

**DEN4011 Orthodontics and Dentofacial Orthopedics I (propaedeutics)**

| Course title   | Code  | Semester | Type of course | Course structure and volume (hours)        |    |    | ECTS |
|--|---|----------|----------------|--|----|----|------|
| Orthodontics and Dentofacial Orthopedics (propaedeutics) | DEN4011   | VII      | Mandatory      | LECTURE                                    | 10 | 90 | 3    |
|  |   |          |                | Seminar                                    | 20 |    |      |
|  |   |          |                | Teaching in Stimulatory environment (TSE)  |    |    |      |
|  |   |          |                | Teaching in the clinical environment (TCE) | 15 |    |      |
|  |   |          |                | Midterm EX.                                | 1  |    |      |
|  |   |          |                | FINAL EX.                                  | 2  |    |      |
|  |   |          |                | INDEP. WORK                                | 42 |    |      |
| Faculty, the educational program, and level of education | School of Dental Medicine<br>One cycle (5-year duration) Higher Educational Program “Dentistry”   |          |                |  |    |    |      |
| Staff  | Tinatin Maminaishvili<br>E-mail: <a href="mailto:maminaishvili.t@gmail.com">maminaishvili.t@gmail.com</a> .<br>Nikoloz Jorjikashvili<br>E-mail: <a href="mailto:nikoloziorjikashvili@gmail.com">nikoloziorjikashvili@gmail.com</a><br>Duygu Yetkin- invited lecturer<br>E-mail: <a href="mailto:duygu.yetkin@bauinternational.edu.ge">duygu.yetkin@bauinternational.edu.ge</a><br>Nino Gachechiladze -invited lecturer<br>E-mail: <a href="mailto:nino.gachechiladze@bauinternational.edu.ge">nino.gachechiladze@bauinternational.edu.ge</a><br><br>Personal one-to-one consultation can be arranged at an agreed-upon date and time. |          |                |  |    |    |      |
| Duration   | 17 weeks  |          |                |  |    |    |      |
| Prerequisite   | Dental Anatomy & Occlusion (preclinical odontology)<br>DEN2002  |          |                |  |    |    |      |
| Aim  | The aim of this course is to give knowledge about ideal occlusion and dentition, etiology, and classification of malocclusions, types of orthodontic tooth movements.   |          |                |  |    |    |      |
| Methods of Teaching/Learning                             | Interactive lectures; Seminars. Teaching in the clinical environment  |          |                |  |    |    |      |

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| <p><b>Assessment System and Criteria</b></p> | <p><b>Student's knowledge assessment:</b></p> <ul style="list-style-type: none"> <li>• Testing – MCQ- (2 sessions, 5 points each)- 10 points</li> <li>• Verbal Quiz (10 sessions, 2 points each) – 20 points</li> <li>• CBL ( 4 sessions, 5 points each) - 20 points</li> <li>• Midterm –MCQ - 20 points</li> <li>• Final exam MCQ– 20 points and Oral Examination - 20 points</li> </ul> <p><b>Total -100 points</b></p> <p><b>TESTING</b></p> <p>Evaluations of ongoing MCQ tests: Each MCQ question is assessed by 0.4 point.</p> <p><b>Verbal quiz</b></p> <p><b>Method Description:</b><br/>Demonstration of knowledge of theoretical topics, discussion over specific issues in the form of narration, or answering questions.</p> <p><b>Assessment criteria</b><br/> <b>2 Points:</b> The answers to the questions are correct/mostly correct, justified, and reasoned.<br/> <b>1 Point:</b> The student knows only part of the questions, the answers to the questions are correct but incomplete/unreasonable.<br/> <b>0 Points:</b> The student is completely unprepared. Does not have knowledge/prepared a represented factual material, cannot answer any questions.</p> <p><b>Assessment criteria</b><br/> <b>3-5 Points:</b> The answers to the questions are correct/mostly correct, justified and reasoned.<br/> <b>1 -2 Points:</b> The student knows only part of the questions, the answers to the questions are correct but incomplete / unreasonable.<br/> <b>0 Points:</b> The student is completely unprepared. Does not have knowledge/prepared a represented factual material, cannot answer any questions.</p> <p><b>CLINICAL CASE ASSESSMENT (CBL) CRITERIA:</b></p> <ul style="list-style-type: none"> <li>• Ability of case interpretation - 1 point;</li> <li>• Ability to use additional sources - 1 point;</li> <li>• Ability to apply theoretical knowledge - 1 point;</li> <li>• Ability of correlating normal and pathological conditions - 1 point;</li> <li>• Ability to conclude – 1 points</li> </ul> |
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### **Midterm exam**

**Midterm exam** – MCQ - 20 points. Each MCQ question is assessed by 0.4 points. For a positive result, the student must correctly answer at least **50%** of the total number of questions

### **Final**

Final exam is combined – 20 points for MCQ and 20 points for Oral Examination

***Final exam prerequisites:*** the total number of points from all other assessment components, namely, the midterm exam and activity quizzes and classroom activity, must be at least **30 points**.

**MCQ – 20 points** - Each MCQ question is assessed by 0.4 points. For a positive result, the student must correctly answer at least **50%** of the total number of questions.

#### **Oral Exam Assessment Criteria**

**5 points** - The answer is comprehensive. Student's thinking ability is clearly visible. The topic is precisely and fully presented. The terminology is duly used. The student masters the material regarded by the course on a proper level.

**4 points** - The student answers all questions, but independent thinking ability is not clearly visible. The terminology is correctly used. No major errors can be found. The student masters the material regarded by the course on a proper level. He/she has learnt the main literature.

**3 points** - The answer is incomplete. The topic is presented on a satisfactory level but it lacks the thinking ability and is rather based on memorizing. The terminology is scarcely used. The student masters the material regarded by the course but a few errors can be detected.

**2 points** - The answer is incomplete. The terminology is incompletely used. The material is partially presented. The student masters the main literature on an insufficient level. A few major errors can be detected.

**1 point** - Student's answer is not complete. The terminology is not used or is used in a wrong way. The answer is mainly erroneous. The topic is presented in a fragmented fashion.

**0 points** - The answer does not correspond to the question or it is not presented at all.

The final exam is considered as passed if the student has at least **21 points** (minimal competence limit).

The maximum course assessment score is 100 points. The student's assessment system includes:

a) five types of positive assessment:

(A) Excellent – 91-100 points.

(B) Very good – 81-90 points.

(C) Good – 71-80 points.

(D) Satisfactory – 61-70 points.

(E) Acceptable – 51-60 points.

(FX) Students could not pass the examination – 41-50 points that means that the student is required to work more for passing the exam and that she/he is entitled to retake the exam only once after individual work.

(F) Failed to pass – 40 points and lower which means that the work done by the student is not sufficient and she/he has to retake the course.

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.

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

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| <b>The core literature</b>      | Proffit, William R., Henry W. Fields, and David M. Sarver. Contemporary Orthodontics. St. Louis, Mo: Elsevier/Mosby, 2013. (related chapters)   |
| <b>The auxiliary literature</b> | Lee W. Graber, Katherine W.L. Vig, Greg J. Huang, Padhraig S. Fleming.<br>Orthodontics Current Principles and Techniques, seven edition St. Louis, Missouri<br>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"> <li>Understands concept of orthodontics based on factual knowledge</li> <li>1. Describes the history and scope of Orthodontics</li> <li>2. Defines Orthodontics and describe the development, etiology and progress of different types of malocclusions</li> <li>3. Explains pathogenesis, clinical and diagnostic features of malocclusions</li> <li>Explains normal development of deciduous, mixed and permanent dentitions and ideal occlusion</li> <li>Knows his\her limitations and acts accordingly in ethical and ortodontic dentistry clinical principles, in case of necessity request for support and decides to refer to specialists according to clinical and radiographic evaluation.</li> </ul> | 6,1<br>1,1<br>9,7<br>4.1. | X       | X       |                                    |                                  | X           | X          | MCQ<br><br>Verbal Quiz |

|  |   |                          |  |  |  |  |   |  |   |                                |
|--|---|--------------------------|--|--|--|--|---|--|---|--------------------------------|
| <b>SKILL</b>   | <ul style="list-style-type: none"> <li>Recognizes the deviations from the normal in dentoskeletal structures</li> <li>Diagnoses the features and classify malocclusion through clinical examination</li> <li>Recognizes the complexity of malocclusions and refer such cases to a specialist for higher level of care.</li> <li>Defines optimal Orthodontic force and discuss tissue changes subsequent to application of light and heavy forces</li> <li>Identifies the different types of tooth movement and the various phases of tooth movement.</li> </ul> | 8,1<br>8,2<br>9,1<br>9,4 |  |  |  |  | X |  | X | <b>CBL</b><br><b>Oral exam</b> |
| <b>RESPON<br/>SIBILITY<br/>AND<br/>AUTON<br/>OMY</b> |   |                          |  |  |  |  |   |  |   |                                |

**Learning Course Content**

| days № | Topics   | Lecture (hrs) | Seminar (hrs) | TSE (hrs) | TCE (hrs) |
|--------|--|---------------|---------------|-----------|-----------|
| I      | Introduction to Orthodontics and History of orthodontics   | 1             |               |           |           |
| II     | Ideal occlusion<br><br><b>Seminar:</b> Angle Classification<br><br><b>Verbal Quiz</b>  | 1             | 2             |           |           |
| III    | Dentition<br><br><b>Seminar:</b> Deciduous and permanent dentition<br><b>Verbal Quiz</b><br><br><b>TCE:</b> Clinical observation of child and adult patient's dentition, understanding the differences between them                            | 1             | 2             |           | 2         |
| IV     | Malocclusions (class I)<br><br><b>Seminar:</b> Etiology of Class I malocclusions<br><br><b>TCE:</b> Clinical observation of patients with Class I malocclusions, clinical examination and making proper diagnosis<br><br><b>Testing I</b>      | 1             | 2             |           | 2         |
| V      | Malocclusions (class II)<br><br><b>Seminar:</b> Etiology of Class II malocclusions<br><br><b>Verbal Quiz</b><br><br><b>TCE:</b> Clinical observation of patients with Class II malocclusions, clinical examination and making proper diagnosis | 1             | 2             |           | 2         |
| VI     | Malocclusions (class III)<br><br><b>Seminar:</b> Etiology of Class III malocclusions   | 1             | 2             |           | 2         |

|      |   |   |   |  |   |
|------|---|---|---|--|---|
|      | <b>TCE:</b> Clinical observation of patients with Class III malocclusions, clinical examination and making proper diagnosis<br><br><b>Verbal Quiz</b>   |   |   |  |   |
| VII  | <b>Midterm Exam (1 hour)</b>  | 1 |   |  |   |
| VIII | The etiology of malocclusions (General factors)<br><br><b>TCE:</b> Clinical observation of cases and learning about the etiologic factors causing malocclusions<br><br><b>CBL</b>                   | 1 |   |  | 2 |
| IX   | Hard and soft tissue response occurred during normal mastication<br><br><b>Seminar:</b> The functions of stomatognathic system<br><br><b>Verbal quiz</b>  | 1 | 2 |  |   |
| X    | Hard and soft tissue response against orthodontic forces<br><b>Verbal Quiz</b>  | 1 |   |  |   |
| XI   | The types of orthodontic tooth movements in response to orthodontic forces<br><b>Seminar:</b> The biomechanics of tooth movements<br><b>Verbal Quiz</b>   | 1 | 2 |  |   |
| XII  | The side effects of orthodontic forces<br><br><b>Seminar:</b> Clinical complications of orthodontic forces<br><b>Verbal Quiz</b><br><br><b>TCE:</b> Clinical observation of orthodontic force types |   | 2 |  | 2 |
| XIII | Root resorption<br><br><b>Seminar:</b> Types of orthodontic root resorption<br><br><b>Verbal Quiz</b>   |   | 1 |  |   |
| XIV  | Skeletal effects of orthodontic force (orthopedic force)<br><br><b>Seminar:</b> Extraoral orthodontic appliances<br><b>Verbal Quiz</b>  |   | 1 |  | 2 |

|      |  |   |   |  |  |
|------|--|---|---|--|--|
| XV   | Effects of Orthodontic Force on Gingival and Associated Connective Tissue<br><b>Testing II</b>   |   | 1 |  |  |
| XVI  | Psychological Aspects of Diagnosis and Treatment<br><br><b>Seminar:</b> Orthodontic Therapy and the Patient with Temporomandibular Disorders |   | 1 |  |  |
| XVII | <b>Final Exam (2 hour)</b>   | 2 |   |  |  |