



# Pomorski Uniwersytet Medyczny w Szczecinie

## SYLLABUS of the MODULE (SUBJECT) General information

Module title: GENERAL AND DENTAL RADIOLOGY	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Medical and Dentistry
Specialty	-
Level of study	long-cycle
Mode of study	full-time/part-time
Year of studies, semester	Year 3 / semester V and VI
ECTS credits (incl. semester breakdown)	(2+3)
Type/s of training (Number of hours)	Lectures (14h) Seminars (36h) Practical classes (24h)
Form of assessment <sup>1</sup>	graded assessment <input checked="" type="checkbox"/> descriptive <input type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral  <input type="checkbox"/> non-graded assessment  <input type="checkbox"/> final examination: <input type="checkbox"/> descriptive <input type="checkbox"/> test <input type="checkbox"/> practical <input type="checkbox"/> oral
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Tutor responsible for the module	dr n.med. Magdalena Sroczyk - Jaszczyńska
Name and contact data of the unit	Chair and Department of General, Dental and Procedural Radiology Al. Powstańców Wielkopolskich 72/18,70-111 Szczecin
Department's/Clinic's/Unit's website	www.pum.edu.pl
Language	Polish/English

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<sup>1</sup> where applicable, replace ☐ into ☒

### Detailed information

Module objectives		<p>The fundamental objective of teaching the general and dental radiology is to integrate knowledge of the use of different types of radiation and examination techniques in conjunction with clinical issues in dentistry and medicine.</p> <p>The principles of radiological protection of both the patient and medical staff are extremely important; students must demonstrate knowledge of these principles and the applicable regulations in this area.</p> <p>The presentation of carious, inflammatory lesions of the apical and marginal periodontium, osteomyelitis of the jaws, nasal sinuses on intraoral and pantomographic X-rays and CBCT images using various examination techniques is of great importance in everyday dental practice. Diagnostics of temporomandibular joint diseases, craniofacial tumours or injuries based on conventional X-ray techniques, ultrasonography, computed tomography and magnetic resonance imaging should define the possibilities and limitations of individual examination methods and their diagnostic effectiveness in various types of pathology.</p> <p>Diagnosis of diseases of the thoracic, abdominal, skeletal and vascular system on the basis of conventional X-ray techniques, ultrasonography, computed tomography, surgical radiology and magnetic resonance imaging should outline the possibilities and limitations of individual examination methods and their diagnostic efficacy in various types of pathology</p>
Prerequisite /essential requirements	Knowledge	has knowledge of the use of different types of radiation and examination techniques in relation to clinical issues in dentistry and medicine.
	Skills	interprets anatomical relations illustrated by basic methods of diagnostic examination in radiology (review and contrast agent radiographs); observe the rules of radiological protection
	Competences	Ability to contact the patient, self-education, work in a team

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 to) Learning outcomes for the major	Method of verification of learning outcomes*
W01	explains development of organs and entire body with particular regard to masticatory system	K_A.W02	S

W02	knows and understands imaging techniques of tissues and organs, as well as operating principles of appropriate diagnostic equipment	K_B.W09	S
W03	knows rules of radiological diagnostics	K_F.W21	S
U01	interprets anatomic relationships supported by diagnostic examination methods in field of radiology (inspection x-ray and contrast-based images)	K_A.U03	K
U02	identifies correct and pathological structures and organs in additional imaging examination (X-ray, USG, computer tomography)	K_E.U05	K
K01	can co-operate with team members and care about occupational safety	K_K03	RZĆ
K02	shows respect to patient, social groups and cares for their goodwill and security	K_K05	RZĆ

**Table presenting LEARNING OUTCOMES in relation to the form of classes**

No. of learning outcome	Learning outcomes	Type of training						
		Lecture	Seminar	Practical classes	Clinical classes	Simulations	E-learning	Other forms
W01	K_A.W02	X	X					
W02	K_B.W09	X	X	X				
W03	K_F.W21	X		X				
U01	K_A.U03	X	K					
U02	K_E.U05		X					
K01	K_K03			X				
K02	K_K05	X		X				

Table presenting TEACHING PROGRAMME			
No. of a teaching programme	Teaching programme	Number of hours	References to learning outcomes
<b>Winter semester</b>			
<b>Lectures (14h)</b>			
TK01	Key issues in radiological protection	1	K_B.W09
TK02	Interpretation of X-ray images	1	K_A.U03
TK03	Techniques of intraoral radiographs and their application	1	K_B.W09
TK04	Diagnosis of periapical lesions	1	K_A.W02
TK05	X-ray diagnostics of periodontal diseases	1	K_B.W09
TK06	Odontogenic outbrakes and systemic diseases	1	K_A.U05
TK07	Glosses and shadows of dental radiology	1	K_F.W21
TK8	CBCT in dentistry	1	K_B.W09
TK9	Errors in the technique of dental X-ray imaging	1	K_F.W21
TK10	PET in medicine and dentistry	1	K_B.W09
TK11	Usefulness of X-ray examinations in dental prosthetics	1	K_B.W09
TK12	Tele-X-ray images (cephalometry) in dentistry	1	K_A.W02 K_B.W09
TK13	Ultrasound, CT and MR imaging in dentistry	1	K_B.W09
TK14	Screening tests and their importance in prevention	1	K_B.W09 K_K05
<b>Seminars (15h)</b>			
TK01	Properties of X-rays and their use in medicine and dentistry	2	K_K05
TK02	Protection against ionising radiation. Equipment of x-ray practices in the light of legislation. Prophylactic examinations and medical indications.	2	K_K05 K_K03
TK03	Ways of describing and archiving X-ray examinations.	2	K_F.W21
TK04	Intraoral and extraoral X-ray apparatus - construction, diagnostic usefulness. Ways of describing and archiving X-ray examinations.	3	K_K03
TK05	Basics of interpretation of bone changes on radiographs (osteolysis, osteosclerosis)	2	K_A.U03 K_E.U05
TK06	Intraoral techniques - Cieszynski, right angle,	2	K_B.W09
TK07	Intraoral techniques - bitewing, occlusal	2	K_B.W09
TK08	Caries in X-ray images.	2	K_E.U05
<b>Practical classes (12h)</b>			
TK01	Patient positioning for intraoral and extraoral radiographs (pantomography)	2	K_F.W21 K_K03 K_K03
TK02	Patient positioning for bitewing and occlusal radiographs	2	K_F.W21 K_K03 K_K03
TK03	Introduction to endodontic radiology	2	K_B.W09
TK04	Anatomy of teeth in children and adults on X-ray	2	K_A.U03

	images.		
TK05	Assessment of pathology on pantomograms.	2	K_E.U05
TK06	X-ray anatomy on pantomograms and cranial radiographs	2	K_A.U03
<b>Summer semester</b>			
<b>Seminars (21h)</b>			
TK01	X-ray diagnostics of periapical periodontal diseases. Differential diagnosis of chronic inflammation of periapical tissues.	2	K_E.U05 K_A.U03
TK02	Endodontic treatment and its complications in x-ray images, prognosis in complications and possibilities of their radiological imaging.	2	K_A.U03 K_E.U05
TK03	X-ray diagnostics in pediatric dentistry. Anatomy of deciduous teeth, newly erupted permanent teeth in x-ray imaging. Physiological resorption. Mixed dentition Dental age	2	K_A.W02 K_A.U03
TK04	X-ray diagnostics in periodontology. Marginal periodontitis in x-ray imaging. X-ray techniques used in marginal periodontitis	2	K_A.U03 K_E.U05
TK05	Selected issues in thoracic diagnostics including radiological anatomy. Pulmonary diseases, heart defects, circulatory insufficiency, coronary artery disease - methods of examination, x-ray images in various diagnostic methods	2	K_B.W09 K_E.U05
TK06	Imaging diagnostics of abdominal cavity diseases - diagnostic effectiveness of imaging methods. Symptoms of "acute abdomen", trauma and inflammatory bowel disease.	2	K_B.W09 K_E.U05
TK07	Diagnostics of bone system diseases - fractures, inflammations, tumours	2	K_B.W09 K_E.U05
TK08	Selected issues in image diagnostics of the urinary system	2	K_B.W09 K_E.U05
TK09	Surgical radiology, diagnostics of the vascular system including usefulness in dentistry	2	K_B.W09
TK10	CBCT tomography and CT with the "dental" option in dentistry. Comparison of techniques. Advantages and disadvantages of both techniques	3	K_B.W09
<b>Practical classes (12h)</b>			
TK02	Recall of how to perform extraoral, intraoral radiographs and the most common mistakes.	3	K_B.W09 K_K03 K_F.W21
TK03	Diagnostics of craniofacial bone and sinusitis in x-ray images	3	K_B.W09 K_K05
TK04	Diagnostics of bone system diseases - fractures, inflammations, tumours	3	K_B.W09
TK05	Surgical radiology, diagnostics of the vascular system including usefulness in dentistry	3	K_B.W09 K_K05

### Booklist:

Obligatory literature:

1. Różyło-Kalinowska I, Różyło TK „Współczesna radiologia stomatologiczna” wyd. Czelej

2. Różyło-Kalinowska I, Różyło TK „Tomografia wolumetryczna w praktyce stomatologicznej” wyd. Czelej
3. Langlais RP „Radiologia stomatologiczna. Interpretacja badań” wyd. Elsevier
Supplementary literature:
1. Pasler FA „Radiologia stomatologiczna” wyd. Elsevier Edra

<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	74
Time spent on preparation to practical classes	
Time spent on reading recommended literature	10
Time spent on writing report/making project	
Time spent on preparing to colloquium/ entry test	10
Time spent on preparing to exam	
Other .....	
Student's workload in total	94
ECTS credits	5

<b>Notes</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...