

Edition:

Date:

21.02.2020

08

Pag. 1/16

FACULTY STOMATOLOGY

STUDY PROGRAM 0911.1 STOMATOLOGY

CHAIR OF ODONTOLOGY, PERIODONTOLOGY AND ORAL PATHOLOGY "SOFIA SÎRBU"

APPROVED

APPROVED

at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum in

Stomatology Minutes No. <u>1</u> of <u>a2.09</u>, <u>2020</u> Chairman, PhD associate professor Stepco Elena <u>Chairman</u> at the Council meeting of the Faculty Stomatology

(signature)

Signature DECANATUL STOMATOLOG

approved at the meeting of the chair Odontology, periodontology and oral pathology "Sofia Sîrbu"

APPROVED

Minutes No. 01 of 29.0 8-2020

Head of chair, PhD, DMD, professor

Ciobanu Sergiu

(signature)

CURRICULUM

DISCIPLINE DENTAL ESTHETICS IN ODONTOTHERAPY

Integrated studies

Type of course: Optional

Curriculum developed by the group of authors:

Eni Lidia, PhD, associate professor Gorea Corneliu, university assistant

Chișinău, 2020



Edition:08Date:2

21.02.2020

Pag. 2 / 16

I. PRELIMINARIES

- General presentation of the discipline: the place and the role of the discipline in the formation of specific competences of the vocational / speciality training program.
- The dental aesthetics course in odontotherapy is an important component in the field of Dentistry and its main objective is to study the particularities of the onset and evolution of the pathological processes at the level of the hard dental tissues, both at the stage of treatment and to analyze natural aesthetic elements of the teeth and the dental arch of each individual.
- The content of the course is structured to understand the macro- and microstructure of hard dental tissues, the anatomical-physiological aspects of intact teeth, and the effects of tooth interraction with the whole human body. At the same time, the pathological processes occurring in hard dental tissues in the specific conditions of the oral cavity are described, in the presence of specific factors, which initiates and induces the development of physiological processes. Applying the techniques and materials to repair the carious defects through the chemical, mechanical interaction of hard dental tissues with the filling materials used in the treatment and prevention of dental caries and the esthetic dental restorations are the basic objectives of the dicipline.

Mission of the curriculum (aim) in vocational training

The dental aesthetics aims in odontotherapy are studying the tooth shape, color, size and correct placement of the teeth in the dental arch, at the aesthetic or physiognomic aspect of their,knowledge of the causes (etiological factors) and the mechanism of beginning and evolution (the pathogenic mechanism)of the hard dental tissue disorders, both carious and non-carious origin, the examination of patients and establishing the diagnosis, making a treatment plan, based on observing the principles of prophylaxis, asepsis and antisepsis measures in accordance with the established requirements. At the same time, the clinical and paraclinical examination methods described in the discipline are aimed at developing the skills and clinical thinking of the students ,focused on the accumulation of skills in determining the optimal methods of diagnosis, treatment of patients and improving the quality of their life.

- The teaching language of the discipline: Romanian, English, Russian.
- Beneficiaries: Third year students, Faculty of Stomatology.



Edition:

08 Date: 21.02.2020

Pag. 3 / 16

II. ADMINISTRATION OF THE DISCIPLINE

The code of the discipline		S.05.A.063	
The name of the discipline		Dental esthetics in odontotherapy	
Responsible for discipline		Eni Lidia, PhD, associate professor Gorea Corneliu, university assistant	
Year	III	Semester/Semesters	V
Total number of the hours, inclusive:			30
Course	10	Practical / laboratory work	0
Seminars	10	Individual work	10
Form of assessment	CD	Number of credits	1

OBJECTIVES OF THE TRAINING COURSE III.

✓ *At the level of knowledge and understanding:*

• to know the role of dental aesthetics in social life and the importance of dentist and patient education;

• to know the structure and organization of dental care, the organization and equipment of the dental office:

• to know the equipment and instruments for examining, preparing, and filling the carious cavities (dental equipment, dental parts, rotative instruments, etc);

• to know the place and role of dental aesthetics in odontotherapy, treatment and prophylaxis of dental diseases;

• to know the rules of aseptic and antiseptic in dentistry;

• to know the structure and functions of hard dental tissues;

• to know and understand the physiological processes that occur at the level of hard dental tissues (enamel, dentin and root cement);

- to know the definitions of the carious process in hard dental tissues;
- to know methods of diagnosis of dental caries and odontous lesions of non-carious origin;
- to know the dental caries classification (national and international);
- to know the teeth morphology;
- to know and understand the mechanism of the appearance of dental discoloration;
- to know the classifications of odontous lesions of non-carious origin (national and international) of hard dental tissues;
- to know the etiological factors in the appearance of dental caries and odontous lesions of non-carious origin (the favoring factors and determining factors);
- to know and understand the pathogenic mechanism in the onset and evolution of dental caries;



Edition:

Date:

21.02.2020

08

- to know and understand the morphology of the carious process in various forms of dental caries (in the form of macula, superficial, medium and deep) in the dentin and enamel,
- to know the techniques and procedures of anesthesia in dentistry;
- to know and understand the mechanism of action of anesthetic substances on the anesthesia area and the entire body;
- to know and understand the causes of possible complications after application of anesthesia and medical emergency aid;
- to know the isolation systems (diges and its components) of teeth and soft tissues in the treatment of dental caries and odontal lesions of non-carious origin, as well as in direct dental restorations;
- to know the techniques of application of the isolation systems on the teeth;
- to know the principles of preparation of carious cavities (of Black and of free design);
- to know and understand the properties and mechanism of action of drug remedies used in the treatment of caries;
- to know the classification of obturation materials (curative, temporary);
- to know the adhesive systems used in the treatment of dental caries and odontous lesions of non-carious origin;

• to know techniques of polymerization of adhesive systems and photopolymerizable composite materials;

• to know and understand the properties and mechanism of interaction of the adhesive system with hard dental tissues and obturation material;

• to know the properties of the obturation materials used in the treatment of dental caries and odontal lesions of non-carious origin;

• to know the techniques and procedures of teeth whitening;

• to know and understand the mechanism of action of obturation materials on hard dental tissues and dental pulp;

• to know occlusion elements as basic elements in direct dental restorations;

• to know the techniques, tools and materials of adjusting, gilding and polishing the final dental restorations;

• to be aware of possible errors and complications during and after odontal treatments;

• to know the principles of color, which allows the realization of dental aesthetic restorations closer to natural.

• to know the correct anatomical structure of the teeth for a physiognomic dental aesthetic of dental arcades.

✓ *At the application level:*

• to collect patient and anamnesis data (subjective examination);

• to be able to distinguish data of major importance for establishing the diagnosis;

• to distinguish the problems that appear in the communication process and to solve them;

• to make the clinical and paraclinical examination of patients with dental caries, odontous lesions of non-carious origin;



Edition:08Date:2

• to form the patient's treatment plan with odontous injuries (dental caries, odontous lesions of non-carious origin);

• to perform practically the patient's treatment plan with odontous lesions;

• to possess techniques for the application of anesthesia in the treatment of dental caries and odontous lesions of non-carious origin;

•to have the ability to apply the isolation systems (digits) of the teeth;

• to possess the techniques of preparation of carious cavities (class I, II, III, IV, V, VI) respecting the principles of preparation after Black and free design;

• to possess techniques and procedures for preparing teeth with odontal coronary lesions (partial, subtotal and total) for partial or total aesthetic restorations;

• to perform correctly the dental wound lavage;

• to possess techniques for polymerization of adhesive systems and of lightphotopolymerizable composite (direct and indirect);

• to possess techniques and procedures for filling the caries cavities class I, II, III, IV, V, VI after Black and partial or total coronary odontal lesions;

• to possess anatomo-morphological modeling abilities of occlusal surfaces and incisal edges by applying composite obturation materials;

• to possess anatomic adjustment work on dental aesthetic restorations, such as final finishing and polishing;

• to possess the ability to solve post-treatment complications.

✓ *At the integration level:*

- to be able to evaluate the place and role of dental aesthetics in odontotherapy for the clinical training of the student;
- to be able to link the physiological processes of hard dental tissues and dental pulp;
- to be competent to use the accumulated knowledge and skills to explain the clinical exposure of the carious process and the use of odontous lesions of non-carious origin in terms of etiological factors;
- to be able to link the structure and functions of the hard tooth tissues and the pathogenic mechanism of onset and evolution of carious process and dental dichromies;
- to be able to explain the link mechanism between hard dental tissues and the adhesive system → obturation material;
- to be able to explain the mechanism of harmful action of the obturation material on dental pulp;
- to be able to explain the post-traumatic pain after treatment of dental caries;
- to be able to deduce the possible causes of complications after the treatment of dental caries (by inflammation of the dental pulp);
- to be able to implement the gained knowledge in the activity;
- to be competent to use critically and with confidence the scientific information obtained using the new information and communication technologies;
- to be able to use multimedia technology to receive, evaluate, store, produce, present and exchange information;



Edition:

Date: 21.02.2020

08

• to be able to learn to teach, which will contribute to the management of the professional path.

IV. PREVIOUS CONDITIONS AND REQUIREMENTS

Student of the 3rd year requires the following:

• knowledge of the teaching language;

• knowledge and following the rules of ethical-moral and professional norms in relation with patients;

• knowledge and skills confirmed in preclinical skills (anatomy and morphology of teeth, dental instruments, preparation and filling of carious cavities on the simulator, classification and properties of obturation materials);

• digital competences (use of the Internet, document processing, electronic tables and presentations);

• ability to communicate and team work;

• qualities - tolerance, compassion, autonomy.

.V.Themes and repartization of the hours/classes

Nr. d/o	Theme	Hours	Ind.work
2.	Dental caries. Epidemiology. Evidence of morbidity. Etiology and dental caries pathogenesis. Local and general factors (favors and determinants) in the onset and evolution of dental caries. Hypotheses and theories in the appearance of dental caries. Classification.	2	1
1.	Dental aesthetics in odontotherapy.	1	1
3	Anatomo-clinical forms of dental caries. Morphopathological aspects. Clinical signs of dental caries. Positive and differential diagnosis of dental caries.	1	1
4	 Treatment of dental caries (local and general). Procedures and techniques of treatment. Treatment of dental wound. Adhesive systems. Classification. Properties. Mechanism of interaction with hard dental tissues. 		1
5	⁵ Errors and complications at the stage of diagnosis and treatment of dental caries. Methods, techniques and remedies for dental caries prophylaxis.		1
6	6 Current problems in dental aesthetics.		1
7	Odontous lesions of non-carious origin. Notion. Classification. Morpho- structural changes in hard dental tissues occurring up to and after teeth eruption.		1
8	Dental Restorations. Indications and contraindications. Methods and techniques (faceting, veneering). Materials.	1	1
9	Current problems in dental restorations.	1	2
	Total	10	10



Edition:

Date:

08
21.02.2020

Pag. 7 / 16



Edition:

Date:

21.02.2020

08

Pag. 8 / 16

VI. REFERENCE OBJECTS AND CONTENT UNITS **Content units Objectives** "Organization and structure of dental aesthetics in odontotherapy" Dental aesthetics in odontotherapy - structure, its to define the place and role of dental aesthetics in odontotherapy in the training of dentists; role in training of the future specialist; to know the organization of dental care in Normative acts regulating the dental service; particular dental aesthetics in odontotherapy; to know the organization and endowment of the Schemes for the installation of dental equipment, dental office specializing in odontotherapy; instruments, consumables; to know the rules of aseptic and antiseptic in dentistry. Guides, sanitary-epidemiological instructions basic rules in aseptic and antiseptic. Hard dental tissues: structure, physiological processes, etiological factors in the appearance of dental caries and odontal lesions of uncarious origin. Structure and functions of hard dental tissues; to know basic components and functions of hard • dental tissues: The physiology of hard dental tissues. to know and understand the physiological Circulating of the enamel and dentinal fluid, the processes that occur at the level of hard dental mechanism of pain transmission, formation and tissues (enamel, dentin and root cement) and the depositing of tertiary dentin, teratogenic factors; action of the teratogenic factors; Etiologic factors in the appearance of dental to define the determining and favorable factors in the appearance of dental caries and odontal caries and odontal lesions of uncarious origin; lesions of uncarious origin; Concept of carious process and lesions of to define the notion of carious process in hard uncarious origin .; dental tissues and lesions of uncarious origin .; to know and understand the morphology of carious process in various forms of dental caries Morphology of the carious process, the (in the form of macula, superficial, medium and pathological layers, the morphological disturbances deep caries) in the dentin and enamel; of the prasmatic layer, the dental canal; to know the classification of dental caries and odontal lesions of uncarious origin (national and Classification of dental caries and lesions of international): uncarious origin; to identify methods of diagnosis of dental caries and odontal lesions of uncarious origin. Methods of clinical and paraclinical diagnosis (eg subjective, objective and complementary).



Edition:

Date: 21.02.2020

08

Pag. 9 / 16

Methods and techniques for the preparation of carious cavities in the treatment of dental caries and defects of non carious origin

 Practically carry out the patient's treatment plan with odontous lesions; To be able for the application of anesthesia in the treatment of dental caries and odontal lesions of non carious origin; To have skills to apply the isolation systems (rubber dam) of the working field (teeth); To have the carious cavity preparation techniques (Class I, II, III, IV, V, VI) following the principles of preparation for Black and free design; To have techniques and procedures for preparing teeth with odontal coronary lesions (partial, subtotal and total) for partial or total aesthetic restorations; To perform properly the dental wound lavage; 	 Phase of treatment plan. Anesthesia - techniques and procedures, anesthetic substances, mechanism of interaction at local and general level, possible complications, emergency medical assistance. Rubber dam - components, types and application techniques. Preparation of carious cavities - Black's principles and free design, tools, burs, accessories. Odontal injuries of non carious origin - types, preparation tools. Lavage of dental wound (solutions, consecutivity, exhibition, drying procedures).
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Aesthetic restoration of defects of carious and non-carious origin (materials, tools, techniques and procedures, adjustment, polishing and finishing of fillings)



Edition:

Date:

21.02.2020

08

Pag. 10 / 16

VII. PROFESSIONAL COMPETENCES (CP) AND TRANSVERSAL COMPETENCES (CT) AND STUDY FINDINGS PROFESSIONAL COMPETENCES (SPECIFIC) (CP):

CP1. Knowledge, understanding and use of specific dental / dental aesthetics in odontotherapy;

CP.2 Knowledge of the principles, techniques and procedures for preparation of carious cavities (equipment, tools, materials and techniques for isolation of the working field);

CP.3 Knowledge of methods of dental restoration of carious cavities, tools, techniques, selection of filling materials according to the clinical situation, their polymerization;

CP.4 Classification of obturation materials - physical-chemical properties, technical application, polymerization;

CP.5 Knowing techniques for modeling, adjusting, grinding and polishing dental restaurations;

CP6. Knowledge and understanding of the organization of the dental office, specific to odontotherapy with various compartments, explanation of the principles of treatment of dental caries and non carious injuries;

TRANSVERSAL COMPETENCES (CT):

CT1 Ability to social interaction, group work with different roles;

CT2 Developing different learning techniques to study;

CT3 Selection of digital materials, critical analysis and conclusions;

THE DISCIPLINE FINALITIES

- To know the particularities of the organization of the dental service, the specifics of the dental aesthetic cabinet, the equipment, the placement requirements, the equipment and the instrumentation;
- Understand the principles of structure of restorative odontotherapy compartments;
- To understand the relationship: oral cavity microorganisms → hard dental tissues → carious process → lesion of non-carious origin → appearance of carious lesion or non carious lesion .;
- To know the classification of carious processes and lesions of non carious origin (topographic, after Black, clinic);
- To know the principles of treatment of dental caries and lesions of non carious origin ";
- To know the particularities and principles of preparation of carious cavities and lesions of non carious origin after Black and of free design (instruments, burs, consecutiveness of stages);
- To know and understand the particularities of the treatment of dental wounds, the interaction of hard dental tissues with antiseptic solutions (remedies, consecutivity, carious cavity drying, possible complications and their solving);
- Know the remedies and techniques of etching of hard dental tissues (partial and total etching);



Edition: 08

Date:

21.02.2020

Pag. 11 / 16

- To know the adhesive systems (classification, properties), application and polymerization processes and techniques, the mechanism of interaction between hard dental tissues and the adhesive system (the hybrid layer);
- To know the filling materials (curative, isolating and permanent), the physicochemical properties, the interaction with the hard dental tissues and the adhesive system;
- To know and apply techniques for restoration of carious cavities (application of the material on layers and unimomentan) and repair of defects due to lesions of non carious origin, modeling of anatomical elements (cusps, incisal margin and contact point);
- To know and to apply the techniques of polymerization of the filling material (direct and indirect);
- Know and realize the procedures for adjusting and polishing of dental restorations;
- Be competent to use the knowledge and methodology of restorative odontotherapy in the ability to explain the mechanism of some physiological or pathological processes with the occurrence of post-treatment complications.
- Be competent to use critically and with confidence the scientific information obtained using the new information and communication technologies.



Edition:

08 Date: 21.02.2020

Pag. 12 / 16

VIII. THE STUDENT'S INDIVIDUAL WORK

Nr.	The expected product	Implementation strategies	Evaluation criterias	Deadline
	Working with information sources:	Read the lecture or the material in the manual to the theme carefully. Read questions on the subject, which require a reflection on the subject. To get acquainted with the list of additional information sources on the topic. Select the source of additional information for that theme. Reading the text entirely, carefully and writing the essential content. Making generalizations and conclusions regarding the importance of the theme / subject.	Ability to extract the essentials; interpretative skills; the volume of work	During the semester
	Practical work with the patient:	Until clinical work have been performed to analyze the information obtained from the anamnesis, the objective and paraclinical examination (EOD, Rx) established the diagnosis and the treatment plan. Conduct consecutive treatment steps. Description of the manuscripts made in the patient's medical record. To formulate the recommendations for patients. Analysis and appreciation of the practical lesson on the thematic patient. Selection of additional information, using electronic addresses and additional bibliography.	The volume of work, solving the clinical situation the ability to fulfill the medical record of the thematic patient	During the semester
	Applying different learning techniques		Volume of work, degree of insight into different subjects, level of scientific argumentation, quality of conclusions, elements of creativity, demonstration of understanding the problem, formation of personal attitude	During the semester
	Working with online materials	Online self-evaluation, study of online materials on the SITE Chair, expressing your own opinions through forum and chat	Number and duration of SITE entries, self- evaluation results	During the semester
	Preparing and supporting presentations / portfolios:	Selecting the theme, setting the exposure plan, setting the terms of the achievement. Establishing PowerPoint presentation components - theme, purpose, results, conclusions, practical applications,	The volume of work, the essence of the topic, the level of scientific argumentation, the	During the semester



Edition:

08 Date: 21.02.2020

Pag. 13 / 16

Nr.	The expected product	Implementation strategies	Evaluation criterias	Deadline
		Bibliography. Colleagues reviews. Teacher reviews.	quality of the conclusions, the elements of creativity, the formation of the personal attitude, the coherence of the exposure and the scientific correctness, the graphic presentation, the way of presentation	

IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-**EVALUATION**

• Teaching methods used

When teaching the discipline "Aesthetic dentistry in odontotherapy" different methods and teaching methods are used, oriented towards the efficient acquisition and achievement of the objectives of the didactic process. In the theoretical lessons, along with the traditional methods (lesson-exposure, lesson-conversation), modern methods (lessondebate, lecture-conference, problem-lesson) are also used. Practical work: Clinical activity (practical work) at the thematic patient or simulator. For better learning of the material, different semiotic systems (scientific language, graphical and computerized language) and teaching materials (tables, schemes, photographs, video with clinical cases) are used. Inside lessons and extracurricular activities are used Communication Technologies -PowerPoint presentations.

- Recommended learning methods
- Observation Identification of the characteristic elements of hard dental tissues and carious processes, including lesions of non carious origin, of the elements that present the clinical situation
- Analysis Systematization of subjective, objective and paraclinical examination information. Highlighting key clinical elements by differentiating between them and establishing a diagnosis and treatment plan.
- Scheme / figure analysis Selection of required information. Recognition based on knowledge and information selected structures indicated in the drawing, drawing. Analysis of the functions / role of recognized structures.
- Comparison Analysis of the first object / process in a group and determination of its essential features. Analysis of the second object / process and the determination of its essential features. Comparing objects / processes and highlighting common features. Comparing objects / processes and



Edition: 08

Date:

21.02.2020

Pag. 14 / 16

determining differences. Establishment criteria for decommissioning. Formulation of conclusions / diagnosis and treatment plan.

- Classification Identification of the structures / processes to be classified. Determining the criteria on which classification is to be made. Distribution of structures / processes by groups according to established criteria.
- Elaboration of the scheme Selection of elements, which must be included in the schema. Playing the Elements Selected by Different Symbols / Colors and Indicating Their Relationships. Creating of an appropriate title and legend of the symbols used.
- **Modeling** Identifying and selecting the elements needed to model the clinical situation. Imagination (Rx, photostatic) of the clinical situation studied. Solving the similar clinical situation using the developed model. Formulation of the diagnosis and treatment plan, deduced from the arguments and findings of the clinical and paraclinical examination.
- **Experiment** Formulation of a hypothesis, based on known facts, on the process / phenomenon studied. Verifying the hypothesis by performing the processes / phenomena studied under laboratory conditions. Formulation of conclusions, deduced from arguments or findings.

Applied didactic strategies / technologies (discipline specific);

"The round table"; "Group Interview"; "Clinical case study"; "Creative Controversy", "Presentations in Pawer Point". Clinical-video cases, Master-class.

• Methods of evaluation (including an indication of how the final grade is calculated).

Current: front control and / or individual control through:

- (a) applying docimological tests,
- (b) solving situational / clinical cases,
- (c) analysis of case studies
- (d) performing role-plays on the topics discussed.
- (e) control work

Final: The course finishes with COLLOQUIUM.

The final grade will consist of the average score of three samples: practical / clinical work, annual average and final aggregation (part 0,), final test sample in test-editor (part 0), and oral interview (part 0,)

The average annual mark and the marks of all the final exam stages (assisted by computer, test) - all will be expressed in numbers according to the scoring scale (according to the table), and the final mark obtained will be expressed in two decimal places to be passed in the note book.

How to round up the grades at the evaluation

THE INTERMEDIATE NOTES GRILL	National rating	Equivalent	
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 Edition:
 08

 Date:
 21.02.2020

Pag. 15 / 16

(annual average, grades from the exam stages)	system	ECTS	
1,00-3,00	2	F	
3,01-4,99	4	FX	
5,00	5		
5,01-5,50	5,5	E	
5,51-6,0	6		
6,01-6,50	6,5	D	
6,51-7,00	7	- D	
7,01-7,50	7,5	0	
7,51-8,00	8	C	
8,01-8,50	8,5	В	
8,51-8,00	9		
9,01-9,50	9,5		
9,51-10,0	10	A	

Note: Absence without good reason is recorded as "absent" and is equivalent to 0 (zero). The student is entitled to 2 repeated claims of the unsuccessful exam.



Edition:08Date:2

21.02.2020

Pag. 16 / 16

X. RECOMMENDED BIBLIOGRAPHY:

A. Mandatory:

- 1. Gj Mount, WR Hume. Preservation and restoration of tooth structure. Mosby 1998.
- 2. Theodore M. Roberson, Harald O. Heymann, Edward J. Swift. Operative Dentistry. Fourth Edition. Mosby 2002.
- B. Extra:
- Nicolaiciuc, Valentina. Practical guide : clinical practical lessons for the 3rd year of study 5th semester : subject : Dental caries (tooth decay) / V. Nicolaiciuc ; State University of Medicine and Pharmacy "Nicolae Testemitanu", the Department of Therapeutical Dentistry. - Chişinău : Medicina, 2012
- 2. Dental fluorosis / P. Gnatiuc, C. Năstase, A. Terehov, O. Sireteanu. Ed. a 2-a, ad. și corectată. Chișinău : Tipografia Centrala, 2015
- 3. Fuhrmann, Andreas. Dental radiology : a contemporary guide to dental radiology for students and practitioners / Andreas Furmann. Stuttgart : Thieme, 2015