**Integrated Studies in Dental Technician**

**Curriculum of the Course**

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| **Course** | **Aesthetics Function and Occlusion** | | | |
| Type | Semestre | ECTS | Code |
| OBLIGATORY ( O ) | 4 | 3 |  |
| **Course Lecture** | Lecture:Dr.Vesel Rrustemaj,PhD candidate | | | |
| **Course Assistant** | Assistant:Dr.Vesel Rrustemaj | | | |
| **Goals and Objectives** | The purpose of this subject is to prepare students with the basic knowledge of functional and occlusal aesthetic principles during the construction of dental restorations, as well as adequate knowledge for the construction of aesthetic, orthodontic dental prosthesis and other works according to aesthetic, morphological and functional principles.    The goals of this course are:  **1. To provide a sufficient base of knowledge about the Aesthetic and Functional concepts of Occlusion**. The course aims to provide comprehensive knowledge of biomechanical principles and terminologies of occlusion and articulation  **2. To develop practical skills**: Students should be equipped with relevant practical experience in the planning and construction of mobile prosthesis, orthodontic and functional appliances, and other dental restorations  **3. To encourage research and Critical thinking**: To create an environment where students are encouraged to explore innovative materials and software tools used during dental laboratory procedures by promoting continuous learning.  **4. To increase collaboration and communication skills**: To prepare students to communicate and collaborate effectively with dentists, other dental technicians and other health care professionals, emphasizing the importance of teamwork in planning and executing successful treatment dental.  After successful completion of the course, students should be able to:  **1. Understand the basics:** Demonstrate understanding of the basic concepts, of biomechanical principles of occlusion.  **2. Practically apply theoretical knowledge:** Demonstrate skills in applying theoretical knowledge to practical tasks during the planning, fabrication of dental restorations, using traditional techniques and modern digital work**.**  **3. Encourage in research**: Encourage current research and innovative equipment by critically evaluating their application during dental laboratory procedures.  **4.Collaborate Effectively:** Demonstrate effective communication and collaboration skills with a multidisciplinary dental team, ensuring accurate transfer of treatment plans into efficient solutions**.**  **5. Critical Evaluation:** Gain the ability to critically evaluate the aesthetics, function and fit of dentures and other dental restorations by applying quality control measures to ensure the highest level of patient care.  These learning outcomes ensure that students who complete the "Esthetics, Function and Occlusion" course are well prepared to meet the aesthetic and functional demands of the patient from professional to dental technician. They will have a strong foundation in both theory and practice to contribute effectively to dental healthcare teams | | | |
| **Learning Outcomes** | The learning outcomes for this subject are:  **1. (2) Integrate and apply theoretical knowledge from different fields with practical skills related to dentistry:**Synthesize knowledge from various academic disciplines, such as anatomy, physiology, and dental materials, to inform dental laboratory procedures. To apply theoretical concepts to practical tasks, ensuring the production of accurate and effective dental prosthesis  **2. (9). Model and construct prosthesis**:  Demonstrates preparation in creating accurate and functional denture models.Constructs complete and partial prosthesis that meet the aesthetic and functional requirements of patients  **3. (8) Apply appropriate technologies** for the production of dental prosthesis or orthodonticdevices:  It uses modern dental technology and CAD/CAM systems for the design and production of dental prostheses. Stays up-to-date on emerging technologies in the field and adapts to technological advances.  **4. (13) Collaboration and Communication**: Students will communicate and collaborate effectively with dentists, dental technicians and other health care professionals. They will demonstrate the ability to translate treatment plans into precise prosthetic solutions through teamwork and clear communication  **5.(15)Critical evaluation** of dental prosthesis**:** Students will be able to critically evaluate the aesthetics, function and fit of fixed dental prosthesis, using quality control measures to ensure restorations meet clinical requirements and expectations of the patient | | | |
| **Alignment of Course’s Learning Outcomes to Programs’ Learning Outcomes.** | The alignment of the learning outcomes of the "Esthetics Function and Occlusion" course with the learning outcomes of the Bachelor's Degree Dental Technician program ensures that the course effectively contributes to the overall objectives of the program. The specific learning outcomes of "Esthetics, Function and Occlusion" support the achievement of the broader learning outcomes of the program:  **1. Integrate and apply theoretical knowledge from different fields with practical skills related to dentistry:**Complies with the results of the program integrating and applying knowledge from the relevant fields related to dentistry and applied in laboratory practice in the construction of various dental restorations.  **2.Designs and constructs prosthesis**  It corresponds to the result of the program in the construction and model of prostheses. Students are trained in the planning and fabrication of full and partial prostheses that meet the aesthetic and functional requirements of patients.  **3.Applies appropriate technologies** for the productionof dental prosthesis or orthodontic devices  Complies with the outcome of the program by applying relevant dental software technologies in the planning and construction of dental and orthodontic prostheses as well as other dental restorations**.**  **4. Cooperation and communication**  Aligns with the program outcome on teamwork and communication: Supports the program's goal of preparing students to work effectively within interdisciplinary dental care teams, emphasizing the importance of communication skills in professional settings  **5. Critical evaluation**  Conforms to the program's quality control outcome: Contributes to the program's objective of ensuring that students can critically evaluate the quality of dental restorations, applying quality control measures consistent with industry standards. | | | |
| **Course Content**  **Teaching/**  **Learning**  **Methods** | The subject is structured to progressively build students' knowledge and skills, culminating in the ability to design, fabricate prosthesis and other dental restauration | | | **Week** |
| **Introduction to Aesthetics Function and Occlusion-**   * Terminology | | | **1** |
| * **Biomechanics of the masticatory system** -Masticatory muscles   - Mimic muscles | | | **2** |
| * **Anatomy ,Function -TMJ** * Biomechanics/TMJ | | | **3** |
| * **Aesthetic Function Principles** - Function and Occlusion during the production of dental prosthesis | | | **4** |
| * **Aesthetic Gingival Lines**   Evaluation of the anatomy of the patient's physical characteristics | | | **5** |
| * **Selection of teeth according to size, shape and color** | | | **6** |
| * **Semi-semester assessment** | | | **7** |
| * **Characteristics of artificial teeth and their acrylic base** | | | **8** |
| * **Speech occlusion and articulation** | | | **9** |
| * **Whitening of discolored teeth** | | | **10** |
| * **Dental Photos-methods** | | | **11** |
| * **Articulators** and their types * • Placement of models in articulator function and mechanisms | | | **12** |
| * **Creating Aesthetics with special effects** | | | **13** |
| * **Workplace standards and success in the laboratory** | | | **14** |
| * **Final Exam** | | | **15** |
| Laboratory exercises | | | **Week** |
| * Introduction -Aesthetics Function and Occlusion * • Principles, practical terminology | | | **1** |
| * **Sagital Occlusion key’s** * Primary and permanent dentition | | | **2** |
| * **Models for prostheses** * • Bite patterns | | | **3** |
| * **Occlusal relationships- Centric Occlusion** | | | **4** |
| * **Smile line - Facial features** | | | **5** |
| * **Selection of teeth** according to size and color | | | **6** |
| * Presentation ,analyses Evaluation Course projects | | | **7** |
| * **Alignment of teeth – occludaors** * Acrylic base | | | **8** |
| * **Equipment/Instruments for modeling and contouring** | | | **9** |
| * **Characteristics of artificial teeth** | | | **10** |
| * **Dental photos , profil,** | | | **11** |
| * **Articulator types** | | | **12** |
| * **Orthodontic models**   Analysis,, retentive, active elements | | | **13** |
| * **Digital-software presentations – projects and practical work** | | | **14** |
| * **Assessments and consultations** | | | **15** |
| These methods are designed to enable deep understanding of Functional Esthetic and Occlusal principles in the dental laboratory, to develop practical skills and to encourage critical thinking.   1. **Lecture 35%**   **-** Purpose: To provide basic knowledge and theoretical concepts.  - Implementation: Regular weekly lectures covering the comprehensive content of the course.  **2.Practical laboratory sessions 25%**  - Goal: To develop practical skills on the concepts of Aesthetics, Function and Occlusion.  - Application: Laboratory work after lectures to apply theoretical knowledge practically.  **3.Seminars and group discussions 20%**  - Purpose: To increase understanding through discussion and collaborative learning.  - Implementation: Scheduled sessions to discuss case studies, research achievements and current trends.  **4.Individual learning 20%**  -Purpose: To supplement and reinforce learning outside the classroom  -Implementation: Access to physical and digital libraries for further studies and discussions  .      These percentages are indicative and may be adjusted based on specific course requirements, institutional guidelines or student group needs. The allocation ensures a special emphasis on the theoretical part through lectures (35%) while maintaining a solid foundation in practical and laboratory work (25%). Interactive and student-centered learning methods such as workshops are integrated to enhance critical thinking and collaboration. | | |  |
| **Evaluation methods** | The following assessment methods correspond to the learning methods described previously, providing a comprehensive assessment of student performance throughout the course.  Assessment methods in accordance with teaching methods**:**    **1.Lecture (35%)**  Evaluation method – Written exam  Students will be evaluated through written exams that cover the theoretical knowledge presented during the lectures. These exams may include short-answer questions, multiple-choice questions, and essay questions to assess the principles of the basic concepts of Aesthetics and Function.  **2.Practical laboratory sessions (25%)**  Assessment method – Assessments of practical skills.Practical work and continuous assessment of the laboratory part will be used to assess the students' skills in using the concepts of Occlusal and Functional Aesthetics in the dental laboratory.  **3.Seminars and group discussions (20%)**  Assessment methods – Participation and presentation.Students will be evaluated based on their active participation in discussions and their ability to present case studies, research findings, or topics of current interest in Functional and Occlusal Aesthetics.  **4.Individual learning (20%)**  Assessment method – Online quizzes and assignments.Online quizzes and assignments related to e-learning resources will be used to reinforce learning and assess understanding of course material.  These assessment methods are designed to comprehensively assess theoretical knowledge, practical skills and critical thinking in the context of the Esthetic Function and Occlusion subject. By aligning assessment methods with learning methods, the course ensures that students areassessed in a way that reflects their learning experiences and prepares them for practice | | |  |
| **Course Resources** |  | | |  |
| These resources have been selected to provide comprehensive coverage of theoretical knowledge, practical skills and current trends in the subject of Functional and Occlusal Aesthetics. | | |  |
| Here is the list of course resources:  **Textbooks and reference**  **-**.Kano, Paulo, Challenging Nature: Wax-up Techniques in Aesthetics and Functional Occlusion, 2011.  2.Wassell, R., Naru, A., Steele, J., Nohl, F., Applied Occlusion, 2nd edition, 2014    **-.Online journals and databases**  Provides access to the latest research findings and peer-reviewed articles in the field of Aesthetics and Function.  **-Laboratory Equipment and Materials**  Dental laboratory  Equipped with all the necessary tools and materials for the practical sessions  **4.Webinars and online project**  Access to recorded or live webinars hosted by experts in the field of Aesthetics and Function  These resources have been selected to ensure that students have access to a wide range of materials supporting both the theoretical and practical aspects of the field of Aesthetics and Occlusion. Incorporating a variety of learning tools such as textbooks and hands-on experiences enriches the learning environment and prepares students for professional practice in dental technology. | | |  |
| **ECTS %** | 1. Lectures 30 h 35%   2. Practical laboratory sessions 24 h 25%  3. Projects and group discussions 18 h 20%  4. Individual learning 18 h 20%    **Total 90 h 100%** | | | |
| **Refferences** | Kano, Paulo, Challenging Nature: Wax-up Techniques in Aesthetics and Functional Occlusion, 2011.  Wassell, R., Naru, A., Steele, J., Nohl, F., Applied Occlusion, 2nd edition, 2014 | | | |
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