



## DISCIPLINE SHEET

### 1. Study programme

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

### 2. Discipline

<b>2.1.</b>	<b>Discipline name according to the study curriculum: RESTORATIVE ODONTOTHERAPY II</b>				
<b>2.2.</b>	<b>Discipline code: MD04S01EN</b>				
<b>2.3.</b>	<b>Discipline type (FD/SD/CD): SD</b>				
<b>2.4.</b>	<b>Discipline optionality (COD/ED/FAD): COD</b>				
<b>2.5.</b>	<b>Lectures tenure: Prof. Dr. Dana Bodnar, Associate Professor Dr. Marcov Narcis, Associate Professor Dr. Cristina Marcov</b>				
<b>2.6.</b>	<b>Practical classes / seminar tenure: Prof. dr. Dana Bodnar, Associate Professor dr. Marcov Narcis, Associate Professor dr. Cristina Marcov, Lecturer dr. Mărgărit Ruxandra, Lecturer dr. Perieanu Mădălina</b>				
<b>2.7. Year of study</b>	<b>IV</b>	<b>2.8. Semester</b>	<b>VII</b>	<b>2.9. Evaluation (E/C/V)</b>	<b>Exam</b>

### 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: <ul style="list-style-type: none"><li>- anatomy of the teeth and structure of the dental tissues</li><li>- dental propedeutics and dental materials</li><li>- cariology and restorative dentistry</li><li>- fixed prosthodontics and occlusiology</li></ul>
<b>4.2. proficiencies</b>	The students have to know: <ul style="list-style-type: none"><li>- composite and ceramic biomaterials used in teeth restorations</li><li>- techniques of using biomaterials</li><li>- segmental and total impression techniques</li><li>- management of the patient</li></ul>

#### 5. Conditions (where appropriate)

<b>5.1. for lecture activity</b>	Amphitheatres, lecture halls with minimum 75 seats, projector, projection screen/smart board, personal computer, speakers, Internet connection
<b>5.2. for practical class/ seminar activity</b>	Dental offices, larger rooms with multiple dental 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 and non-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 and non-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 etiology, clinical aspects and signs, treatment procedures of the non-carious lesions: wear (attrition, biochemical wear, abrasion), traumatic injuries, discolorations, developmental defects)</li><li>- Apprehension of the modern detection and diagnosis and modern management of the carious disease (detection, diagnosis, ICDAS codes, CAMBRA protocols, non-invasive and minimally invasive principles and procedures) and knowledge</li></ul>

	<p>of the unconventional methods of tooth preparation (sono abrasion, air abrasion, laser, etc.)</p> <ul style="list-style-type: none"> <li>- Comprehension and practical apprehension of the dental restorative methods: conventional methods and techniques</li> <li>- Knowledge of evaluation, monitoring and adjustment of an old restoration, as well as the possibilities of mending the deficiencies</li> <li>- Knowledge of dental discolorations: etiology, clinical aspects, methods of treatment: dental bleaching, direct/indirect ceramic/composite veneers</li> <li>- Apprehension of the theoretical and practical notions for additional conservative aesthetic procedures (correction of diastemas, of shape and dimension of the teeth, etc.)</li> <li>- Comprehension of the theoretical and practical notions of the infection control procedures in the dental office (protection of the patients, practitioners and auxiliary staff, aseptic/antiseptic means, decontamination of instruments and surfaces, handling of the waste, etc.).</li> </ul>
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## 8. Contents

8.1. Lecture	Teaching methods	Observations
1. Carious lesions. Clinical aspects, teeth assessment and dental health record. Principles of tooth preparation.	Multimedia- based oral, interactive presentations, power-point presentations	
2. Non-carious lesions. Clinical aspects, teeth assessment and dental health record.		
3. Direct tooth colored restorative materials. Notions of dentin’s sealing and protection of the pulp		
4. Direct treatment protocol of cavitated pit and fissure caries		
5. Direct treatment protocol of cavitated proximal caries of posterior teeth (I)		
6. Direct treatment protocol of cavitated proximal caries of posterior teeth (II)		
7. Direct treatment protocol of cavitated proximal caries of anterior teeth		
8. Direct treatment protocol of cavitated cervical caries and cavitated caries associated to non-carious loss of hard tissue		
9. Treatment protocol of dental traumatic injuries		
10. Treatment protocol of discolorations		
11. Treatment protocol of the wear		
12. Treatment protocol of the developmental defects		
13. Iatrogenesis in direct restorative dentistry		
14. Infection control procedures in the dental office: aseptic/antiseptics means, decontamination of instruments and surfaces, enviromental infection control, waste management: safe handling of the infectious waste, protection of the patients and practitioners		
<b>Recent bibliography:</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		
3. E.C. Marcov, D.C.Bodnar, N. Marcov Manual de Odontoterapie Restauratoare. Protocoale de tratament al leziunilor coronare, Editura Universitară ”Carol Davila” București, 2020		
4. Manual de Odontoterapie Restauratoare (vol.II): Instrumentar utilizat în odontoterapia restauratoare. Marcov E.C. (coord.); Ed. Ars Docendi – Universitatea din București, 2012.		

<p>5. Prevenirea și controlul transmiterii infecțiilor în cabinetul de medicină dentară. Marcov N.; Ed. Cermaprint, București, 2006.</p> <p>6. Carlos Rocha Gomes Torres, Modern Operative Dentistry: Principles for Clinical Practice, Springer International Publishing, 2020</p> <p>7. Sturdevant's Art and Science of Operative Dentistry" Andre V. Ritter, Lee W. Boushell, Ricardo Walter; 7th ed., Mosby Elsevier Inc., 2019</p> <p>8. Fejerskov, O., Nyvad, B. &amp; Kidd, E. Dental Caries: The Disease and Its Clinical Management , 3rd Edn. Oxford, Wiley Blackwell, 2015</p> <p>9. Summit's Fundamentals of Operative Dentistry: A Contemporary Approach" Hilton T.J., Ferracane J.L., Broome J.; 4th ed., Quintessence Pub. Co. Inc., Chicago, Berlin, London, 2013.</p>		
<b>8.2. Practical classes/ seminar</b>	<b>Teaching methods</b>	<b>Observations</b>
1. Conventional vs. modern treatment methods of the carious/non-carious lesions, overview of the minimally invasion techniques in restorative dentistry (hands-on demonstration and practical session on training casts/extracted teeth/patients)	<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> <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>	
2. Materials in the restorative treatments (liners, bases, restorative materials):composition,preparation /application techniques (hands-on demonstration and practical session on training casts)		
3. Moisture control methods for anterior and posterior teeth (hands-on demonstration and practical session on training casts)		
4. Oral clinical assessment and the oral health record's filling		
5. Class I preparations for adherent materials: tooth preparation/dentin's sealing and pulp protection :materials, instruments, techniques of application/restorative materials: presentation, techniques of application (hands-on demonstration and practical session on training casts/patients)		
6. Class II preparations for adherent materials: types of tooth preparation (horizontal slot, tunnel, vertical slot, class II modified preparation for adherent materials)/dentin's sealing and pulp protection :materials, instruments, techniques of application/restorative materials: presentation, techniques of application (hands-on demonstration and practical session on training casts/patients)		
7. Class III preparations for adherent materials: tooth preparation/dentin's sealing and pulp protection :materials, instruments, techniques of application/restorative materials: presentation, techniques of application (hands-on demonstration and practical session on training casts/patients)		
8. Class IV preparations for adherent materials: tooth preparation/dentin's sealing and pulp protection :materials, instruments, techniques of application/restorative materials: presentation, techniques of application (hands-on demonstration and practical session on training casts/patients)		
9. Class V preparations for adherent materials and class VI: tooth preparation/dentin's sealing and pulp protection: materials, instruments, techniques		

of application/restorative materials: presentation, techniques of application (hands-on demonstration and practical session on training casts/patients)		
10. Pin-retained restorations (hands-on demonstration and practical session on training casts/patients)		
11. Direct veneers of the anterior teeth (hands-on demonstration and practical session on training casts)(I)		
12. Direct veneers of the anterior teeth (hands-on demonstration and practical session on training casts/patients)(II)		
13. Vital teeth bleaching: materials, instruments, methods' techniques (hands-on demonstration and practical session on training casts)(I)		
14. Vital teeth bleaching: materials, instruments, methods' techniques (hands-on demonstration and practical session on training casts/patients)(II)		
<b>Recent bibliography:</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 3. E.C. Marcov, D.C. Bodnar, N. Marcov Manual de Odontoterapie Restauratoare. Protocoale de tratament al leziunilor coronare, Editura Universitară "Carol Davila" București, 2020 4. Manual de Odontoterapie Restauratoare (vol.II): Instrumentar utilizat în odontoterapia restauratoare. Marcov E.C. (coord.); Ed. Ars Docendi – Universitatea din București, 2012. 5. Prevenirea și controlul transmiterii infecțiilor în cabinetul de medicină dentară. Marcov N.; Ed. Cernaprint, București, 2006. 6. Carlos Rocha Gomes Torres, Modern Operative Dentistry: Principles for Clinical Practice, Springer International Publishing, 2020 7. Sturdevant's Art and Science of Operative Dentistry" Andre V. Ritter, Lee W. Boushell, Ricardo Walter; 7th ed., Mosby Elsevier Inc., 2019 8. Fejerskov, O., Nyvad, B. & Kidd, E. Dental Caries: The Disease and Its Clinical Management , 3rd Edn. Oxford, Wiley Blackwell, 2015 9. Summit's Fundamentals of Operative Dentistry: A Contemporary Approach" Hilton T.J., Ferracane J.L., Broome J.; 4th ed., Quintessence Pub. Co. Inc., Chicago, Berlin, London, 2013.		

## 9. Assessment

Activity type	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Percentage of final grade
<b>9.4. Lecture</b>	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. Knowledge for mark 5: - apprehension of the specific medical terms and their correct use in context; - comprehension of the basic information proving passing through all the subjects to be learned; - the answers are not to have serious errors. 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;	70%

		-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.	
<b>9.5. Practical classes/ seminar</b>	Periodical assessment tests (oral examinations/ written quizzes/multiple choice questions)	Assessment of the theoretical and practical necessary notions according to the stage of the clinical session. The assistant professor/lecturer will appreciate the student's attitude during the internship (frequency of presence, punctuality, attire, attitude towards the patients and the auxiliary staff). Frequency: weekly	30%
	Periodical assessments: Evaluation papers	Written evaluation papers (written essays or multiple choice questions). Frequency: twice/semester (during the laboratory sessions, on series of groups).	
	Periodical assessment: Practical examination	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. Frequency: at the end of the laboratory session, at the end of the semester.	
<b>9.5.1. Individual project (if any)</b>			
<b>Minimum performance standard</b>			
At the end of the 7 <sup>th</sup> /8 <sup>th</sup> semester of the IV <sup>th</sup> year of study, the students have to know the necessary information concerning: <ul style="list-style-type: none"> <li>- detection and positive/differential diagnosis of the carious and non-carious dental lesions</li> <li>- the minimally invasive techniques' principles and the modern, individualized management of the carious disease according to the patient's carious risk assessment</li> <li>- apprehension, understanding and application of the classic and modern principles of restorative treatment of the carious/non-carious lesions using direct/semidirect/indirect techniques</li> <li>- ability of using and adapting the theoretical and practical knowledge to the clinical reality in order to develop a complex treatment plan of the carious/non-carious lesions</li> <li>- abilities of choosing correct approaches of the clinical situations with individualized/specific treatment plans according to the general and oral features of the clinical cases and with close and sharp monitoring/evaluation as time passes by till healing/stabilization of the disease</li> </ul>			