



# 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 4, semester (VII,VIII)
ECTS credits (incl. semester breakdown)	4
Type/s of training	Lectures (8h)/ Seminars (5h) / practical (55h)
Form of assessment*	<input checked="" type="checkbox"/> graded assessment: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> descriptive</li> <li><input type="checkbox"/> test</li> <li><input 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	Prof. dr hab. n.med. Krzysztof Woźniak
Tutor responsible for the module	lek.dent. Jacek Świtała
Department's/ Clinic's/ Unit's website	Department of Orthodontics al. Powst. Wlkp. 72, 70-111 Szczecin tel.: 91 4661702 e-mail: kizortod@pum.edu.pl <a href="https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/zaklad-ortodoncji">https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/zaklad-ortodoncji</a>
Language	English

\* replace ☐ into ☒ where applicable

## Detailed information

<b>Module objectives</b>		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	<i>Knowledge, skills and competences at the level of completion of the third year of studies in the field of medicine and dentistry.</i>
	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 occlusion norms in different phases of ontogenesis and deviations from norms	K_F.W01	S, O
W02	knows and understands mechanism leading to organ and systemic pathology (incl. of infection, auto-immunological diseases and ones caused by immune deficit, metabolic and genetic diseases)	K_F.W02	S, O
W03	knows rules of prophylactic-therapeutic procedures in diseases of stomatognathic system in different phases of development	K_F.W03	S, O
W04	knows principles of construction and operation of fixed and removable orthodontic appliances	K_F.W20	S, O
U01	interviews patient or his/her family	K_F.U01	S, O
U02	carries out physical examination of patient	K_F.U02	S, O
U03	provides patient with explanation about nature of ailment, prescribes treatment confirmed by patient's free consent and prognosis	K_F.U03	S, O
U04	provides patient or his/her relatives with bad news about health state	K_F.U04	S, O
U05	interprets results of ancillary tests	K_F.U06	S, O
U06	finds indications as to performance of certain dental procedure	K_F.U07	S, O
U07	knows prophylaxis of oral cavity diseases	K_F.U08	S, O

U08	knows procedures applicable to diseases of stomatognathic system tissues, tooth and jaw bones	K_F.U09	S, O
U09	knows procedures applicable to cases of general and local complications during and after dental treatment	K_F.U11	S, O
U10	keeps day-to-day patient's records, refers patient to general and special dental and medical examination or treatment	K_F.U13	S, O
U11	identifies research issues connected with his/her work	K_F.U14	S, O
U12	presents selected medical issues in written or oral form relevantly to recipient standards	K_F.U15	S, O
U13	establishes treatment in diseases of stomatognathic system tissues	K_F.U18	S, O
U14	diagnoses, differentiates and classifies malocclusion	K_F.U21	S, O
U15	provides first aid in case of orthodontic appliance damage	K_F.U22	S, O
U16	executes simple orthodontic appliances	K_F.U23	S, O
U17	performs occlusion defect prevention procedure during period of deciduous dentition and early replacement of dentition	K_F.U24	S, O
K01	shows habit of self-education and lifelong education	K_K01	S, O
K02	accepts need of standards of conduct and legislation regarding medical practice	K_K02	S, O
K03	can co-operate with team members and care about occupational safety	K_K03	S, O
K04	understands sense of responsibility for entrusted property	K_K07	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	K_F.W01	X	X		X			
W02	K_F.W02	X	X		X			
W03	K_F.W03	X	X		X			
W04	K_F.W20	X	X		X			
U01	K_F.U01				X			
U02	K_F.U02				X			
U03	K_F.U03				X			

U04	K_F.U04				X			
U05	K_F.U06		X		X			
U06	K_F.U07		X		X			
U07	K_F.U08		X		X			
U08	K_F.U09		X		X			
U09	K_F.U11		X		X			
U10	K_F.U13				X			
U11	K_F.U14		X		X			
U12	K_F.U15		X		X			
U13	K_F.U18		X		X			
U14	K_F.U21		X		X			
U15	K_F.U22				X			
U16	K_F.U23				X			
U17	K_F.U24				X			
K01	K_K01	X	X		X			
K02	K_K02		X		X			
K03	K_K03		X		X			
K04	K_K07		X		X			

Table presenting TEACHING PROGRAMME

No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
<b>Winter and Summer semester</b>			
<b>Lectures</b>			
TK01	Prophylaxis of malocclusion. Preventive devices - principle of operation, types, construction. Movable mechanical appliances - principle of operation, construction (retention elements, elements that are a source of force, additional elements), execution. Types of orthodontic screws. Removable, functional, inflexible appliances - principle of operation, construction bite, structure, application. Flexible movable functional appliances - principle of operation, construction bite, structure, application. Double plates for mandible protrusion. Fixed functional appliances. Biomechanics and physiology of tooth movement in orthodontic treatment. Fixed, thick-arc devices - principle of operation, types, structure, application. Devices for opening the palatal suture. Fixed thin-arc appliances - principle of operation, structure, application. Materials used (feet, orthodontic arches). 1-, 2-, and 3-row folds. Phases of treatment with a fixed arch apparatus. Retention in orthodontics. Retention devices. Selection of devices in various clinical situations. Other appliances: headgear-extraoral extractor, Delaire mask. Microimplants. Interdisciplinary cooperation. Cooperation of an orthodontist with a maxillofacial surgeon, dental surgeon, prosthetist, periodontist, ENT specialist and speech therapist. Distractive osteogenesis.	8	W01, W02, W03, W04, K01
<b>Seminars</b>			
TK01	Planes, reference points, biometric field, facial features, Schwarz profile subtypes, face height and width measurements, extraoral examination. Various profile diagrams for determining: facial features in the biometric field, profile types according to Schwarz, Ricketts aesthetic line, face width and height, cross measurements using anthropometric calipers. Photography in orthodontics, application, projection, use of Schwarz mirrors. Model analysis (determination of Angle and canine classes on models, overbite and overjet measurements, disturbances in relation to spatial planes), measurement tools. Measurements of orthodontic indicators on models and interpretation of results.	5	W01, W02, W03, W04, U05, U06, U07, U08, U09, U11, U12, U13, U14, K01, K02, K03, K04

	Diagnosis of malocclusion - recognition on models, profile diagrams. Pantomograms - analysis. Teeth eruption tables according to Noll. Dental age (Matiega and Lukasowa, Demirjana), determination of age on models and X-rays. Bone age (according to Sikorska, Björk, method of bone age determination on the basis of CVM cervical vertebrae), determination of bone age using the above methods on X-rays. Cephalometry according to Segner and Hasund. Points and reference lines. Angles and Segments. Interpretation of telereöntgenograms according to Segner and Hasund's method. Application (selection) of removable appliances in selected clinical situations.		
<b>Practical classes</b>			
TK01	Practical application of the acquired knowledge theory during clinical exercises in patients.	55	W01, W02, W03, W04, U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, U11, U12, U13, U14, U15, U16, U17, K01, K02, K03, K04

**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: Management of Temporomandibular Disorders and Occlusion, June 2007, ISBN: 0323046142

2. Mitchell Laura: An introduction of orthodontics. 2007

**Standards of procedures required to complete the year:**

1.	Clinical examination of the patient. Analysis of facial features.	5 procedures
2.	Taking an impression.	6 procedures
3.	Preparation and development of a diagnostic model.	2 procedures
4.	Analysis of diagnostic models.	6 procedures
5.	Analysis of the pantomographic image.	6 procedures
6.	Cephalometric analysis of the lateral distance photo of the head.	4 procedures
7.	Assessment of dental age on the basis of X-rays and diagnostic models.	4 procedures
8.	Assessment of bone age on the basis of X-rays.	4 procedures
9.	Preparation of an orthodontic preventive and therapeutic plan.	4 procedures
10.	Conducting treatment to prevent malocclusion in the period of primary dentition and early replacement of the dentition.	4 procedures
11.	Treatment with a simple orthodontic appliance.	3 procedures
12.	Provision of first aid in the event of damage to the orthodontic appliance.	2 procedures

<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	68
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 colloquium/ entry test	
Time spent on preparing to exam	40
Other .....	
Student's workload in total	88
<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...