

**MEDICAL UNIVERSITY – PLOVDIV  
FACULTY OF DENTAL MEDICINE**

**SYLLABUS IN PEDIATRIC DENTISTRY PART I**

1. Overview and history of Pediatric dentistry.
2. Ontogenetic development of maxillofacial region. Development of the oral pit – stomodeum, pharyngeal apparatus.
3. Ontogenetic development of the jaws, the floor of the mouth and the tongue of the human embryo. Developmental disorders of the maxillofacial region.
4. Ontogenetic development of tooth germ – elements, stages of development of tooth germ, origin and characteristics of tooth germ elements. Developmental periods of the tooth germ. Morphological and biological features.
5. Histogenesis of the tooth enamel. Factors associated with enamel histogenesis. Anatomy of the enamel. Chemical composition. Amelogenesis - formation of the enamel matrix, origin. Initial mineralization of the enamel matrix.
6. Mineralization of the enamel matrix. Mechanisms of enamel mineralization. Theories of mineralization. Physiology of the tooth enamel. Crystal structure and ionic exchange. Differences in enamel of primary and permanent teeth. Factors associated with the physiology of the enamel.
7. Morphology of the tooth enamel. Morphologic units. Functions of the tooth enamel. Features of enamel associated with childhood.
8. Histogenesis of the tooth dentin. Anatomy of the dentin. Chemical composition. Mechanism of dentinogenesis. Mineralization of the dental matrix. Features of dentin associated with childhood.
9. Morphology and physiology of the tooth dentin. Composition and structure. Layers of the dentin. Morphologic units. Differences in dentin of primary and permanent teeth.
10. Histogenesis of the dental pulp – origin and development. Anatomy and chemical composition. Pulp layers, vascular supply and innervation of the pulp. Features of pulp associated with childhood.
11. Morphology and physiology of the dental pulp. Differences in pulp of primary and permanent teeth.
12. Histogenesis, morphology and physiology of the tooth cementum. Anatomy and chemical composition. Differences in cementum of primary and permanent teeth Features of cementum associated with childhood.
13. Histogenesis, morphology and physiology of the periodontal ligament. Anatomy and chemical composition. Blood and nerve supply of the periodontal ligament. Differences in periodontal ligament of primary and permanent teeth. Features of the periodontal ligament associated with childhood.
14. Histogenesis and physiology of the oral mucosa. Structure of the oral mucosa. Types of the oral mucosa based on the function and histology. Blood supply and innervation of the

oral mucosa. Features of the oral mucosa associated with childhood. Physiology of the oral mucosa.

15. Morphology and physiology of the periodontium. Characteristics of the principal components of the periodontium. Features of the components of the periodontium associated with childhood. Physiology of the periodontium.
16. Dynamics of primary dentition development. Stages and eruption times. Factors associated with tooth eruption. Mechanism, signs and symptoms of tooth eruption. Resorption organ. Abnormal tooth eruption.
17. Dynamics of permanent dentition development. Stages and eruption times. Factors associated with tooth eruption. Mechanism, signs and symptoms of tooth eruption. Abnormal tooth eruption. Root development.
18. Dental anatomy and physiology of primary and permanent dentition. Tooth groups and their functions. Identifiable features that distinguish primary from permanent teeth. Tooth codes.
19. Abnormalities in shape and size of teeth. Causes of the abnormalities in shape and size of teeth.
20. Abnormalities in number and position of teeth. Causes of the abnormalities in number and position of teeth.
21. Etiology, pathogenesis and classification of the abnormalities in dental structure /dysplasia/. Causes and types of the abnormalities in dental structure.
22. Dysplasiae dentales hereditaria. Causes and types of dysplasiae dentales hereditaria.
23. Dysplasiae dentales congenitae and dysplasiae dentales adquisitae. Causes and types of dysplasiae dentales congenitae and dysplasiae dentales adquisitae.
24. Physiology of the oral cavity. Salivary characteristics and origin. Salivary secretion.
25. Saliva. Physical properties of saliva. Inorganic and organic components of saliva.
26. Functions of saliva. Salivary role in physiology of the oral cavity.
27. Oral ecosystem – origin and dynamics in childhood. Components and defense mechanisms of oral ecosystem.
28. Oral microflora. Types of relationships between microorganisms. Features of the oral microflora associated with childhood. Defense mechanisms of oral ecosystem.
29. Characteristics of immune system in children. Non-specific immune system and specific immune system. Defense mechanisms in the oral cavity. Development of immune system.
30. Oral immunity. Immunopathological reactions involved in the pathogenesis of the oral diseases. Defense mechanisms of the oral mucosa, saliva and gingival fluid.

**HEAD OF DEPARTMENT: /s/  
/Prof. Dr. M. Kukleva, DMD, PhD/**

MK/MF

05.03.2019