



## DISCIPLINE SHEET

### 1. Study programme

1.1.	<b>"CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST</b>				
1.2.	<b>FACULTY OF DENTISTRY</b>				
1.3.	<b>DEPARTMENT III</b>				
1.4.	<b>DISCIPLINE RESTORATIVE ODONTOOTHERAPY</b>				
1.5.	<b>STUDY DOMAIN: Health, sectoral regulated within the European Union</b>				
1.6.	<b>STUDY LEVEL: I (Bachelor's degree) and II (Master's degree)</b>				
1.7.	<b>STUDY PROGRAMME: DENTAL MEDICINE IN ENGLISH</b>				

### 2. Discipline

2.1.	<b>Discipline name according to the study curriculum: RESTORATIVE ODONTOOTHERAPY I</b>				
2.2.	<b>Discipline code: MD03S02EN</b>				
2.3.	<b>Discipline type (FD/SD/CD): SD</b>				
2.4.	<b>Discipline optionality (COD/ED/FAD): COD</b>				
2.5.	<b>Lectures tenure: Prof. dr. Dana Bodnar, Assoc. Prof. dr. Narcis Marcov, Assoc. Prof. dr. Irina Gheorghiu, Lecturer dr. Mărgărit Ruxandra, Lecturer dr. Perieanu Mădălina</b>				
2.6.	<b>Practical classes / seminar tenure: Prof. dr. Dana Bodnar, Assoc. Prof. dr. Irina Gheorghiu, asist.dr. Stamate Andrei, asist.dr. Cojanu Loredana, asist.dr. Gliga Alexandru, asist.dr. Budei Roxana</b>				
2.7. Year of study	III	2.8. Semester	VI	2.9. Evaluation (E/C/V)	E

### 3. Estimated total time (hours/ semester of teaching and training activity /individual study)

<b>I. University training</b>						
<b>3.1. Number of hours per week</b>	<b>6 hours</b>	<b>from which:</b>	<b>3.2. lecture</b>	<b>2 hours</b>	<b>3.3. practical class/ seminar</b>	<b>4 hours</b>
<b>3.4. Total hours in the study curriculum</b>	<b>84 hours</b>	<b>from which:</b>	<b>3.5. lecture</b>	<b>28 hours</b>	<b>3.6. practical class/ seminar</b>	<b>56 hours</b>
<b>II. Preparation/ individual study</b>						
<b>Time distribution</b>						<b>hours</b>
<b>Study of lecture materials, textbooks, books, study of the minimum recommended bibliography</b>						<b>30</b>
<b>Additional documentation activity in the library, on online platforms</b>						<b>10</b>
<b>Specific preparation activities for projects, practical classes, preparation of assignments, reports</b>						<b>5</b>
<b>Preparation for presentations or evaluations, preparation for the final examination</b>						<b>11</b>
<b>Tutoring activity</b>						<b>5</b>
<b>Other activities</b>						<b>5</b>
<b>3.7. Total hours of individual study</b>						<b>66</b>
<b>3.8. Total hours per semester (3.4.+3.7.)</b>						<b>150</b>
<b>3.9. Number of credits</b>						<b>5</b>

#### 4. Prerequisites (where appropriate)

<b>4.1. curriculum</b>	The students need to have knowledge of: - biochemistry, biophysics, histology, physiology - anatomy of the teeth and structure of the dental tissues - dental propedeutics and dental materials
<b>4.2. proficiencies</b>	

#### 5. Conditions (where appropriate)

<b>5.1. for lecture activity</b>	Amphitheatres, lecture halls with minimum 75 seats, projector, projection screen, personal computer/smart board, speakers, Internet connection
<b>5.2. for practical class/ seminar activity</b>	Dental offices, larger rooms with multiple dental units/simulation units, desks, chairs, screen, specific instruments and materials for restorative dentistry

#### 6. Learning outcomes\*

<b>Knowledge</b>	<b>Skills</b>	<b>Responsibility and autonomy</b>
The student accumulates, describes, analyzes and evaluates specialized knowledge regarding the structure of dental hard tissues, carious and non-carious pathology of teeth, diseases of oral cavity tissues, as well as the principles of detection, diagnosis and treatment of carious lesions specific to restorative dentistry through classical or digital methods/techniques.	The student acquires and proves specialized clinical experience under appropriate supervision. Gradually, during the years of study, he performs practical and clinical tasks necessary to ensure the specific professional competencies (knowledge, skills and abilities) of restorative dentistry - the restorative treatment of carious lesions.	The student integrates and applies specialized skills necessary for the prevention, diagnosis and treatment activities regarding dental diseases of carious and non-carious causes; The student evaluates, analyzes, differentiates, estimates, interprets and uses the information, knowledge, skills and responsibilities accumulated during the years of study in order to obtain the necessary skills to practice the profession of dentist.

#### 7. Discipline objectives (correlated with learning outcomes)

<b>7.1. General objective</b>	The students' knowledge of the basic notions that define the field of cariology and restorative dentistry, the etiology and clinical aspects of the simple dental caries, as well as the therapeutic approach strategies (means for prophylaxis and treatment itself)
<b>7.2. Specific objectives</b>	<ul style="list-style-type: none"> <li>- Comprehension of the structure and role of the hard dental tissues with reference to the modern restorative approaches</li> <li>- Comprehension of the epidemiological issues of the carious disease and of the prophylaxis methods</li> <li>- Apprehension of the morphological and clinical aspects and signs of the simple dental caries, knowledge of the elements of positive and differential diagnosis</li> <li>- Acquiring of information regarding the methods for detection, diagnosis and treatment of the carious lesions</li> <li>- Comprehension of the biological trend of the modern treatment of cavitated caries regarding the modified approach of removing highly infected and affected dentin and the specific ways for the dentin's sealing and protection of the pulp</li> <li>- Knowledge of the features and use of the dental instruments, materials and direct restoration techniques with adherent and nonadherent materials</li> <li>- Knowledge of the theoretical principles, clinical signs and treatment methods of the dentine's hypersensitivity</li> </ul>

	- Practical skills of accomplishing a direct, adherent or non-adherent, correct restoration
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## 8. Contents

8.1. Lecture	Teaching methods	Observations
1. Infection control procedures in the dental office: universal and additional regulations	Multimedia-based oral, interactive presentation, power-point presentations	
2. The structure of the hard dental tissues - specific structures, clinical connections		
3. Etiology and pathogenesis of the simple dental caries; histopathological features of enamel, dentine and cementum simple caries. The dentin-pulp complex – clinical implications		
4. Detection methods of the dental lesions		
5. The clinical aspects and characteristics of the carious lesions. The diagnosis of the dental lesions- primary and recurrent carious lesions, non-carious lesions		
6. Fundamentals of the clinical treatment of the simple carious lesions.		
7. Clinical examination of the patient. Isolation of the operating field.		
8. Noninvasive and microinvasive treatment protocol of the carious and non-carious lesions.		
9. Methods of minimally invasive surgical treatment. The disinfection of the cavities.		
10. Classification of the coronal restorative materials. Interim restorative materials.		
11. Adherent restorative materials (features and clinical implications)		
12. Dentin's sealing and protection of the pulp		
13. Fundamentals of enamel and dentin adhesion.		
14. Dentinal hypersensitivity – etiology, clinical signs, treatment		

### Bibliografie recentă :

1. Manual pentru rezidențiat volumul I, sub redacția Prof.dr. Ecaterina Ionescu, Editura Universitară "Carol Davila" București, 2021
2. Note curs predat - suport teoretic pt. cursul disciplinei
3. E.C. Marcov, D.C.Bodnar, N. Marcov Manual de Odontoterapie Restauratoare. Protocole de tratament al leziunilor coronare, Editura Universitară "Carol Davila" București, 2020
4. Manual de Odontoterapie Restauratoare (vol.I): Cariologie. Popa M.B., Bodnar D.C., Vârlan C.M.; Ed. Univ. "Carol Davila" București, 2007.
5. Manual de Odontoterapie Restauratoare (vol.II): Instrumentar utilizat în odontoterapia restauratoare. Marcov E.C. (coord.); Ed. Ars Docendi – Universitatea din București, 2012.
6. Prevenirea și controlul transmiterii infecțiilor în cabinetul de medicină dentară. Marcov N.; Ed. Cermaphint, București, 2006.
7. Carlos Rocha Gomes Torres, Modern Operative Dentistry: Principles for Clinical Practice, Springer International Publishing, 2020
8. Sturdevant's Art and Science of Operative Dentistry" Andre V. Ritter, Lee W. Boushell, Ricardo Walter; 7<sup>th</sup> ed., Mosby Elsevier Inc., 2019
9. Fejerskov, O., Nyvad, B. & Kidd, E. Dental Caries: The Disease and Its Clinical Management , 3rd Edn. Oxford, Wiley Blackwell, 2015
10. Summit's Fundamentals of Operative Dentistry: A Contemporary Approach" Hilton T.J., Ferracane J.L., Broome J.; 4<sup>th</sup> ed., Quintessence Pub. Co. Inc., Chicago, Berlin, London, 2013.

8.2. Practical classes/ seminar	Teaching methods	Observations
1. Overview of restorative dentistry, treatment fundamentals of the cavitated caries (general rules, theoretical principles, working steps and objectives)		
2. Overview of the dental instruments and equipment for exploring, tooth preparation and restoration, ergonomics data, instructions for use of the dental unit. Overview of the main treatment steps: surgical, dentin's sealing and protection of the pulp and restorative.	<ul style="list-style-type: none"> <li>-Presentation (oral/power-point presentation)</li> <li>-Practical demonstrations of the clinical maneuvers on dental teaching- training casts/phantom manikin heads for dental education/patients</li> </ul>	
3. Presentation of the hand and rotary cutting instruments for tooth preparation and restoration. Demonstration of the patient and operator positions, of the instrument exchange between operator and assistant, hands-on demonstration of the treatment techniques using different instruments	<ul style="list-style-type: none"> <li>-Clinical demonstrations on patients of the prophylaxis and curative maneuvers provided by the curriculum</li> <li>- Colloquies, essays</li> <li>-Periodical assessment tests (oral examinations / written quizzes/multiple choice questions)</li> </ul>	
4. Presentation of class I and VI tooth preparations and the specific hand/rotary cutting instruments. Tooth preparation-hands-on demonstration and practical session on training casts		
5. Presentation of class II tooth preparations and the specific hand/rotary cutting instruments. Tooth preparation, hands-on demonstration and practical session on training casts		
6. Presentation of class III/IV tooth preparations and the specific hand/rotary cutting instruments. Tooth preparation- hands-on demonstration and practical session on training casts		
7. Presentation of class V tooth preparations and the specific hand/rotary cutting instruments. Tooth preparation- hands-on demonstration and practical session on training casts		
8. Patient assessment, examination, diagnosis and treatment planning and the oral record filing		
9. Moisture control methods (instruments and techniques). Hands-on demonstration and practical session on training casts		
10. The presentation of the interim materials. Hands-on demonstration and practical session on training casts.		
11. Methods for dentin's sealing and protection of the pulp (instruments and techniques). Hands-on demonstration and practical session on training casts		
12. Presentation of the restorative dental materials. Hands-on demonstration and practical session on training casts		
13. Instruments and techniques of the restorative methods. Hands-on demonstration and practical session of applying liners/ bases/ cements/ other restorative materials on training casts		
14. Attendance recovery (tooth preparation session) and final recap.		
<b>Bibliografie recentă :</b> 1. Manual pentru rezidențiat volumul I, sub redacția Prof.dr. Ecaterina Ionescu, Editura Universitară "Carol Davila" București, 2021 2. Note curs predat - suport teoretic pt. cursul disciplinei		

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5. Manual de Odontoterapie Restauratoare (vol.II): Instrumentar utilizat în odontoterapia restauratoare. Marcov E.C. (coord.); Ed. Ars Docendi – Universitatea din Bucureşti, 2012.

6. Prevenirea și controlul transmiterii infecțiilor în cabinetul de medicină dentară. Marcov N.; Ed. Cermaphint, Bucureşti, 2006.

7. Carlos Rocha Gomes Torres, Modern Operative Dentistry: Principles for Clinical Practice, Springer International Publishing, 2020

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## 9. Assessment

Activity type	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Percentage of final grade
<b>9.4. Lecture</b>	<p>Knowledge for mark 5:            -apprehension of the specific medical terms and their correct use in context;            -comprehension of the basic information proving the passing through all the subjects to be learned;            - the answers are not to have serious errors.</p> <p>Additional knowledge for mark 10:            -apprehension of the specific medical terms and their correct use in context;            -comprehension of the basic information in order to prove passing through all the subjects to be learned;            -very good comprehension of essential knowledge of all the lectures of the disciplines, as well as of those belonging to the other bibliographical references;            -ability of explanation and interpretation of the contents of the specific notions of the discipline in a multidisciplinary (general medicine and dental disciplines) approach;            - all the questions are to have correct answers.</p>	<p>Final theoretical examination            Written (written essays on several, different topics – and/or multiple choice questions) from the contents of the lecture in order to evaluate the level of accomplishment/understanding of the theoretical data and the student's way of thinking.</p>	<b>70%</b>
<b>15%9.5. Practical classes/ seminar</b>	<p>Periodical assessment tests (oral examinations/ written quizzes/multiple choice questions)</p> <p>Knowledge for mark 5:            - knowledge of theoretical and practical concepts relevant to the stage of the traineeship</p>	<p>Assessment of the theoretical and practical necessary notions according to the stage of the clinical session.</p> <p>The assistant professor/lecturer will appreciate the student's attitude during the internship</p>	<b>15%</b>

	<p>Additional knowledge for mark 10:  - acquiring the basic notions that demonstrate the progress of the subject  - all the questions are to have correct answers.</p> <p>Periodical assessments:  Evaluation papers</p>	<p>(frequency of presence, punctuality, attire, attitude towards the patients and the auxiliary staff). Written evaluation papers (written essays or multiple choice questions). Frequency: twice/semester (during the laboratory sessions, on series of groups).</p>	
	<p>Periodical assessment:  Practical examination</p>	<p>Practical test performed by the students on training casts and oral examination for verifying the correct assessment of the dental instruments, materials and techniques taught during the laboratory sessions.</p>	<p>Frequency: at the end of the laboratory session, at the end of the semester.</p> <p><b>15%</b></p>
<b>9.5.1.</b>			
<b>Individual project (if any)</b>			
<p><b>Minimum performance standard</b></p> <p>At the end of the 5<sup>th</sup>/6<sup>th</sup> semester of the III year of study, the students are to know the necessary information concerning:</p> <ul style="list-style-type: none"> <li>- comprehension and understanding of the carious disease as having a multifactorial etiology</li> <li>- comprehension and understanding of the methods of detection and diagnosis of the dental lesions</li> <li>- comprehension, understanding and practice of the principles and methods of conventional and modern treatment of the simple dental caries</li> <li>- knowledge of the features and use of the essential instruments, techniques and materials involved in the treatment methods of the restorative dentistry</li> </ul>			