



# Pomeranian Medical University in Szczecin

## SYLLABUS of the MODULE (SUBJECT) General Information

Module title: Paedodontics and Dental Prophylaxis	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Dentistry
Level of study	long-cycle (S2J)
Mode of study	full-time studies
Year of studies, semester	Year III, semester V, VI
ECTS credits (incl. semester breakdown)	6 (semester V-3, semester VI-3)
Type/s of training	lectures (10h) /seminars (15h)/ practical (60)
Form of assessment*	<input checked="" type="checkbox"/> graded assessment: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> descriptive</li> <li><input checked="" type="checkbox"/> test</li> <li><input checked="" type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> <input type="checkbox"/> non-graded assessment <ul style="list-style-type: none"> <li><input type="checkbox"/> final examination <ul style="list-style-type: none"> <li><input type="checkbox"/> descriptive</li> <li><input type="checkbox"/> test</li> <li><input type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> </li> </ul>
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Web page	<a href="https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/samodzielna-pracownia-stomatologii-dzieciecej">https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/samodzielna-pracownia-stomatologii-dzieciecej</a>
Language	English

\* replace  into  where applicable

## Detailed information

<b>Module objectives</b>		<p>The main goal of education is to prepare competent dentists for the dental treatment of children and adolescents. It is important to transfer and deepen knowledge and acquire skills that will allow the implementation of preventive, diagnostic and therapeutic tasks in patients in developmental age. They mainly concern interviewing the patient, examination of the patient, selection of additional tests, diagnosis and initiation of appropriate treatment. Teaching pediatric dentistry and dental prophylaxis will allow to learn the correct structure and function of the masticatory system, taking into account the anatomical and physiological differences of a patient in developmental age, and to recognize structural and functional changes that are determinants of diseases of the oral cavity, head and neck. It is important to know the etiology, risk factors and the course of diseases of the masticatory organ and the rules of conduct in these diseases in accordance with modern medical knowledge. The aim of education is also to acquire the ability to communicate with a small patient and his parents / guardians to the extent that will allow obtaining: necessary information, consent to the proposed treatment and cooperation with the small patient during diagnostics and therapy. Teaching will help you learn about the psychological techniques necessary to adapt your child to treatment. The ability to keep medical records is important. Particular emphasis is placed on the knowledge of prophylactic procedures and the dissemination of health education and knowledge about pro-health behaviors. The aim of teaching is to shape responsibility for the health of a young patient and to shape ethical attitudes towards patients, their parents / guardians and colleagues.</p>
Prerequisite /essential requirements	Knowledge	Familiarity with the structure and function of stomatognathic system and with the principles of prophylactic-therapeutic process in adults.
	Skills	Performing the anamnesis and the patient's medical examination in the basic degree. Providing the treatment of the stomatognathic system in the basic degree.
	Competences	The ability to cooperate. The ability to communicate effectively. The ability to come into contact with the patient.

Description of the learning outcomes for the subject /module			
No. of learning outcome	Student, who has passed the (subject) knows /is able to /can:	SYMBOL (referring the standards)	Method of verification of learning outcomes*
W01	Knows and understands occlusion norms and deviations in different phases of ontogenesis	F.W1.	K,S
W02	Knows and understands the principles of prophylactic and therapeutic procedures in diseases of the masticatory organ in patients in developmental age	F.W2.	K,S,W
W03	Knows and understands viral, bacterial and mycotic flora of toral cavity and importance thereof	F.W3.	K,S,W
W04	He knows and understands symptoms of specific diseases of the oral cavity, head and neck in patients of developmental age	F.W4.	K,W

W05	Knows and understands the course and procedures of specific diseases of the oral cavity, head and neck in children and adolescents	F.W4.	K,W
W06	Knows and understands principles of management in the case of diseases of mineralized dental tissues in children and adolescents	F.W5.	K,S,W
W07	He knows and understands the causes of complications of stomatognathic system diseases and the rules of their management	F.W12.	K
W08	He knows and understands therapeutic methods of pain control as well as anxiety and stress reduction	F.W15.	K,S,W
W09	He knows and understands prophylaxis of oral cavity diseases	F.W21.	K,S,W
U01	Is able to conduct a medical interview with a patient in developmental age or his parents / guardians	F.U1.	S
U02	Can perform a dental physical examination of a patient in developmental age	F.U2.	S
U03	Can explain to the patient the essence of his ailments.	F.U3.	S
U04	Can determine the treatment method confirmed by the informed consent of the patient.	F.U3.	S
U05	Can provide the patient or his family with information about an unfavorable prognosis	F.U4.	S
U06	Can interpret the results of additional tests and consultations	F.U6.	S
U07	Is able to determine indications and contraindications to perform a specific dental procedure in patients of developmental age	F.U7.	S
U08	Can keep current patient records, write out referrals for tests or specialist dental and general medical treatment	F.U11.	S
U09	Can assess the risk of caries using bacteriological tests and saliva tests	F.U14.	S
U10	Can use appropriate medications during and after dental treatment to relieve pain and anxiety	F.U16.	S
K01	Is ready to establish and maintain deep and respectful contact with the patient as well as to show understanding for ideological and cultural differences	K.1.	O
K02	Is ready to be guided by the patient wellbeing	K.2.	O
K03	Is ready to notice and recognize own limitations, make self-assessment of educational deficits and needs	K.5.	O
K04	Is ready to propagate health-promoting behaviors	K.6.	O

Table presenting LEARNING OUTCOMES in relation to the form of classes

No. of learning outcome	Learning outcomes	Type of training						
		Lecture	Seminar	Practical	Clinical classes	Simulations	E-learning	Other...
W01	F.W1.	X	X					
W02	F.W2.	X	X					
W03	F.W3.	X	X					
W04	F.W4.	X	X					
W05	F.W4.	X	X					
W06	F.W5.	X	X					
W07	F.W12.	X	X					

W08	F.W15.	X	X					
W09	F.W21.	X	X					
U01	F.U1.				X			
U02	F.U2.				X			
U03	F.U3.				X			
U04	F.U3.				X			
U05	F.U4.				X			
U06	F.U6.				X			
U07	F.U7.				X			
U08	F.U11.				X			
U09	F.U14.				X			
U10	F.U16.				X			
K01	K.1.				X			
K02	K.2.				X			
K03	K.5.				X			
K04	K.6.				X			

Table presenting TEACHING PROGRAMME			
No. of a teaching programme	Description of teaching programme	No. of hours	References to learning outcomes
	<b>WINTER SEMESTER</b>		
	<b>Seminars</b>		
TK01	Dental examination of the child. Subject (family, general medical and dental history) and physical examination of the child (extraoral and intraoral examination). Assessment of teeth condition. Additional research. Medical records. Tooth diagram. Caries indicators (caries frequency, PUW, puw, SiC). Hygiene indicators (API, OHI-S, Pl.I.). Plaque staining agents. Asswssment of the conditio of the gingiva. Saliva test.	1	W01,W02
TK02	Caries prophylaxis (pre-primary, primary, secondary). Dental care for pregnant women. Hygienic procedures in the infant's mouth. Principles and methods of brushing teeth in children (Fones method, roll method, Bass method). Additional methods of cleaning (agents for cleaning interdental surfaces, toothpaste, tongue cleaning, rinses, xylitol). Education, motivation, antimicrobials, sugar substitutes, impact of biofilm.	1	W02, W09
TK03	Fluoride prophylaxis part 1. Cariostatic mechanisms of fluoride action in the pre-eruption and post-eruption periods. Influence of fluorine on demineralization and remineralization processes on bacterial cell metabolism. The role of fluoroapatite and calcium fluoride. Endogenous fluoride prophylaxis (fluoridation of water, salt, milk, fluoride tablets / drops) - indications, contraindications, dosage. Non-fluoride remineralization systems.	1	W02, W09
TK04	Fluoride prophylaxis part 2. Individual exogenous (professional and home) and group fluoride prophylaxis. Fluoride preparations used (fluorine compounds, concentrations, doses, method of use, indications and contraindications). Safety of using fluoride	1	W02, W09

	compounds (sources of fluoride, toxic doses, acute and chronic fluoride poisoning - symptoms and management).		
TK05	Caries risk assessment (causative factors of caries disease, prognostic factors, protective factors. CRA system, Cariogram). Causes of salivation disorders in children and adolescents. The amount and speed of salivation. Salivary tests. Treatment planning. Preventive and therapeutic plan for primary, mixed and permanent dentition. General principles of treatment for caries in children and adolescent.	1	W02, W03, W09
TK06	Caries of primary and permanent teeth - causes, diagnosis, diagnosis, course, types. Division of caries (due to course, advancement). Classification of caries according to Lasfenques, Kalek and Louis). Qualitative and quantitative methods of caries diagnosis. ECC (definition, causes, symptoms and characteristics). Caries infectivity windows. Features of deciduous teeth promoting tooth decay. Caries of immature permanent teeth (areas predisposed to caries, characteristics, factors favoring the formation. The consequences of untreated caries in children.	1	W02, W06, W07, W09
TK07	Minimally invasive and non-invasive caries treatment methods. Remineralization (definition, mechanism, preparations). Sealing (definition, types of furrows, indications, materials, rib technique). Infiltration. Impregnation (indications, contraindications, preparations, treatment technique, causes of failure)	1	W02, W06, W09
TK08	Invasive caries treatment methods. MID strategy. Materials recommended for filling cavities in children (types, advantages, disadvantages). Sandwich technique (types, materials, indications). Discussion (definition, advantages, disadvantages, materials). ITR (definition, indications, procedure). Steel crowns (indications, contraindications, stages of proceedings). PRR I, PRR II, fissure preparations, ART, CMCR, air abrasion (definition, indication, materials, treatment technique) Laser cavity preparation, sonic cavity preparation, ultrasonic (types, advantages, disadvantages)	2	W02, W06, W09
TK09	Child growth and psychomotor development. Physical development (BMI and percentile grids). Psychomotor development. Erikson's theory. Piaget's theory (sensory-motor period, preoperative period, concrete operation period, formal operations period)	1	W02, W09
TK10	A child in the dental office. Factors affecting the child's behavior. Factors causing stress in the dental office. Anxiety assessment methods. Child behavior in terms of development (Frankel scale). Communication in the dental office. First adaptation visit ("knee-knee", "hold and heal"). Behavioral methods (non-verbal communication method, say-show-do method, voice control method, positive reinforcement, distraction method, imitation-modeling method, pain signaling method, silencing-fading method, desensitization method for invasive treatment, negative aversive conditioning, selective parent exclusion, protective child stabilization method). Parental attitudes during child treatment.	1	W08
TK11	Pharmacological premedication. Indications. Contraindications in outpatient settings. Drugs used (midazolam, midazolam with ketamine, hydroxyzine) - effects, doses. Oral and topical analgesic treatment (drugs and effects). Sedation and anesthesia (features, complications). ASA scale. Inhalation sedation and general anesthesia - indications, complications. Pain therapy, local anesthesia.	1	W08

TK12	Diseases of periodontal tissues, gingiva and mucous membrane	1	W03, W04, W05
TK13	Abrasion, attrition, abfraction, erosion.	1	W01, W02, W08, W09
TK14	Oral cancers and neoplastic lesion in developmental age (amelomas, odontomas, amelomatous fibroma, myxoma, osteoma, juvenile fibromas, fibrous dysplasia, giant osteoma, giant cell tumor, cherubism, aneurysmal cyst, odontogenic carcinomas and sarcomas, neurofibroma, melanotic neuroectodermal tumor of infancy, granular cell tumor, angiomas, histiocytosis x	1	W04, W05
	<b>Practical classes:</b>		
TK01	Provides treatment procedures: examination of the child, assessment of hygiene indicators, oral hygiene teaching, fluoride prophylaxis, preventive and treatment plan, caries risk assessment, prophylactic fissure sealing. Treatment of caries and filling cavities. Shaping the child's dental attitude.	30	U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, K01, K02, K03, K04,
	<b>SUMMER SEMESTER</b>		
	<b>Lectures ( E-learning)</b>		
TK01	Tooth development - odontogenesis. Dates of formation and stages of formation of dental buds (tooth mold, donut, cap, bell). Construction of the tooth bud (enamel-forming organ, tooth wart, dental sac and their role). Amelogenesis (secretory, maturation and protective phases; enamel mineralization, prismatic enamel, neonatal line). Dentin formation (mineralization, Ebner's line, mold, primary and secondary dentin). Tooth pulp formation. Root development (Hertwig's sheath). Cement development (primary and secondary cement). Periodontal development.	1	
TK02	Eruption of milk and permanent teeth. Phases of teeth eruption and their characteristics. The order and dates for cutting out milk and permanent teeth. Teething symptoms (local and general). Resorption of dairy roots (linear, sinus; dates of resorption initiation, factors affecting resorption - local and general). Surviving milk tooth, "double teeth". Stages of root development according to Ketterla (characteristic). Eruption disorders (early and late eruption and their causes); Teeth groups according Szpringer-Nodzak; Tooth position disorders, tooth survived, re-inclusion, tooth retention. Dental age.	1	W01
TK03	Morphology and physiology of children's teeth. Characteristics of primary and immature primary teeth, morphological and histological differences. Occlusion - development and morphological and functional norms in individual development periods (infantile tooth, deciduous dentition, mixed dentition, permanent dentition).	1	W01
TK04	Developmental disorders of the number and anatomical structure of teeth. To reduce and increase the number of teeth (Agenesis and hyperdonia). Tooth size disorders (Microdontics, macrodontics, rhizomicria, rhizomegaly). Tooth shape disorders - characteristics and therapeutic management (double teeth, fused, confluent, twin, erupted tooth, cusp nodule, enamel pearls, embedded tooth, globodontia, cone, taurodontism, cynodontia).	1	W01, W04, W05
TK05	Acquired lesions of hard tissues of non-cariou tooth of Abrasion origin. Attrition (physiological, pathological). Demastication. Abfraction. Erosion (definition, etiology, clinical picture, BEWE index, factors modifying erosion, frequency of erosion, erosion and caries). TWI indicator according to Smith and Knight. Prevention of non-bacterial loss of dental tissue.	1	W02, W04, W05, W06, W09

TK06	The oral cavity in selected genetic syndromes - characteristic features, the most important symptoms regarding the facial part of the skull and mouth. Ectodermal dysplasia. Clavicular and cranial syndrome. Congenital bone fragility. Down syndrome. Pierre Robin Syndrome. Turner syndrome. Noonan syndrome. Achondroplasia. Silver-Russell Syndrome.	1	W04, W05
TK07	Oral diseases and general health. Systemic diseases, the risk of which is increased by inflammatory changes in the mouth. Potential impact of infectious lesions on general health: direct and indirect effects. Detection of infectious lesions in the mouth. Elimination of infectious lesions: methods, principles of antibiotic prophylaxis before endangered bacteremia.	1	W02, W03, W04, W05, W09
TK08	Pain patient and pharmacotherapy Viral diseases: primary herpetic stomatitis. Periodontal cyst. Complete dislocation. Recurrent aphas. Indications for the implementation of antibiotic therapy in a child in the case of odontogenic infection.	1	W02, W04, W05, W07, W09
TK09	Pediatric patient with systemic diseases. Part I. Oral image, dental implications, dental treatment procedures and planning: Cardiology: cardiovascular diseases, congenital heart disease, infective endocarditis. Oncology: Leukemia, lymphomas, cancer treatment, immunodeficiency, GvHD - graft versus host disease. Gastroenterology: GERD- gastroesophageal reflux disease, inflammatory bowel disease. Neurology: Epilepsy	1	W02, W03, W04, W05, W09
TK10	Pediatric patient with systemic diseases. Part II Oral image, dental implications, dental treatment procedures and planning: Endocrinology: diabetes, hyperthyroidism and hypothyroidism, hyperparathyroidism and hypoparathyroidism, hypothyroidism and hypopituitarism and adrenal glands. Hematology: Hemorrhagic diathesis, von Willebrand's disease, hemophilia. Nephrology: glomerulonephritis, acute and chronic renal failure, nephrotic syndrome. Respiratory system: bronchial asthma, cystic fibrosis.	1	W02, W03, W04, W05, W09
	<b>Practical classes:</b>		
TK01	Provides treatment procedures: examination of the child, assessment of hygiene indicators, oral hygiene teaching, fluoride prophylaxis, preventive and treatment plan, caries risk assessment, prophylactic fissure sealing. Treatment of caries and filling cavities. Shaping the child's dental attitude.	30	U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, K01, K02, K03, K04

**Booklist****Obligatory literature:**

1. Olczak-Kowalczyk D.: Compendium of Paediatric Dentistry; 2023
2. Cameron A.C., Widmer R.P.: Handbook of pediatric dentistry. Edinburgh: Mosby; 2012.

**Standards of procedures required to obtain credit:**

1	Patient examination with dental diagram and calculate DMFT/dmft	1 pkt.
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2	Oral hygiene indices:	OHI	2 pkt
		API	1 pkt
		PL.I	1pkt
3	Oral hygiene instruction with toothbrushing instruction		1 pkt
4	Caries preventive and treatment plan with caries risk assessment		2 pkt
5	Professional teeth cleaning		1 pkt
6	Topical fluoride application		2 pkt
7	Temporary filling		1 pkt.
8	Fissure sealants:	In the molars	2 pkt
		In the premolars	1 pkt
9	Permanent restorations:	PRR I	2 pkt.
		One-surface filling	2 pkt.
		Two-surface filling	3 pkt.
		Multi-surface filling	4 pkt.
		Deep caries treatment (Additional points are added to the final filling or in two-stage biological treatment when the final filling is postponed).	2 pkt.
For procedures from point 8 a minimum of 4 points should be obtained, and from point 9 - a minimum of 5 points.			
For procedures performed throughout the year, a minimum of 63 points must be earned, and for the winter semester, 20 points must be earned, including at least 2 points for procedures under item "8" and at least 2 points from item "9."			

Student's workload	
Form of student's activity (in-class participation; activeness, produce a report, etc.)	Student's workload [h]
	Tutor
Contact hours with the tutor	85
Time spent on preparation to seminars/ practical classes	60
Time spent on reading recommended literature	3
Time spent on writing report/making project	
Time spent on preparing to colloquium/ entry test	25
Time spent on preparing to exam	
Other .....	
Student's workload in total	173
<b>ECTS credits for the subject (in total)</b>	<b>6</b>
<b>Remarks</b>	

\* Selected examples of methods of assessment:

EP – written examination

EU – oral examination

ET – test examination

EPR – practical examination

K – colloquium

R – report  
S – practical skills assessment  
RZC – practical classes report, incl. discussion on results  
O – student's active participation and attitude assessment  
SL – lab report  
SP – case study  
PS - assessment of student's ability to work independently  
W – entry test  
PM – multimedial presentation  
other...