

**DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES
AT VILNIUS UNIVERSITY**

Scientific Area, Field of Science	Medical and Health Sciences (M 000): Odontology (M 002)			
Faculty, Institute, Department/Clinic	Faculty of Medicine Institute of Odontology			
Course unit title (ECTS credits, hours)	Acquired and Congenital Diseases of Stomatognathic System 8 credits (212 hours)			
Study method	Lectures	Seminars	Consultations	Self-study
Number of ECTS credits	-	-	1	7
Method of the assessment (in 10 point system)	<p>Presentation evaluation. Presentation topic should be discussed and decided with the lecturer coordinating the unit. Student should review, analyze, and present the newest research findings that are related to the topic. The following aspects are evaluated:</p> <ul style="list-style-type: none"> - Structure of the presentation, comprehensiveness, and quality of the material (2 points); - Clear presentation of knowledge, argumentation, critical thinking (2 points); - Conclusions and limitations (2 points); - Clinical recommendations, evidence-based statements (2 points); - Discussion, ability to answer questions (2 points). <p>Minimal passing score – 5.</p>			
PURPOSE OF THE COURSE UNIT				
<p>Diagnostics and treatment of acquired and congenital diseases of stomatognathic system requires cooperation between several health specialties: maxilla-facial and oral surgery, dentistry, ENT, genetics, speech therapist and others. The aim of this course is to acquaint the student with the etiology, diagnosis, and treatment of acquired and congenital diseases of stomatognathic system.</p>				
THE MAIN TOPICS OF THE COURSE UNIT				
<p>Embryogenesis, histogenesis, and organogenesis of craniofacial bones. Physiologic ossification. The growth and development of the craniofacial skeleton. Features of dental development; periods of the occlusal formations. Etiology of facial anomalies. Factors influencing facial development at different stages. Genetical features; diagnostics. Classification of anomalies: genetic, embryological, anatomical. Prevalence of craniosynostosis; etiology, principles of diagnostic and treatment; time of surgery. Disorders of dental eruption and dental number anomalies - the principles of diagnostics and treatment. Prevalence and etiology of craniofacial anomalies; principles of treatment. Rare syndromes affecting craniofacial growth: Apert, Crouzon, Pfeifer, Treacher – Collins, Goldenhar. Prevalence of the cleft lip, alveolus, and palate. Clinical presentation, classification. The complex treatment of clefts, treatment stages, and strategies. The principles and importance of interdisciplinary treatment. Patient's examination and planning of treatment stages. The role of collaboration between orthodontists, maxillofacial surgeons, and speech therapists. Timing of surgery. Social adaptation of patients. Hemifacial microsomia. Etiology, diagnostic, treatment principles. The importance of cooperation between a surgeon and an orthodontist.</p>				

Anatomy of stomatognathic system and its examination methods. Main positions of the mandible, border movements. Occlusal surface of teeth: shape and function. Types of occlusal contacts, contacts during eccentric mandible movements, maximum intercuspation. Diagnostic impressions and models: the purpose and fabrication methods. Construction principles of articulators and their usage. Mounting of the diagnostic models into articulator, programming of articulator.

Biocompatibility of dental materials and biomechanics. Composition of ceramics, metal alloys and polymers. Mechanical properties. Physical and chemical properties of dental materials. Principles of adhesion. Impression materials, intraoral scanners. Materials used for dental model fabrication. 3D printing of dental models. Materials and fabrication methods for full ceramic prostheses.

Effect of tooth preparation on the tooth prognosis. Biomechanics of fixed prosthodontics. Endodontically treated teeth as abutments. Gingival retraction. Conventional and digital impressions for fixed prosthodontics. Mandibular relations to the maxilla: centric relation, central occlusion, maximal intercuspation and their registrations. Temporary prostheses. Tooth shade determination. Laboratory steps for the fabrication of the fixed prostheses. Prosthesis try-in procedures. Occlusal contact adjustment and cementation protocols. Complications of the fixed prostheses.

Dental implant treatment planning. Osseointegration and integration of the peri-implant soft tissues. Types of the dental implants. Dental implant biomechanics. Fixed and removable implant-supported prostheses. Marginal bone loss around implants, etiology, and prevention. Dental implant treatment complications.

Treatment planning for periodontally compromised patients and role of the prosthodontics. Prognosis of periodontally compromised teeth and its evaluation. Importance of number and distribution of the remaining teeth. Mobility of teeth. Occlusal trauma: etiology, pathogenesis, influence on the inflammatory process of periodontium, treatment. Types of dental splints: principles of action, indications, types. Biologic width. Clinical crown lengthening procedures.

Temporomandibular disorders (TMD), overview. Masticatory muscle disorders: etiology, pathogenesis, diagnostics, and treatment principles. Temporomandibular joint (TMJ) intracapsular disorders: etiology, pathogenesis, diagnostics, and treatment principles. Differential diagnosis of TMD. Types of occlusal devices. Bruxism: etiology, pathogenesis, diagnostics, and coping strategies. Excessive teeth wear: etiology, pathogenesis, diagnostics, and treatment principles.

RECOMMENDED LITERATURE SOURCES

1. Craniofacial Embryogenetics and Development. G.H. Sperber, S.M. Sperber 3rd Edition, 271 p. People's Medical Publishing House (2018).
2. Cleft Lip and Palate: Diagnosis and Management / S. Berkowitz. Springer; 3rd edition, 2013.
3. Comprehensive Cleft Care, Joseph Losee Richard E. Kirschner (Editors) 1618 p. CRC Press; 2 edition, 2015)
4. Contemporary Fixed Prosthodontics, 5th Edition. Editors : Stephen F. Rosenstiel & Martin F. Land ISBN : 9780323720892
5. Klinikinė odontologija. Sudarytoja I. Balčiūnienė. Vaistų žinios, 2008.
6. Dantų technologija: teorija ir praktika. Kauliniene Z., Mameniškis V. ir kt. Vaistų žinios, 2008.
7. Lindhe's Clinical Periodontology and Implant Dentistry, 2 Volume Set, 7th Edition. Niklaus P. Lang, Tord Berglundh, William V. Giannobile, Mariano Sanz. ISBN: 978-1-119-43888-5. 2021. Wiley-Blackwell

8. Misch's Contemporary Implant Dentistry. 4th Edition - January 25, 2020. Randolph Resnik. ISBN: 9780323391559
9. DIGITAL DENTISTRY SCIENCE AND CLINICS El. Knyga - <https://digital-dentistry.org/e-book-now-available/>
10. Management of temporomandibular disorders and occlusion. Okeson, Jeffrey P. 5 ed. St. Louis: Mosby, cop. 2003.
11. Periodonto ligos: periodontologinių ligonių dantų protezavimas ir ortodontinis gydymas. A. Pūrienė , R. Savickas. 2006.
12. . Žekonienė J, Ivanauskaitė D, Pūrienė A. Kraštinis periodontas ir jo patologija // Vilnius: UAB „Progretus“, 2008. 197 p.

CONSULTING LECTURERS

1. Coordinating lecturer: Vygandas Rutkūnas (Prof. Dr.).

2. Laura Linkevičienė (Prof. Dr.).

3. Alina Pūrienė (Prof. Dr. HP).

4. Linas Zaleckas (Assoc. Prof. Dr.).

APPROVED:

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University:
29th of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė