

DEN 4006 Orthodontics and Dentofacial Orthopedics II (Diagnostics and orthodontic appliances)

Course title	Code	Semester	Type of course	Course structure and volume (hours)			ECTS
Orthodontics and Dentofacial Orthopedics II (Diagnostics and orthodontic appliances)	DEN4006	VIII	Mandatory	LECTURE	14	150	5
				Seminar	20		
				Teaching in Stimulatory environment (TSE)	18		
				Teaching in clinical environment (TCE)	20		
				Midterm EX.	1		
				FINAL EX.	2		
				INDEP. WORK	75		
Faculty, the educational program and level of education	School of Dental Medicine One cycle (5-years duration) Higher Educational Program “Dentistry”						
Faculty Member	Tinatin Maminaishvili E-mail: maminaishvili.t@gmail.com . Nikoloz Jorjikashvili E-mail: nikoloziorjikashvili@gmail.com Duygu Yetkin- invited lecturer E-mail: duygu.yetkin@bauinternational.edu.ge Nino Gachechiladze -invited lecturer E-mail: nino.gachechiladze@bauinternational.edu.ge Personal one-to-one consultation can be arranged at an agreed-upon date and time.						
Duration	17 weeks						
Prerequisite	MED4011 Orthodontics and Dentofacial Orthopedics I (propaedeutics)						
Aim	This course aims to provide advanced knowledge about making an orthodontic diagnosis and treatment plan. The student will be familiar with how to make model and cephalometric analyses. The student will study how to bend wires for a Hawley appliance.						
Methods of Teaching/Learning	Interactive lectures; Seminars; Teaching in clinical environment; Teaching in Stimulatory environment						

Assessment System and Criteria	<p>Attendance - student is obliged to attend 70% of the total number of the learning course</p> <p>The knowledge of the student is evaluated by 100 point-based evaluation system out of which 40 points is allocated for the current activity assessment, 20 for each midterm exam and 40 points for the final exam.</p> <p>1. Current activity assessment - 40 points, including the following:</p> <ul style="list-style-type: none">● MCQ- (2 sessions, 5 points each)- 10 points● Practical Skills Evaluation (TSE) (2 sessions, 5 points each) – 10 points
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	<ul style="list-style-type: none"> • Verbal presentation (5 sessions, 2 points each) – 10 points • Mini-cex- (2 assessment 5 points each)- 10 points <p>2. Midterm – MCQ - 20 points</p> <p>3. Final exam MCQ– 20 points and OSCE - 20 points</p> <p>Total -100 points</p> <p>MCQ tests</p> <p>MCQ (Multiple Choice Question).</p> <ul style="list-style-type: none"> • Each MCQ question is assessed by 0.5 point. Totally 10 MCQ. <p>Practical skills evaluation-TSE -criteria:</p> <ul style="list-style-type: none"> • 5 points: Performs manipulations fully without errors • 4 points: Performs manipulations partially and without errors • 3 points: Performs manipulations with minor errors • 2 points: Performs manipulations with some errors • 1 point: Performs manipulations with lots of errors • 0 point: Cannot perform manipulation <p>Verbal presentation assessment criteria:</p> <p>Demonstration of knowledge of theoretical topics, discussion over specific issues in the form of narration or answering questions.</p> <p>2 Points: The student is well prepared, thoroughly proficient in syllabus material. The answers to the questions are correct, justified and reasoned. The student is thoughtful and well versed in the problem area.</p> <p>1 Points: The student knows only part of the syllabus topic, the answers to the questions are correct but incomplete / unreasonable.</p> <p>0 Points: The student is completely unprepared. Does not have a syllabus topic, cannot answer any questions.</p> <p>Mini clinical evaluation exercise (Mini-CEXs) 5 points</p> <p>Exercise will be performed in clinical environment (simulation or bed side) in the process of student's individual work with patient. Each exercise will be evaluated with 5 criteria, maximum 1 point for each.</p> <p>Good - 1 point, Satisfactory - 0.5 Points, Unsatisfactory - 0 points,</p> <p>1. Medical Interviewing Skills (score 1)</p> <ul style="list-style-type: none"> - Encourages the patient to communicate about his medical history; - Sets appropriate questions to obtain information; - Responds appropriately to emotion and non-verbal signals. <p>2. Physical Examination Skills (score 1)</p> <ul style="list-style-type: none"> - Maintains a logical and efficient sequence; - Maintains a balance between general and hypothetical focused research; - Informs the patient; - Shows sensitivity to patient's comfort and modesty.
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	<p>3. Professional Qualities (score 1)</p> <ul style="list-style-type: none"> - Shows respect, commitment, empathy, and generates confidence; - Responds adequately to discomfort and embarrassment; - Responds appropriately to the need for privacy and information. <p>4. Problem analysis, clinical reasoning (score1)</p> <ul style="list-style-type: none"> - Uses appropriately and selectively diagnostic procedures; - Considers properly risks and profit. <p>5. Communication with the patient (score 1)</p> <ul style="list-style-type: none"> - Explains in understandable terms for the patient indications for examination and treatment; - Asks for informed consent where necessary; - Discusses the policy; - Provides information in accordance with the law on patients' rights. - Informs patient regarding disease prevention and healthy lifestyle. <p>Midterm</p> <p>Midterm exam – MCQ - 20 points. Each MCQ question is assessed by 0.4 point. For a positive result, the student must correctly answer at least 50% of the total number of questions.</p> <p>Final exam - 40 points.</p> <p>Final exam prerequisites: the total number of points from all current assessment components and midterm exam, must be at least 30 points out of 60.</p> <p>in the Mini clinical evaluation exercise (Mini-CEXs) Threshold 50% means that a student must score at least 50% in the relevant assessment to be considered as having met the required standard.</p> <p>Final exam will be conducted in combined way:</p> <ul style="list-style-type: none"> ● MCQ – 20 points – <p>Totally 50 questions each maximum score is 0,4.</p> <p>For a positive result, the student must correctly answer at least 50% of the total number of questions.</p> <ul style="list-style-type: none"> ● OSCE - The score is 20 points. <p>The OSCE exam consists of 4 practical tasks, each of which is scored 5 points - a total of 20 points. The OSCE exam will be considered passed if the student collects 50% (2.5 points) from each practical assignment.</p> <p>Student should demonstrate a clinical application determined by the instructor.</p> <p>Method Description: This method involves student assisting the clinician in the clinic and developing and demonstrating practical / clinical skills.</p>
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Criteria:

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	<p>The final exam is considered as passed if the student get 60% of maximum score ;</p> <p>The exam is considered being passed by the student if he/she receives 55% or more out of the highest evaluation for the exam (40x50/100=20 points). When the total evaluation of the student (current evaluation + midterm exam evaluation + final exam evaluation) is more that 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>Within the educational component of the educational program, in case of FX assessment, a makeup exam is appointed no later than 5 days after announcement of the examination results.</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>The student crean take the additional exam during the same semester.</p> <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> <p>Plagiarism/Cheating – Students are expected to be honest in their fulfilment of assignments and in test-taking. Plagiarism and cheating are serious forms of academic misconduct. Any student caught plagiarising or cheating on an examination will receive zero mark. Behaviour – Students are expected to behave according to the rules/procedures and ethical guidelines presented by the instructor and written in the University’s code of ethics. They should not in any circumstances disturb the ongoing lectures/seminars/presentations and should follow all the rules and procedures established by the professor/instructor in the beginning of the course. The usage of mobile phones and other sound equipment is forbidden during lectures and test taking situations. In case student does not follow the above mentioned rules/ethical guidelines and he/she intensely tries to spoil the lecture, instructor is obliged to make the student leave the class and report the outcomes to the dean for further evolution.</p>
The core literature	Proffit, William R., Henry W. Fields, and David M. Sarver. Contemporary Orthodontics. St. Louis, Mo: Elsevier/Mosby, 2013.
The auxiliary literature	Lee W. Graber, Katherine W.L. Vig, Greg J. Huang, Padhraig S. Fleming. Orthodontics Current Principles and Techniques, seven edition St. Louis, Missouri Mo: Elsevier/Mosby, 2023. (related chapters)

Learning Outcomes

NQF*	COURSE LEARNING OUTCOMES	PROG. LO	Lecture	Seminar	Teaching in simulation environment	Teaching in clinical environment	Midterm ex.	Final exam	ASSES. METH.
KNOWLEDGE AND AWARENESS	<ul style="list-style-type: none"> Knows methods of diagnostics of an orthodontic malocclusion. Demonstrates knowledge about preventive orthodontics Classifies and discusses about different types of space maintainers Comprehends orthodontic treatment methods Predicts malocclusions that may develop due to environmental factors Explains the classifications of malocclusion and how it helps in diagnosing and treatment planning in Orthodontics Knows his/her limitations and acts accordingly in ethical and orthodontic dentistry clinical principles, in case of necessity request for support and decides to refer to specialists 	6.1 4.1	X	X			X	X	MCQ Verbal Presentations
SKILL	<ul style="list-style-type: none"> Applies classification diagnostic aids and discusses their importance in diagnosis and treatment planning Carries out orthodontic model analysis Makes cephalometric analysis Bends wires for a Hawley appliance 	8.1 8.2 9.1 9.2 9.4			X		X	X	Practical Activities OSCE
RESPONSIBILITY AND AUTONOMY	<ul style="list-style-type: none"> Renews knowledge permanently 	11.5			X				Verbal presentation

Learning Course Content

Days №	Topics	Lecture (hrs)	Seminar (hrs)	TSE (hrs)	TCE (hrs)
I	Diagnosis in orthodontics and the importance of it, patient history TCE: Taking patient history (will be evaluated)	1			1
II	Clinical and functional examination in orthodontics Seminar: Intraoral and extraoral examination of a patient TCE: Clinical observation of orthodontic examination Verbal presentation I: Taking patient history for orthodontics Mini Cex	1	2		2
III	Diagnostic tools in orthodontics, Hayce-Nance and Bolton analysis TSE: Making Hayce- Nance and Bolton analysis on orthodontic patient models MCQ	1	2	2	
IV	Cephalometric planes, angles, methods of analysis Seminar: Software for cephalometric analysis TCE: Making a cephalometric analysis of an orthodontic patient (will be evaluated) Practical exam I: Hays Nance ant Bolton analyses	1	2		2

V	Preventive orthodontic applications, Space maintainers and habit breaker appliances Seminar: Habit breakers in child patients TCE: Observing habit breakers and space maintainers in orthodontic patients Verbal presentation II: Cephalometric in orthodontics	1	2		2
VI	Guidance of eruption and Serial extraction Seminar: Effects of serial extraction on crowding Practical exam II: Making cephalometric analysis	1	2	4	
VII	Midterm Exam (1 hour)	1			
VIII	Removable and Functional appliances Seminar: Fixed functional appliances TSE: Visual materials of preparing a Hawley appliance, bending wire for a Hawley appliance (Adams clasps and vestibular arch)	1	2	4	2
IX	Fixed appliances Seminar: Types of orthodontic brackets Practical exam III: Bending wire for a Hawley appliance TCE : patients Clinical observation of various types of orthodontic brackets	1	1	4	2
X	Treatment of class I malocclusions Seminar: Non-extraction treatment TCE: Clinical observation of treatment of Class I; Verbal presentation III: Fixed orthodontic appliances Mini CEX	1	1		2

XI	<p>Treatment of class II malocclusions</p> <p>Seminar: Extraction treatment in Class II patients</p> <p>TCE: Clinical observation of treatment of Class II patients</p> <p>Practical exam IV: Bending wire for a Hawley appliance</p>	1	1	4	2
XII	<p>Treatment of class III malocclusions</p> <p>Seminar: Camouflage treatment in Class III patients</p> <p>TCE: Clinical observation of treatment of Class III patients</p> <p>MCQ</p>	1	1		2
XIII	<p>Treatment of transvers and vertical discrepancies</p> <p>Seminar: Rapid maxillary expansion methods</p> <p>TCE: Clinical observation of maxillary transversal discrepancy treatment</p> <p>Verbal presentation IV: Managing patients with different malocclusions</p>	1	1		2
XIV-XV	<p>Stability and retention</p> <p>Seminar: Fixed and removable retainers in orthodontics</p> <p>TCE: Clinical observation of different retainers in orthodontic patients</p> <p>Verbal presentation V: Mini screws in orthodontics</p>	1	1		2
XVI	<p>Anchorage in Orthodontics</p> <p>Seminar: Mini-screw applications in orthodontics</p> <p>TCE: Clinical observation of mini-screw insertion</p>	1	1		
XVII	<p>Functional Appliances</p> <p>Seminar: Mechanisms of Class II Correction With Functional Orthopedics</p> <p>MCQ</p>		1		

	Final Exam	2			
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