Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE (SUBJECT)
General Information

Module title: Orthodontics	
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 3, semester VI
ECTS credits (incl. semester breakdown)	3
Type/s of training	lectures (7h) / e-learning lectures (3h) / seminars (10h) / practical (40h)
Form of assessment*	☒graded assessment: ☒descriptive ☐test ☐practical ☐oral ☐non-graded assessment ☐final examination ☐descriptive ☐test ☐practical ☐oral
Head of the Department/ Clinic, Unit	Prof. dr hab. n.med. Krzysztof Woźniak
Tutor responsible for the module	Dr n.med. Magdalena Sycińska-Dziarnowska
Department's/ Clinic's/ Unit's website	Department of Maxillofacial Orthopaedics and Orthodontics PMU in SzczecinAl. Powst. Wlkp. 72, 70-111 Szczecin tel.: 91 4661702 e-mail: kizortod@pum.edu.pl https://www.pum.edu.pl/studia_iii_stopnia/informacje_z_jednostek/wmis/katedra_ortopedii_szczkowej_i_ortodoncji/zakad_ortodoncji/
Language	English

* replace ☐ into ☒ where applicable

Detailed information

Module objectives		The aim of the course is: to integrate the knowledge of the ontogenetic and phylogenetic development of the facial part of the skull in connection with the issues of orthodontics, learning to assess the proper development of the masticatory organ, the ability to assess the condition of the masticatory organ in terms of the occurrence of malocclusion, knowledge of the etiology of malocclusion, the ability to perform selected procedures in the field of prophylaxis and early orthodontic treatment, knowledge of malocclusion treatment techniques with the use of modern methods with the use of modern tools and equipment.
Prerequisite /essential requirements	Knowledge	*Knowledge, skills and competences at the graduation level of the second year of studies in the field of medicine and dentistry.*
	Skills	
	Competences	

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.	S, O
W02	knows and understands the principles of preventive and therapeutic management in the masticatory system diseases at various stages of development	F.W2.	S, O
W03	knows and understands principles of construction and operation of removable and fixed orthodontic appliances	F.W17.	S, O
U01	is able to interview patient or his/her family	F.U1.	S, O
U02	is able to carry out dental examination of patient	F.U2.	S, O
U03	is able to provide patient with explanation about nature of ailment, establish treatment confirmed by informed consent of the patient as well as establish prognosis	F.U3.	S, O
U04	is able to provide patient or his/her family with the information about unfavorable prognosis	F.U4.	S, O
U05	is able to interpret results of auxiliary diagnostics and consultations	F.U6.	S, O
U06	is able to determine indications and contraindications to a specified dental procedure	F.U7.	S, O
U07	is able to menage general and local complications during and after dental procedures	F.U9.	S, O
U08	is able to keep current patient records, refer patient to general and specialist dental and medical examination or treatment	F.U11.	S, O
U09	is able to formulate research problems in dentistry	F.U12.	S, O

U10	is able to present selected medical problems in oral or written form relevantly to recipient standards	F.U13.	S, O
U11	is able to establish treatment for stomatognathic system tissues diseases	F.U15.	S, O
U12	is able to diagnose, differentiate and classify malocclusion	F.U18.	S, O
U13	can help in the orthodontic appliance damage	F.U19.	S, O
U14	is able to execute simple orthodontic appliances	F.U20.	S, O
U15	is able to carry out treatment to prevent malocclusion during primary dentition and early dentition replacement phase	F.U21.	S, O
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.	S, O
K02	is ready to be guided by the patient wellbeing	K.2.	S, O
K03	is ready to notice and recognize own limitations, make self-assessment of educational deficits and needs	K.5.	S, O
K04	is ready to propagate health-promoting behavior	K.6.	S, 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		X		X	
W02	F.W2.	X	X		X		X	
W03	F.W17.	X	X		X		X	
U01	F.U1.				X			
U02	F.U2.				X			
U03	F.U3.				X			
U04	F.U4.				X			
U05	F.U6.		X		X			
U06	F.U7.		X		X			
U07	F.U9.		X		X			
U08	F.U11.				X			
U09	F.U12.		X		X			
U10	F.U13.		X		X			
U11	F.U15.	X	X		X		X	
U12	F.U18.	X	X		X		X	
U13	F.U19.				X			
U14	F.U20.				X			
U15	F.U21.				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	**Teaching programme**	**No. of hours**	**References to learning outcomes**
Summer semester			
	Lectures		
TK01	Impressions and models. Impression materials and trays. Types of gypsum and orthodontic models. Articulators. Determining the occlusal plane. The etiology of malocclusion. General and local factors (dysfunctions, parafunctions, consequences of caries disease and injuries). Clinical examination of the patient. Analysis of facial features. Functional examination of the masticatory apparatus. Functional tests. Analysis of diagnostic models. Metric arc shape analysis. Arch symmetry analysis. Mutual analysis of models. Measuring instruments used for model analysis. Gauges and measuring instruments. Diagnosis of malocclusion. Sagittal, vertical and transversal malocclusions. Dental abnormalities. Radiological research. Analysis of pantomograms. Assessment of bone age and dental age. Cephalometry. Principles of taking cephalometric images. Points and reference lines. Angles and Segments. Selected cephalometric analyzes. Prophylaxis of malocclusion. Simple prophylactic appliances. Treatment of malocclusion - structure, principle of operation of removable and fixed orthodontic appliances.	7	W01, W02, W03, U11, U12
	Seminars		
TK01	Impressions and models - execution, features of the correct impression and model. Impression materials and trays. Types of gypsum and orthodontic models. Principles of trimming plinths. Articulators - types of articulators, determining the occlusal plane, embedding models in the articulator. Set-up. The etiology of malocclusion. General and local factors (dysfunctions, parafunctions, consequences of caries disease and injuries). Clinical examination of the patient. Family and personal interview. Extraoral examination (face and profile analysis, points, planes, biometric field). Intraoral examination. Functional examination of the masticatory apparatus. Functional tests. Analysis of diagnostic models. Metric arc shape analysis. Arch symmetry analysis. Mutual analysis of models (Angle classes, canine classes, overbite, overjet, disturbances in relation to spatial planes). Measuring instruments used for model analysis. Indicators (Moyers, Droschl, Tonn, Pont, Bolton, Littl, Izard, Masztalerz, segmental analysis of permanent dentition according to Lundström). Measuring instruments. Diagnosis of malocclusion. Sagittal,	10	W01, W02, W03, U05, U06, U07, U09, U10, U11, U12

	vertical and transversal malocclusions. Dental abnormalities. Radiological research. Analysis of pantomograms. Assessment of bone age (based on the analysis of radiographic images of the hand and wrist as well as telerentgenograms) and dental age (clinical and radiological methods). Cephalometric analysis according to Segner and Hasund. Points and reference lines. Angles and Segments. Face type classification. Assessment of sagittal and vertical harmony. Prophylaxis of malocclusion. Simple prophylactic appliances. Treatment of malocclusion - structure, principle of operation of removable and fixed orthodontic appliances.		
Practical classes			
TK01	Practical application of the acquired theoretical knowledge during clinical exercises in patients.	40	W01, W02, W03, U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, U11, U12, U13, U14, U15, K01, K02, K03, K04
Simulation			
E-learning			
TK01	Stages of bite development in deciduous and permanent dentition. Principles of orthodontic prophylaxis in various stages of a child's development. Malocclusion - classification, etiology, diagnosis, differentiation. Prophylaxis of malocclusion. Simple prophylactic appliances. Treatment of malocclusion - structure, principle of operation of removable and fixed orthodontic appliances.	3	W01, W02, W03, U11, U12

Booklist
Obligatory literature:
1. M.T. Cobourne, A.T. DiBiase: Handbook of Orthodontics. Elsevier 2015
2. Moyers, Robert E. Tytuł Handbook of orthodontics for the student and general practitioner. 3 ed. Chicago; London: Yearbook Medical Publ., 1973
Supplementary literature:
1. Jeffrey P. Okeson: Managment of Temporomandibular Disorders and Occlusion, June 2007, ISBN: 0323046142
2. Mitchell Laura: An introduction of ortodontics. 2007

Normy procedur wymagane do zaliczenia roku:		
1.	Clinical examination of the patient. Analysis of facial features.	2 procedures
2.	Taking an impression.	2 procedures
3.	Preparation and development of a diagnostic model.	2 procedures
4.	Analysis of diagnostic models.	4 procedures

5.	Analysis of the pantomographic image.	2 procedures
6.	Cephalometric analysis of the lateral distance photo of the head.	1 procedure
7.	Assessment of dental age on the basis of X-rays and diagnostic models.	1 procedure
8.	Assessment of bone age on the basis of X-rays.	1 procedure
9.	Preparation of an orthodontic preventive and therapeutic plan.	1 procedure
10.	Conducting treatment to prevent malocclusion in the period of primary dentition and early replacement of the dentition.	1 procedure
11.	Treatment with a simple orthodontic appliance.	1 procedure
12.	Provision of first aid in the event of damage to the orthodontic appliance.	1 procedure

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	60
Time spent on preparation to seminars/ practical classess	10
Time spent on reading recommended literature	10
Time spent on writing report/making project	
Time spent on preparing to colloqium/ entry test	
Time spent on preparing to exam	10
Other …..	
Student's workload in total	90
ECTS credits for the subject (in total)	3
Remarks	

* Selected examples of methods of assessment:
EP – written examination
EU – oral examination
ET – test examination
EPR – practical examination
K – colloqium
R – report
S – practical skills assessment
RZĆ – 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…