



# 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)	4 (semester V-2, semester VI-2)
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  <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>
Head of the Department/ Clinic, Unit	Dr n.med. Joanna Manowiec
Tutor responsible for the module	Dr n.med. Magdalena Gońda-Domin Dr n.med. Karolina Węsierska
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Language	English

\* replace ☐ into ☒ where applicable

**Detailed information**

<b>Module objectives</b>		
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.

<b>Description of the learning outcomes for the subject /module</b>			
<b>No. of learning outcome</b>	<b>Student, who has passed the (subject) knows /is able to /can:</b>	<b>SYMBOL (referring the standards)</b>	<b>Method of verification of learning outcomes*</b>
W01	Knows occlusion norms at various stages of individual development and deviations from norms	K_F.W01	K,S
W02	Knows the rules of prophylactic-therapeutic procedures in diseases of the stomatognathic system of patients in the developmental age	K_F.W03	K,S,W
W03	Knows the viral, bacterial and fungal flora of the oral cavity and its meaning	K_F.W04	K,S,W
W04	Knows the symptoms for certain diseases of oral cavity, head and neck with regard to the age groups.	K_F.W05	K,W
W05	Describes course and indicates treatment procedures for certain diseases of oral cavity, head and neck with regard to age groups.	K_F.W05	K,W
W06	Knows the principles of the treatment of diseases of the mineralized tissues in children and adolescents.	K_F.W07	K,S,W
W07	Knows causes and procedures for management in case of complications of stomatognathic system diseases.	K_F.W14	K
W08	Knows therapeutic methods of preventing and controlling pain, stress and anxiety.	K_F.W17	K,S,W
U01	Interviews patient in developmental age and his/her parents/ caregivers.	K_F.U01	S
U02	Carries out physical examination of patient in developmental age.	K_F.U02	S
U03	Provides patient with explanation about ailment and their nature.	K_F.U03	S

U04	Selects the method of treatment, presents it to the patient and his parents / caregivers, justifies the choice and obtains the informed consent of the parents' caregivers on the proposed method of treatment.	K_F.U03	S
U05	Informs the patient and his/her parents/ caregivers about the prognosis.	K_F.U03	S
U06	Provides bad information about the patient's health.	K_F.U04	S
U07	Interprets results of ancillary tests of patients in developmental age.	K_F.U06	S
U08	Finds indications to perform a certain dental procedure in patients in developmental age.	K_F.U07	S
U09	Prevents the oral cavity diseases of patients in developmental age.	K_F.U08	S
U010	Keeps patient records. Completes referrals for specialist dental and general medical treatment as well as for additional tests.	K_F.U013	S
U011	Selects and performs tests determining the number of cariogenic bacteria in the oral cavity.	K_F.U017	S
U012	Applies appropriate medicines during and after dental surgery to relieve pain and anxiety.	K_F.U019	S
K01	Accept the need for ethical standards.	K_K02	O
K02	Understands the sense of responsibility for entrusted property.	K_K07	O
K03	Shows the habit of self-education and lifelong education.	K_K01	O
K04	Shows respect to a patient and understands the specificity of working with the children.	K_K05	O
K05	Understands proper examiner– examined relationship	K_K08	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	K_F.W01	X	X					
W02	K_F.W03	X	x					
W03	K_F.W04	X	X					
W04	K_F.W05	X	X					
W05	K_F.W05	X	X					
W06	K_F.W07	X	X					
W07	K_F.W014	X	X					
W08	K_F.W017	X	X					
U01	K_F.U01				X			
U02	K_F.U02				X			
U03	K_F.U03				X			

U04	K_F.U03				X			
U05	K_F.U03				X			
U06	K_F.U04				X			
U07	K_F.U06				X			
U08	K_F.U07				X			
U09	K_F.U08				X			
U010	K_F.U13				X			
U011	K_F.U17				X			
U012	K_F.U19				X			
K01	K_K02				X			
K02	K_K07				X			
K03	K_K01				X			
K04	K_K05				X			
K05	K_K08				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.	1	W02
TK02	Caries prophylaxis (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).	1	W02
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.	1	W02
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 compounds (sources of fluoride, toxic doses, acute and chronic fluoride poisoning - symptoms and management).	1	W02

TK05	<p>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.</p>	1	W02, W03
TK06	<p>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.</p>	1	W02, W06, W07
TK07	<p>Methods of supporting remineralization: Carious stain (definition, histological and clinical picture, activity). Mechanism and conditions of remineralisation of carious lesions limited to enamel (limiting the influence of bacteria, raising the pH of the oral environment, necessary ions). Stimulation of salivation (chewing gum, nutrition, pharmacological stimulation, etc.). Methods and agents used in remineralization of carious spots - fluorine (agents containing low and high concentrations of F ions), calcium and phosphate ions (ACP, CPP-ACP, CPP-ACPF, CSPS, TCP, hydroxyapatite).</p>	1	W02, W06
TK08	<p>Minimally invasive caries treatment methods. Remineralization (definition, mechanism, preparations). Sealing (definition, types of furrows, indications, materials, rib technique). Infiltration, PRRI, PRRII, slit preparations, ART, CMCR, primary abrasion (definition, indications, materials, technique of surgery). Laser treatment of the defect, sonic treatment of the defect, ultrasonic (types, advantages, disadvantages).</p>	1	W02, W06
TK09	<p>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). Impregnation (indications, contraindications, preparations, procedure technique, reasons for failure). Povidone iodine (preparations, indications). ITR (definition, indications, procedure). Steel crowns (indications, contraindications, stages of proceedings).</p>	1	W02, W06

TK10	Nutrition and oral health: Diet and odontogenesis (the importance of proteins, vitamins and microelements). A pyramid of nutrition and a healthy lifestyle. Method and quality of nutrition. Caryogenic and caryostatic food products. Probiotics in the prevention of caries. Method of assessing the patient's diet. The most common dietary mistakes in particular age groups. Dietary recommendations depending on the child's age.	1	W02
TK11	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
TK12	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.	1	W08
TK13	The child's growth and psychomotor development. Physical development (BMI, percentile grids). Psychosocial development. Erikson's theory. Piaget's theory (sensory-motor period, preoperative period, concrete operations period, formal operations period).	1	
TK14	Infectious Diseases Viral: DNA (herpes simplex, chickenpox, shingles, Epstein-Barr virus, cytomegaly, papilloma), RNA (coxsackie A/B, rubella, measles, HIV) - characteristics, symptoms, treatment Bacterial (catarrhal inflammation - symptoms, treatment). Yeast infection (division of candidiasis, symptoms, treatment). Non-infectious diseases (drug-induced inflammation, cysts).	1	W03, W04, W05
TK15	The first visit of a child in the dental office.	1	W01, W02, W08
	<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, U11, U12 K01, K02, K03, K04, K05

	<b>SUMMER SEMESTER</b>		
	<b>Lectures:</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	W01
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).	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	W04, W05
TK05	Acquired lesions of hard tissues of non-carious tooth of Abrasion origin. Ink (physiological, pathological). Demastykacja. Abfrakcja. 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
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
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
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
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
	<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, U11, U12 K01, K02, K03, K04, K05

Booklist	
Obligatory literature:	
1.	Koch G., Poulsen S.: Pediatric dentistry – a clinical approach. Copenhagen: Blackwell Munksgaard; 2008.
2.	Cameron A.C., Widmer R.P.: Handbook of pediatric dentistry. Edinburgh: Mosby; 2012.
Supplementary literature:	
1.	Mathewson R.J., Primosch R.E.: Fundamentals of pediatric dentistry. Chicago: Quintessence Publishing Co; 1995.
2.	Scheller C.: Basic Guide to Dental Instruments. Chichester: Wiley-Blackwell, 2011.



<b>Student's workload</b>	
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 classess	45
Time spent on reading recommended literature	3
Time spent on writing report/making project	
Time spent on preparing to colloquium/ entry test	12
Time spent on preparing to exam	
Other .....	
Student's workload in total	145
<b>ECTS credits for the subject (in total)</b>	4
<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...