses, oral cavity, pharynx, larynx and neck, causes of hearing loss and balance disorders. They also learn the urgent medical help in some urgent ENT situations.
- During clinical practise they learn techniques of otorhinolaryngological examination and how the acquired knowledge to use in contact with patients.

Content module Dermatovenereology:

The goal of the study of dermatovenereology is understanding and knowledge of the theoretical bases of the most common skin and venereal diseases. The student will be able to recognise clinical presentation of skin diseases in clinical practice, the differential diagnosis in the head and neck region, possible complications, will learn about stepwise diagnostics, basic treatment modalities, prevention and epidemiology. The student will be able to state the diagnosis of the skin diseases in the head and neck region based on anamnesis, clinical picture and basic diagnostic procedures.

### Contents

- Ophthalmology:

They get knowledge about the functional system of the eye (sight and bulbomotorics), signs and symptoms of eye diseases, classification of eye diseases, clinical path to the correct ophthalmologic diagnosis, selected urgent situations in ophthalmology, chronic eye diseases and the complications of other systemic diseases concerning eyes.

- Otorhinolaryngology:

Students get knowledge about the incidence, causes, clinical signs and symptoms of the diseases of the ear, nose, paranasal sinuses, pharynx, larynx and neck. They learn about malformations, trauma, inflammations and tumors in these regions. They learn about diagnostic procedures and possible treatment options including urgent medical help. They learn about the connection with dental medicine and other neighbouring fields.

- Dermatovenereology:

The student get knowledge about propaedeutic of dermatovenereology, skin lesions and clinical presentation of the most common skin and venereal diseases, with focus in the head and neck region and oral mucous

membranes: skin infections, common skin diseases on the face and scalp, allergic and reactive skin diseases, differential diagnosis of facial oedema, autoimmune and erythematous skin diseases and sexually transmitted diseases. Basic diagnostic procedures and possibilities of topical and systemic treatment, epidemiology and preventive measures are presented.

## **Pediatrics for Dental Medicine (3 ECTS)**

### **Aims**

- Knowledge of the basics of pediatric propaedeutics and an approach to the care of children, adolescents, and young adults. Understanding the prevalence, clinical presentation, and differential diagnosis of the most common diseases and conditions in pediatrics. Familiarity with modern diagnostic procedures and their adaptations for the pediatric population. Knowledge of contemporary approaches to comprehensive care and treatment.
- Knowledge of the basics of clinical genetics, modern genetic diagnostic methods, genetic syndromes affecting the orofacial area, as well as genetics of periodontal diseases, genetics of tooth development and developmental enamel defects, and genetics of oral cavity cancers.

### **Contents**

- Pediatrics as a clinical discipline at the primary, secondary, and tertiary levels.
- Dealing with healthy and sick newborns, children, adolescents, and adults.
- Fundamentals of clinical genetics.
- Syndromes of the orofacial area.
- Genetics of periodontal disease.
- Clinical genetics in tooth development and developmental enamel defects.

## **Clinical Physiology of the Stomatognathic System (3 ECTS)**

### **Aims**

- To understand and apprehend the complexity of the stomatognathic system.
- To be knowledgeable on TMD and other types of orofacial pain disorders and their influence to the quality of life. To know the principles of diagnostics and management.
- To be knowledgeable about obstructive sleep apnea and its management.

### **Contents**

Main topics: Functional anatomy of the stomatognathic system, Etiology and identification of functional disturbances in the SGS, Treatment modalities, Obstructive sleep apnea.

## **Oral Medicine (3 ECTS)**

### **Aims**

The goal of the subject Oral Medicine is learning epidemiology, etiopathogenesis and clinical presentation of the most prevalent oral diseases. The student will learn how to distinguish between different oral diseases and conditions and the basics of their treatment.

### **Contents**

Content includes the following subjects:

- Developmental defects
- Mechanical injuries
- Chemical burns
- Thermal lesions
- Oral lesions due to drugs
- Diseases of the tongue
- Diseases of the lips
- Viral infections
- Oral manifestations of HIV infection
- Bacterial infections
- Fungal infections

- Autoimmune diseases
- Genetic diseases
- Skin diseases
- Blood diseases

## Gerontostomatology (3 ECTS)

### Aims

Students become familiar with specific dental problems of older people. Students learn about the preventive measures and special requirements needed for successful treatment of oral diseases and dental rehabilitation of the elderly patient and the adjustments of dental treatment and rehabilitation due to the presence of systemic disease. Students repeat the basic life support from the 1st year and learn how to implement them for the elderly patient. Special emphasis is placed on providing first aid in dental surgery.

### Contents

#### Module 1: Gerontostomatology

- Physiology of aging.
- The most common systemic disease of the elderly patient.
- The consequences of systemic diseases and medication on the oral health of the elderly patient.
- Age-related changes of the oral cavity (teeth, periodontal tissues, oral mucosa, salivary glands, mandible, motor and sensory function).
- Characteristics, prevention and treatment of dental caries (root caries, secondary caries) and periodontal diseases in the elderly patient.
- The most common oral mucosal disorders of the elderly patient and their treatment.
- Elderly patients with prosthetic devices - morphological and physiological characteristics.
- Diagnosis and planning of dental treatment and rehabilitation in the elderly. Customization of prosthodontic rehabilitation to the mental and physical state of the patient (shortened dental arches concept, functional or aesthetic care).
- Specificity of selection and handling with restorative materials in the elderly dental patient.
- Special features of endodontics, diagnosis and treatment for the elderly patient.
- Oral surgery for the elderly patient.
- Oral surgery due to jaw atrophy.
- Implant care for the elderly patient.
- Removable prosthodontic rehabilitation of the elderly patient.

#### Module 2: First Aid – CPR

- Causes of clinical death
- Determination of consciousness
- Evaluation and establishment of breath
- Evaluation and establishing of blood circulation
- First aid in acute coronary syndrome
- First Aid in Stroke
- Basic principles of pain relief in dental surgery

## Dental Implantology (3 ECTS)

### Aims

Students become familiar with the basic of implantology and indications for dental implants for different levels of partial and fully edentulous patients. They learn about the preparatory and diagnostic procedures, surgical and prosthetic implant treatment and monitoring of patients. They learn basic implant-prosthetic care procedures.

### Contents

Basics of osteointegration and required conditions, technological properties of dental implants, the relationship

between the implant and the mucosa, the general indications and contraindications for treatment with dental implants, diagnostics for implant patient, prosthodontic aspects of implant planning, protocols of implant insertion and implant loading protocols, surgery for dental implants, procedures for jaw bone augmentation, dental implants in the visual area - surgical and prosthetic aspects, the properties of dental implant superstructure, dental implants in partially edentulous patient - surgical and prosthetic aspects, fixed prosthodontics on dental implants, temporary care, dental implants in toothless patient - surgery and prosthetic aspects, implant supported removable prosthesis on implants, orthodontic implants and orthodontic therapy in the treatment of implant patient, implant supported epitheses, complications of implant treatment, and periimplantitis, monitoring the patient and maintenance.

## **Anesthesiology and Emergencies in The Dental Office (3 ECTS)**

### **Aims**

- To give the student an information about the field of work of an anaesthesiologist (anaesthesia, intensive care and pain therapy). The students will get the knowledge about the preparation of the patient for surgery, the mechanism of action of anaesthetics, management of anaesthesia/conscious sedation, non-invasive monitoring during anaesthesia/ conscious sedation.
- The students will get the knowledge about the methods of conscious sedation and regional anaesthesia in dentistry.
- The students will learn the methods of basic and advanced life support.
- The students know how to diagnose individual emergency situations and act accordingly.
- Acquiring basic knowledge and skills for diagnosing and treatment of pain. A student is acquainted with rational mode of the use of non-opioid analgesics and opioids in the treatment of acute and chronic pain and with other methods of pain treatment.

### **Contents**

- Preparation of the patient for anaesthesia, the impact of concurrent disease. Conscious sedation in dentistry. General anaesthesia: inhalational anaesthetics; Monitoring during conscious sedation and anaesthesia. Complications during and after anaesthesia/conscious sedation. Treatment with oxygen.
- Regional anaesthesia in dentistry (local anaesthetics, local anaesthesia, peripheral nerve blocks in the mouth).
- Basic and advanced life support.
- Recognition of emergency situations in the dental office (myocardial infarction, allergic reaction, anaphylactic shock, respiratory distress, epileptic attack).
- Physiology and psychology of pain.
- Acute pain in the orofacial region; types and modes of treatment.
- Types of pain and treatment methods of chronic pain in the orofacial region: pain due to cancer, neuropathic pain, chronic pain which is not a consequence of cancer.

## **Dentist in a Professional Environment (5 ECTS)**

### **Contents**

Content set 1: Dentist in a professional environment

- Organisation and characteristics of the healthcare system in Slovenia.
- Medical legislation, functioning of dental office in public system and in private sector
- Professionalism (ethical principles in dentistry, confidentiality, data protection ...)
- Forms of entrepreneurship in dentistry, registration procedure of private practice
- Patient's rights, doctors' rights
- Dental healthcare system in Slovenia and dental healthcare systems in Europe.
- Financing of dental care
- Quality care in dentistry

- Management of dental office from the stand of the
- concessionaire and private practitioner
- Cooperation between dental office and dental lab
- Dental tourism – ethics and professionalism
- Mediation in dentistry.
- Professional diseases in dentistry and their prevention

Content set 2: Forensic Medicine

- Students understand the basis of forensic medicine - mechanisms of natural
- and violent death, thanatology I, thanatology II, general and special identification, with the emphasis on the role of the stomatologist in mass accidents; they are acquainted with the basics of forensic toxicology (alcohol, drugs, medicines, traffic safety), autopsies - compulsory and permitted in the light of legislation - and exhumation, determination of
- death, injuries caused by a blunt instrument, with sharp and pointed objects, maxillofacial injuries of forensic importance, basis of forensic
- traumatology and craniocerebral trauma, gunshot injuries, physician-caused injuries in dentistry. They learn about the legislation - both medical and criminal with the basics of expert work, with the emphasis on assessment of physical injuries of the maxillofacial area, particularly injuries to the teeth. They are acquainted with the rights, duties and responsibilities in connection with their profession.