

DEN3003 Therapeutic Dentistry II
(Cariesology)

Course title	Code	Semester	Type of course	Course structure and volume (hours)			ECTS
Therapeutic Dentistry II (Cariesology)	DEN3003	V	Mandatory	LECTURE	10	120	4
				Seminar	12		
				Teaching in Stimulatory environment (TSE)	45		
				Teaching in clinical environment (TCE)	8		
				Midterm EX.	1		
				FINAL EX.	2		
				INDEP. WORK	42		
Faculty, the educational program and level of education	School of Dental Medicine One cycle (5-year duration) Higher Educational Program “Dentistry”						
Staff	Ana Chkhenkeli—Invited Lecturer Mob 555 01 09 09 e-mail: ana.chkenkeli@bauinternational.edu.ge Tamar Dgebuadze – Invited Lecturer e-mail : tamar.dgebuadze@bauinternational.edu.ge Tamar Jibuti, invited lecturer E-mail: Tamar.jibuti@bauinternational.edu.ge Tamar Maglakelidze, invited lecturer E-mail: tamar.maglakelidze@bauinternational.edu.ge Personal one-to-one consultation can be arranged at an agreed date and time						
Duration	17 weeks						
Prerequisite	DEN2006						

Aim	<p>This course aims to provide advanced knowledge about etiology, pathogenesis, clinical symptoms and signs, differential diagnosis and treatment of teeth hard tissue diseases (non-carious and carious) and paying attention on prevention of these pathological conditions.</p> <p>Also, to conduct some manipulations on phantom: preparation of several caries cavity and fill them with materials.</p> <p>The aim of the course is also to develop communication skills with the patient.</p>
Methods of Teaching/Learning	Interactive lectures; Seminars; TCE; TSE
Assessment System and Criteria	<p>The knowledge of the student is evaluated by 100 score-based evaluation system out of which 40 scores considered for the current assessment, 20 for midterm exam and 40 scores for the final exam.</p> <p>1. Current Assessment (activity) - 40 points, including the following:</p>

- **Practical Activities Evaluation** -TSE -5X2 =10 points
- **DOPs**-2X5=10 points
- **Clinical activities**-TCE-2X5=10 points
- **Verbal Quiz** (5 sessions, 2 point each) =10 points

Practical Activities -TSE -Performing manipulation on phantom

Student has to perform following practical assignments on phantom:

- Preparation of caries cavity with appropriate instruments and accordance of classification -2 points
 - Restoration with appropriate materials and accordance of classification- 2 points
- TSE- assessment criteria:**
- Performs manipulations fully, step by step correctly- 2 points;
 - Performs manipulations with errors -1 points; • Cannot do assignment-0 points

- Threshold 50% (minimum 3 points from 6) should be achieved before final exam

Directly observed procedural skills

Student has to perform following practical assignments on phantom:

- Prepare cavity for restoration, Cavity restoration with appropriate materials, Checking the Occlusion – 2*5 points.

DOPs assessment criteria:

- Performs manipulations fully. step by step and without errors – 5 points
- Performs manipulations partially and without errors – 4 points
- Performs manipulations with minor errors – 3 points
- Performs manipulations with some errors. some steps are missing– 2 points
- Performs manipulations with lots of errors – 1 point
- Cannot perform manipulation on phantom- 0 point

- Threshold 50% (minimum 2,5 points from 5) should be achieved before final exam

Clinical Activities -TCE - assessment criteria:

Exercise will be performed in a clinical environment with patients. Each exercise will be evaluated with 5 criteria, maximum 1 point for each.

Good - 1 point; Satisfactory - 0.5 Points; Unsatisfactory - 0 points,

- Medical Interviewing Skills-1point
- Physical Examination Skills-1point
- Professional Qualities -1point
- Problem analysis, clinical reasoning-1 point
- Communication with the patient-1 point

- Threshold 50% (minimum 2,5 point from 5) should be achieved before final exam

Verbal quiz

Method Description:

Demonstration of knowledge of theoretical topics, discussion over specific issues in the form of narration or answering questions.

Assessment criteria

2 Points: The student is well prepared, thoroughly proficient in representing factual material. The answers to the questions are correct, justified and reasoned. The student is thoughtful and well versed in the problem area.

1 Points: The student knows only part of the represented factual material, the answers to the questions are correct but incomplete / unreasonable.

0 Points: The student is completely unprepared. Does not have knowledge/prepared a represented factual material, cannot answer any questions.

2. Midterm Exam - 20 points

Midterm Exam is conducted in the middle of the learning course.

- MSQs- test-based form (Multiple Choice Questions)-20points

The test includes 50 questions each of 0,4 scores. The highest score equals to 20 points.

Prerequisite for Final Exam are:

- At least 80% (minimum 16 points from 20) of the TSE assessment level is achieved

3. Final Exam - 40 points

Final Exam is conducted in a combined way:

- Test-based form (MCQ -50 tests with 0.4 point for each question) -20points; • DOPS- 8 points;
- Case Based Examination (written) -3X4 =12 points

Directly observed procedural skills methods

Student has to perform following practical assignments on phantom:

- Preparation of caries cavity with appropriate instruments and accordance of classification -4points
- Restoration with appropriate materials and accordance of classification -4 points

DOPs assessment criteria:

- Performs manipulations fully. step by step and without errors – 4 points
- Performs manipulations partially and without errors – 3 points
- Performs manipulations with some errors. some steps are missing– 2 points
- Performs manipulations with lots of errors – 1 point
- Cannot perform manipulation on phantom- 0 point

Case analysis (written assignment)

Students will discuss/analyze 3 clinical cases according to study materials individually in written manner.

Evaluation criteria:

4 points – interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, knows etiology, pathogenesis, clinical flow, treatment plan is defined correctly;

3 points - interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, knows etiology, pathogenesis, clinical flow, treatment plan is not correct;

2 points - interpretation of examination results are correct, diagnosis is defined correctly, is evidence based, does not know etiology, pathogenesis, clinical flow, treatment plan is not correct;

1 point - interpretation of examination results are correct, diagnosis is incorrect, treatment plan is not correct;

	<p>0 points - interpretation of examination results are incorrect, diagnosis is incorrect, treatment plan is incorrect.</p> <p>The exam is considered being passed by the student if he /she receives 50% or more out of the highest evaluation for the exam ($40 \times 50 / 100 = 20$ points). When the total evaluation of the student (current evaluation + midterm exam evaluation + final exam evaluation) is more than 40 but less than 51 points, even though the exam grade threshold is passed, the learning course is considered not being covered and the student is given the right to exam retake during the additional examination period.</p> <p>If the final evaluation for the Learning Course, after taking the additional exam, (current evaluation + midterm exams evaluation + final exam evaluation) is less than 51%, the learning course is not considered covered and it must be taken again.</p> <p>In summary, the student is awarded the credit in case he/she accumulates minimum 51% out of 100%.</p> <p>Positive scores:</p> <ul style="list-style-type: none"> • (A) Excellent- 91 or more points; • (B) Very Good- 81-90 points; • (C) Good- 71-80 points; • (D) Satisfactory- 61-70 points; • (E) Enough- 51-60 points; <p>Negative scores:</p> <ul style="list-style-type: none"> • (FX) Failure - 41-50 points: the student needs more independent work and is granted a single attempt of exam retake; • (F) Fail - 40 points or less: the student's conducted work is not sufficient and needs to take the course again. <p>After the results of final exams are available, students with FX assessment have a right to retake an exam during an additional exam week in the same semester.</p> <p>An interval between a final and a corresponding additional exam must be at least 5 days after the results of a final exam become available.</p>
Teaching resources	Phantom with caries; dental equipment and tools; clinical environment with real patient; dental materials.
The core literature	Essentials of preclinical conservative dentistry; Harpreet Singh, Wolters Kluwer; 2nd Edition 2020

The auxiliary literature	<p>Dental Caries: The Disease and its Clinical Management; Ole Fejerskov, Bente Nyvad, Edwina Kidd; 3rd Edition 2015</p> <p>Essentials of Dental Caries; Edwina Kidd; Ole Fejerskov; 4th Edition 2016</p>
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Learning Outcomes

NQF*	COURSE LEARNING OUTCOMES	PROG. LO	Lecture	Seminar	Teaching in simulation environment	Teaching in clinical environment	Midterm ex.	Final exam	ASSES. METH.
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KNOWLEDGE AND AWARENESSES	<ul style="list-style-type: none"> • Describes theories of dental caries; • Knows local factors affecting the incidence of caries; • Describes caries – etiology, pathogenesis, clinical symptoms and signs; risk factors; • Classifies caries; • Compares caries with non-carious disease; • Understands the complex interactions between oral health, nutrition, general health and appropriate methods of intervention and referral; • Recognizes the principles of preparation of caries lesion; • Knows restoration materials used in dental practice; their risks, benefits and limitations relevant to their use; • Understands Methods to avoid possible complications; 	6.6 7.2.	X	X			X	X	MCQ; Verbal quiz; Case Based Learning
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SKILL	<ul style="list-style-type: none"> Introduces him/herself to patient; Takes anamneses; Gives the patient the opportunity to ask questions; answers questions honestly; Sets appropriate questions to obtain information; Explains in understandable terms for the patient indications for examination and treatment; Uses appropriately and selectively diagnostic procedures; including radiographic methods Informs the patient about his/her oral situation/ diagnose; Uses dental equipment and tools on the phantom; Identifies the depth of the carious cavity; Discovers caries cavity on the phantom; Provides preparation on phantom; Uses restoration instruments; Demonstrates caries cavity treatment process; Performs caries cavity restoration and uses restoration materials; Provides direct restorations; Carries out minimally invasive restorative procedures that prevent hard tissue disease; 	6.4. 6.6. 8.1. 8.2. 9.2 9.3. 9.7. 1.1. 7.2. 4.1.			X	X		X	DOPS; Practical Activities; Clinical Activities.
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	<ul style="list-style-type: none"> Obtains informed consent by effectively explaining and discussing aspects of treatment planning to patients including risks, benefits and likely longevity of treatment interventions; Effectively explains to patients the properties of commonly used dental materials, their risks and intended benefits; Increases the patient's awareness of their own role in the prevention of oral disease, provides dietary advice. Responds to the concerns and needs of the patient. Responds suitably to verbal and non verbal patient reactions 								
RESPONSIBILITY AND AUTONOMY	<ul style="list-style-type: none"> Shows empathy and respect towards the patient; Responds adequately to discomfited and embarrassed patient; manages information, solves the problem and makes a decision 	1.1. 7.2. 4.1. 11.1 11.2 11.3				X			CBL

Supplement 1 Learning Course Content

Week №	Topics	Lecture (hrs)	Seminar (hrs)	TSE (hrs)	TCE (hrs)
I	Non Carious lesions of the tooth surface Attrition; abrasion; erosion; abfraction; amelogenesis imperfecta; dentinogenesis imperfecta; non hereditary enamel hypoplasia VERBAL QUIZ	2	3		

II	DENTAL CARIES Definitions; theories of dental caries; aetiology and contributing factors; Verbal Quiz	1	2		
III	HISTOPATHOLOGY OF DENTAL CARIES types of dental caries; infected dentin versus affected dentin Verbal Quiz Clinical activities	1	2		4
IV	Caries Diagnosis: • Visual-Tactile Method of Diagnosis • Radiographic Method of Diagnosis Verbal quiz Clinical activities	1	2		4
V	CLASSIFICATION OF DENTAL CARIES: G.V.Black's Classification; new classification systems based on site and size of the lesion; international caries detection and assessment system; based on radiographically evaluation of proximal caries	2			
VI	Principles of tooth preparation Tooth preparation: the concept; tooth preparation Factors affecting tooth preparation; basic principles of tooth preparation; outline form; removal of any remaining enamel pit or infected dentin/old restorative material; pulp protection ; Final Stages of Tooth Preparation-cleaning, inspecting and Varnishing Practical activities on phantom	1		3	
VII- VIII	Midterm exam	1			
IX	Tooth preparation for composite resin restoration Class I, Tooth preparation technique Practical activities on phantom	1		2	
X	TOOTH PREPARATION FOR COMPOSITE RESIN RESTORATION Class II Tooth Preparation Technique			7	

	Practical activities on phantom				
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XI	Class III Tooth Preparation Technique Class IV Tooth Preparation Technique Practical activates on phantom			7	
XII	Class V Tooth Preparation Technique Practical Activity on Phantom			7	
XIII	Composite Resin Restoration Procedure Armamentarium; step-by-step Procedure for a Cass I, II composite restoration: Isolation of the operative field; shade selection; cleaning of the cavity; application of the dentin bonding agent; curing the bonding agent; matrix application; placement of composite resin; curing of composite; finishing and polishing DOPs	1		6	
XIV	Composite Resin Restoration Procedure Armamentarium; step-by-step Procedure for a Cass III, IV, V composite restoration: DOPs			6	
XV	RESTORATIVE TECHNIQUE FOR DENTAL CEMENTS Practical Activity on Phantom			5	
XVI	Restorative technique for Amalgams Practical activity on phantom			5	
XVII	SUMMARY VERBAL QUIZ	1	3		
	Final Exam	2			