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**TBILISI HUMANITARIAN TEACHING UNIVERSITY**

***SILLABUS***

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| **Name of educational course** | Dental materials for Prosthetic Dentistry |
| **Code of educational course** | STOM0419DM |
| **Status of educational course** | **C**ompulsory course  for the one-cycle higher educational Programme-Dentistry |
| **ECTS** | **4 credits. Total: 100 hours**  Contact Hours–40 hours (Class Meeting Time Period: 13L/23 Pr) + 4 hours (Midterm:2h and Final Examinations 2h):  Individual Work-60 hours |
| **Lecturer** | Sofia Kraveishvili, MD, Ph.D, THTU invited lecturer  Tel. 577743239 |
| **Goal of educational course** | The goal of the course is to teach the studentsClassification of prosthodontics materials, characteristics of impression materials, chemical, physical and mechanical peculiarities, Effection of dental materials on human body. |
| **Precondition for admission** | Propaedeutic of Prosthetic Dentistry |
| **System of students’ assessment** | **The assessment system at the Tbilisi Humanitarian Teaching University is divided into the following components:** Out of the total score (100 points) the intermediate assessment makes totally 60 points that are distributed as follows: **A student’s activity during the educational semester** -30 points; **Intermediate exam** - 30 points; **and the final exam** - 40 points. The limit of minimum competence in the component of intermediate assessments totals at least **18 points.** The limit of minimum competence of the final assessment is **50%** of the total sum of the final assessment, i.e.**20 points out of 40 points.**  **The assessment system allows:** **A) Five types of positive assessment:** a.a) **(A) Excellent** - 91-100 points of the assessment;  a.b) **(B) Very good** - 81-90 points from maximum marks;  a.c) **(C) Good** - 71-80 points from maximum marks;  a.d) **(D) Satisfactory** - 61-70 points from maximum marks;  a.e) **(E) Sufficient** - 51-60 points from maximum marks.  **B) Two types of negative assessment:**  **b.a) (FX) Did not pass** - 41-50 points from maximum marks, which means that a student needs harder work to pass and is granted one additional attempt with independent work;  **b.b) (F) Fail-** 40 points and less from maximum marks, which means the performance a student is not sufficient and he/she has to learn the subject from the beginning.  Bb) (F) - Fifty points and less than maximum score, which means that the work performed by the student is not enough and he has to learn the subject from the beginning.  1. In case of one of the negative assessments: (FX) Did not pass, the Teaching University shall appoint an additional exam within at least 5 days after the final exam results are announced and reflected in the exam table. 2. The assessmentreceivedat the additional exam is the student's final assessment, which does not reflect the negative points received at the basicfinal exam. If the student receives atthe additional exam from 0 to 50 points, (F) -0 score will be recorded in the student’s final examination record list. |
| **Content of educationla course** | See Appendix 1 |
| **Assessment forms/methods/**  **criteria/activities** | **Activity – 26 points;**  **a) Theoretical knowledge - 13** points. The student is assessed 13 times during the term.. Maximum assessment of each - 1 point.  **1 point:** The student reveals the perfect, convincing and detailed knowledge of the material, uses specific terminology freely, talks over logically. Actively uses information from reviewed material, is interactive.  **0,5 points:** The material is not very well mastered by the student. Reveals only schematic knowledge, coveys material illogically, with less persuasiveness, little mastery of specific terminology, difficulty in analyzing and integration with reviewed material  **0 points:** The student is passive, the material is not reviewed.  **b) Practical skills - 13 points.** The student’s practical skills are assessed 13 times during the semester, maximum grade of each - 1 point.  **1 point:** the student links the theoretical knowledge with the practical work well, performs the intended work accurately and perfectly. Knows the necessary materials and tools well, knows the rules and sequence of their use. Adheres to ethical norms in the process of work. (The desk is clean and tidy). Performs the work in the specified time.  **0,5 points:** The student is not able to perfectly link the theoretical knowledge with the practical work, he/she is not able to perform the practical work perfectly. Fails to follow the norms of ethics in the work process. Cannot use it properly during working hours.  **0 point:** The student is unable to complete the work, he (she) is passive.  **Discussion - 1 point**  **Assessment criteria**  **1 point -** the student has mastered the material well. Gives correct, convincing answers to questions. Thinks well. Demonstrates good skills of discussion with group.  **0,5 points -** the student does not know the material well. Answers the questions with difficulty. Cannot have a good discussion with the group.  **0 point -** the student is unable to master the theoretical material and is therefore unable to participate in the discussion. He/she is passive.  **Demonstration of practical skills (3 points):**  a) Differentiation of defects and correct diagnosis; Determining the impression material and taking the impression -1 point;  b) Casting of models -1 point;  c) Restoration of the crown part of the teeth from wax, modeling of inlay -1 point.  **Assessment criteria:**  **1 point** - the student accurately differentiates defects and makes a correct diagnosis. Accurately identifies impression material. Demonstrates good practical skills in taking impression and casting the models. Accurately and perfectly makes formation of the inlay from the wax. Well combines theoretical knowledge with practical work  **0,5 points** - the student finds it difficult to reconcile theoretical knowledge and practical work. Cannot analyze theoretical knowledge well. Demonstrates poor practical skills in impression taking and model casting. He (she) has difficulties to model the inlay with wax.  **0 point -** The student is passive, unable to do the task..  **Midterm exam – maximum 30 points (verbal)**  **a) Work (test form)** - the open test consists of 15 questions referring to the material passed, each correct answer is evaluated by 1 point. Incorrect answer - 0 point. Maximum – 15 points.  **b)** Each ticket containing closed questions includes 3 closed questions / topics. Each closed question / topic is evaluated with 0-5 points.  **Criteria for evaluating a 5-point quiz:**  **5 points -** the answer is complete. The answer is conveyed accurat accurately and exhaustively. The student has a thorough knowledge of the past material provided by the program, has a good mastery of both basic and supplementary literature, the terminology is kept, demonstrates a good ability to analyze and generalize.  **4 points** - the answer is complete but shortened; Terminologically correct; There is no substantial error; The student is well versed in the past material provided by the program; Has the mastery of the basic literature, demonstrates the ability to analyze and generalize.  **3 points -** the answer is incomplete; The issue is satisfactorily conveyed; The terminology is imperfect; The student possesses the material provided by the program, but with a few errors noted, weak analysis of the issue presented by him/her.  **2 points** - the answer is incomplete; The terminology is erroneous and inaccurate; Relevant material on the issue is presented partially; The student has insufficiently mastered the basic literature; Due to insufficient theoretical training, the student finds it difficult to analyze the material in practice and draw valid conclusions.  **1 point** - the answer is not perfect; The terminology is not used; The answer is fundamentally wrong. Only separate fragments of the relevant material are presented. The student is unable to analyze practical material  **0 point** - the answer to the question is not relevant or not given at all.  **Final exam maximum 40 point**  **a) Work (test form)** - the open test consists of 15 questions referring to the material passed, each correct answer is evaluated by 1 point. Incorrect answer - 0 point.  **b) Practical skills** - 5 points.  **c) Ticket with closed questions.** Each ticket will include three questions. Each case is evaluated with 0-5 points.  **Criteria for assessing the practical skills**  **5 points -** the student demonstrates good theoretical knowledge which is well matched with practical work well. Accurately and diligently performs the assigned work, demonstrates practical skills well. He (she) has good analytical skills, adheres to ethical norms in the process of work **.**  **4 points -** the student demonstrates theoretical knowledge well, which is reflected in the practical work. He (she) has good analytical skills. The work performed is complete, he (she) demonstrates practical skills in the work process well. Adheres to ethical norms in the process of work. Completes the job within the specified time.  **3 points -** the student has appropriate theoretical knowledge but is unable to fully link with the practical work. In practical work fails to follow the sequence of processes. Cannot follow ethical norms, can not use the specified time. The work done is less valuable.  **2 points** - the student doesn’t have proper theoretical knowledge. He (she) has difficulties to make analysis and apply knowledge in practice. Demonstrates less practical skills in the work process. The work done by him /her is incomplete.  **1 point** - the student does not have enough theoretical knowledge. Has no skills of making analysis and can not link with practical work. Cannot show practical skills in the work process. Cannot consistently complete the specified task. The work done is inaccurate.  **0 point -** the student is passive, unable to complete a practical task.  **Criteria for evaluating a 5- point verbal quiz:**  **5 points -** the answer is complete; the issue is conveyed accurately and exhaustively; The terminology is maintained. The student has a thorough knowledge of the past material provided by the program, has a good mastery of both basic and supplementary literature, demonstrates a good ability to analyze and generalize.  **4 points:** the answer is complete but shortened; Terminologically correct; There is no substantial error; The student is well versed in the past material provided by the program; Has the mastery of the basic literature, demonstrates the ability to analyze and generalize.  **3 points:** The answer is incomplete; The issue is satisfactorily conveyed; The terminology is imperfect; The student possesses the material provided by the program, but with a few errors noted, weak analysis of the issue presented by him/her.  **2 points:** The answer is incomplete; The terminology is erroneous and inaccurate; Relevant material on the issue is presented partially; The student has insufficiently mastered the basic literature; Due to insufficient theoretical training, the student finds it difficult to analyze the material in practice and draw valid conclusions.  **1 point -**the answer is not perfect; The terminology is not used; The answer is fundamentally wrong. Only separate fragments of the relevant material are presented. The student is unable to analyze practical material.  **0 point** - the answer to the question is not relevant or not given at all. |
| **Mandatory literature** | 1.Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition )  **2.**Marcia Stewart, R.D.H. ED.D, Michael Bagby, D.D.S. Ph.D, Clinical Aspects of Dental Materials- theory,practice and cases (fourth edition) 2013,  **3.**Diagnosis and treatment Planing in Dentistry 3th edition 2017 |
| **Additional**  **literature** | 1. Contemorary Fixed Prothodontics // Rosensteil, Land, Fujimoto (Fourth Edition)2006 |
| **Study results. Field competences** | **Knowledge**   1. Student describes Classification of prosthodontics materials, characteristics of impression materials, 2. Student defines chemical, physical and mechanical peculiarities, Affection of dental materials on human body. 3. Student determines Composition, indication and contraindications of prosthetic materials. extraction sequence prior to prosthetics.   **Skills**   1. Student can choose a proper material for taking impression, 2. Student provides physiological preparation of a patient before denture treatment. |
| **Teaching methods and forms** | Lecture Practical training Discussion / debates Demonstration of practical skills  Independent work of a student and making a presentation |

**Appendix 1**

**Content of educational course**

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| **week** | **Teaching method** | **Number of hours** | **Topic of practical or laboratory training of Lecture/work in the working group** | **Literature** |
| **I** | **Lecture** | 2 | Classification of prosthodontics materials, characteristics of impression materials  1.Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition ) |  |
| **Practical training\seminar** | 1 | Syllabus |  |
| **II** | **Lecture** | 1 | Non Elastic impression materials  1.Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition )2013, **pp.151-164** |  |
| **Practical training\ seminar** | 2 | Discussion of:   * Classification of prosthodontics materials * Chemical, physical-mechanical, hygiene and toxicological characteristics of impression materials |  |
| **III** | **Lecture** | 1 | Elastic impression materials (Alginate materials)  1.Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition )2013, **pp.164-168**  **2.**Marcia Stewart, R.D.H. ED.D, Michael Bagby, D.D.S. Ph.D, Clinical Aspects of Dental Materials- theory,practice and cases (fourth edition) 2013,**pp.109-112** |  |
| **Practical training**  **\Seminar** | 2 | * General description of chemical, physical and mechanical peculiarities of impression materials. * Consideration of chemical and physical peculiarities of solid impression materials. |  |
| **IV** | **Lecture** | 1 | Elastic impression – silicon materials  1.Contemorary Fixed Prothodontics // Rosensteil, Land, Fujimoto (Fourth Edition)2006**, pp.59-61** |  |
|  | 2 | General description of elastic material. Consideration of chemical and physical properties of alginate materials |  |
| **V** | **Lecture** | 1 | Elastic impression – polysulfide and polyether imprint materials  .Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition )2013, **pp. 168-177,178-182**  **2.**Marcia Stewart, R.D.H. ED.D, Michael Bagby, D.D.S. Ph.D, Clinical Aspects of Dental Materials- theory,practice and cases (fourth edition) 2013,**pp.112** |  |
| **Practical training\seminar** | 2 | Composition of silicon materials, chemical and physical properties, consideration of indications for use. |  |
| **VI** | **Lecture** | 1 | Thermoplastic impression materials.  .Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition )2013, **pp. 177-178** |  |
| **Practical training\seminar** | 2 | Chemical and physical properties of polysulfide and polyether materials. Consideration of indications for use. |  |
| **VII** | **Lecture** | 1 | Basics and supplemental Metals applied in prosthetics dentistry.  Contemorary Fixed Prothodontics // Rosensteil, Land, Fujimoto (Fourth Edition) 2006**, pp. 83-86** |  |
|  | **Practical training\seminar** | 2  1 | Chemical and physical properties of polysulfide and polyether materials. Consideration of thermoplastic indications for use |  |
| **VIII** |  | 2 | Intermediate Exam |  |
| **IX** | **Lecture** | 1 | Effectof dental materials on human body.  1.Kenneth j. Anusavice, PHD, ChiayiShen PHD, PHILLIPS Science of dental materials (12 edition ) 2013,**pp.495-497**  2. Marcia Stewart, R.D.H. ED.D, Michael Bagby, D.D.S. Ph.D, Clinical Aspects of Dental Materials- theory,practice and cases (fourth edition) 2013, **pp.87-89** |  |
| **Practical training\seminar** | 2 | * chemical, physical and mechanical properties of porcelain, * chemical, physical and mechanical properties of plastics * chemical, physical and mechanical properties of zircon. |  |
| **X** | **Lecture** | 1 | Impression and methods of taking impression. Standard and individual impression trays. Identification of impression quality. Types and purposes of models.  **1.**Contemorary Fixed Prothodontics // Rosensteil, Land, Fujimoto (Fourth Edition)2006,**pp.42-45** |  |
| **Practical training\ seminar** | 2 | Toxic, mechanic, thermal and allergic influence of materials on human organism. |  |
| **XI** | **Lecture** | 1 | Psychological preparation of a patient before denture treatment. Emotional tension, clinical picture of emotional tension concepts of alarm and fear.  1.Diagnosis and treatment Planing in Dentistry 3th edition 2017,**pp.323-339, 342-362** |  |
| **Practical training\seminar** | 2 | * Standard and individual impression trays. * Method of taking impression. * Identification of impression quality. * Types and purposes of models |  |
| **XII** | **Lecture** | 1 | * Teeth and roots condition study and extraction sequence prior to prosthetics.   **1.**Contemorary Fixed Prothodontics // Rosensteil, Land, Fujimoto (Fourth Edition)ics , parode 2006, **pp. 82-83** |  |
|  | **Practical training\seminar** | 2 | * clinical picture of emotional tension concepts of alarm and fear. |  |
| **XIII** | **Lecture** | 1 | Summery |  |
|  | **Practical training\seminar** | 2 | Presentation |  |
| **XIV-XV** |  | 2 | **Final Exam** |  |
|  |  |  | **Additional exam** |  |