MODULE / SYLLABUS
EDUCATION CYCLE 2022-2025

Module/subject name:	**RADIOLOGY**	
Direction:	**NURSING**	
Level of study*:	**I degree (bachelor's)** II degree (master's degree)	
Profile of education:	**practical**	
Type of studies*:	**stationary** / non-stationary	
Type of classes*:	obligatory **X** supplementary □ to choose from □	
Year and semester of studies*:	Year of study*: I **X** II □ III□	Semester*: 1 □ **2X** 3□ 4□ 5 □ 6□
Number of ECTS credits assigned	**1,5**	
Language of instruction:	**English**	
Name of the PSW Department:	**Faculty of Health Sciences**	
Contact (tel./email):	**Tel.** 55,279 17,68 **e-mail:** dziekanat@psw.kwidzyn.edu.pl	
Type of module/subject relating to apprenticeships*:	• basic sciences **X** • social sciences and humanities □ • science in the basics of nursing care □ • specialist care □	
Person responsible for the module/subject:	according to the studies plan	
Presenter(s):	according to the studies plan	

Forms of student workload	**Student charge (number of teaching hours)**
Contact hours with an academic teacher (according to the study plan)	
Lectures (W)	**15**
Seminar (S)	
E-learning (e-L)	
Conversatories	
Exercises (C)	**12**
Practical classes (ZP)	
BUNA - independent student work* (*according to the study plan)	**11**
Student's workload related to work placements (***according to the study plan)***	
Total student workload – total number	**38**
Number of ECTS credits per subject/module	**1.5, including 0 BUNA**

Didactic methods	• giving (lecture, talk), • programmatic (using audiovisual tools, boards), • activating (case method, situational method, • staging method, didactic discussion, project method), • analysis of clinical cases.
Assumptions and aim of the subject	Preparing the student for radiology issues.
Teaching tools	Board and multimedia projector, boards.
Prerequisites:	Basic knowledge of anatomy and physiology, based on high school.

Matrix of learning outcomes for the module / subject in relation to the methods of verifying the achievement of the intended learning outcomes and the form of implementation of didactic classes

Symbol learning outcome	Student who passes the module (subject) will know/understand/be able to:	Methods for verifying the achievement of the intended learning outcomes	Form of implementation of didactic classes * enter the symbol

A.W26.	Presents imaging methods and the principles of carrying out imaging with these methods and the principles of radiological protection.	*Written and/or oral colloquium, draft or oral reply*	W/Ć/BUNA
A.U11.	Applies the principles of radiological protection.	*Written and/or oral colloquium, draft or oral reply*	W/Ć/BUNA
O.K4.	Takes responsibility for their professional activities;	*Written and/or oral colloquium, draft or oral reply*	Ć/BUNA
O.K7.	Recognises and acknowledges own limitations in knowledge, skills and social competences and makes self-assessments of deficits and learning needs.	*Observation, self-assessment*	W/Ć/BUNA

*****W-lecture; S-seminar; EL- e-learning; K -conversations; Ć-exercises; ZP-practical classes; PZ-professional internships; BUNA-independent student work

EXAMPLES OF METHODS FOR THE VERIFICATION OF LEARNING OUTCOMES

in the field of knowledge (lectures/seminars): oral exam (*non-standardized, standardized, traditional, problem*); written exam – the student generates / recognizes the answer (*essay, report; short structured questions /SSQ/; multiple-choice test /MCQ/; multiple-answer test /MRQ/; match test; T/N test; answer completion test*),

in terms of skills (exercises/seminars): Practical examination; Objective Structured Clinical Examination (OSCE); Mini-CEX (mini – clinical examination); Implementation of the commissioned task; Design, presentation

in the field of social competences: reflective essay; prolonged observation by the tutor / teacher of the teacher; 360° assessment (opinions of teachers, colleagues, patients, other colleagues); Self-assessment (including portfolio)

BUNA – the student's own work is verified by assessing the degree of implementation of the assumed learning outcomes: a test checking the student's knowledge of the subject specified in the syllabus, but also through final papers, projects, presentations and any other mid-term work.

TABLE OF PROGRAMME CONTENTS

Program content	**Number of hours**	**Reference of learning** outcomes **to CLASSES**
LECTURES, semester II		
1. Physical fundamentals of roentgenology. Technical fundamentals of roentgenodiagnostics. Shadowing agents. Use of radioactive isotopes. Ultrasonography (USG).	3	A.W26. O.K7.
2. Computed tomography and PET - indications, rules of examination. Magnetic resonance imaging - a technique of examination, indications. Mammography - examination technique, indications.	4	A.W26. O.K7.
3. Protection from ionising radiation, occupational exposure, protection of the patient from overexposure. Contraindications and limitations of X-ray diagnostic indications. Preparation of the patient for individual diagnostic radiological examinations. Complications after various types of radiological examinations. Principles of treatment of malignant tumours with radiotherapy (radical, palliative, symptomatic treatment).	6	A.W26. U11. O.K7.
4. Radiosensitivity of tissues. Indications for radiation therapy. Detailed therapy of tumors of various organs and parts of the body.	2	A.W26. O.K7.
EXERCISES, semester II		
1. The use of ionizing radiation in medicine.	3	A.W26. U11. O.K4. O.K7.
2. Diagnostic imaging of indications and preparation of the patient for examination.	3	A.W26. U11. O.K4. O.K7.
3. Radiation therapy indicates radiation reactions, complications, care for the sick, radiation protection.	3	A.W26. U11. O.K4. O.K7.
4. Systemic treatment in oncology, dangers, preparation of the patient, care during and after treatment.	3	A.W26. U11. O.K4. O.K7.
BUNA - independent student work, semester II		
1. Care for a patient treated with radiation therapy.	4	A.W26. U11. O.K4.

2. Complications after radiotherapy.	4	A.W26. O.K7.
3. Documentation of the radiotherapy department.	3	A.W26. O.K7.

LIST OF LITERATURE

Basic literature:

1. Herring W., *Learning Radiology: Recognizing the Basics*, Elsevier - Health Sciences Division, cop. 2023.

Supplementary literature:

1. Rajat Jain, Virendra Jain, *Review of Radiology*, JP Medical Publishers, cop. 2021.

Forms of assessment and basic assessment criteria/examination requirements

Method of credit

- Passing with grade – lecture
- Passing with grade – exercises
- Passing without a grade – BUNA

Forms and criteria for passing

Lecture:

The basis for obtaining credit is:

- 100% attendance; confirmed by an entry on the attendance register,
- possible 10% absence compensated in a way individually established with the lecturer,
- active participation in lectures (joining the discussion initiated by the lecturer, showing interest in the issues discussed during the lecture),
- BUNA pass

Written colloquium:

- takes the form of a written test, a multiple-choice test /MCQ/ with one correct answer (each correct answer is 1 point, no answer or incorrect answer 0 points, a minimum of 60% of correct answers qualify for a positive assessment.

Test evaluation criteria

Assessment	Very good (5.0)	Good plus (4.5)	Good (4.0)	Sufficient plus (3.5)	Sufficient (3.0)	Insufficient (2.0)
% of correct answers	93-100%	85-92%	77-84%	69-76%	60-68%	59% and less

Exercises / Seminars

The basis for obtaining a credit is:

- attendance 100%; confirmed by an entry on the attendance list,
- active participation in classes (joining the discussion initiated by the lecturer, showing interest in the issues discussed during the classes)
- a correct, positively evaluated oral answer to 3 questions from the scope of the content related to the learning outcomes in the field of knowledge and skills, asked to the student during the exercises,

Evaluation criteria – oral answer

Assessment	**Criterion**
Very good	Correct, full, independent answer to 3 questions asked to the student by the lecturer
Endorsement	Correct, requiring little orientation by the teacher, answer to the 3 questions asked to the student
Sufficient	Correct, incomplete, requiring significant orientation by the teacher answer to the 3 questions asked to the student
Insufficient	No answer or incorrect answer to each of the 3 questions asked to the student

Project

BUNA evaluation criteria – independent student work

Evaluation criteria	**Assessment: zal/nzal**
Compliance of the content of the work with the subject of education	
Substantive assessment of work	
Evaluation of the selection and use of sources	

Assessment of the formal side of the work (footnotes, language)		
		(recommendations for work)
	(rating)	*(signature)*

* if any of the criteria are not met, the work should be corrected according to the lecturer's recommendations

FINAL GRADE IN THE SUBJECT:

— arithmetic mean of grades from the colloquium of lectures and exercises

The final grade is recalculated according to the following criteria:
3.0 -3.24 – sufficient (3.0)
3.25 -3.74 – sufficient (3.5)
3.75 -4.24 – good (4.0)
4.25-4.74 – good plus (4.5)
4.75 -5.0 – very good (5.0)

Conditions for making up classes missed for excused reasons:
Making up for abandoned classes is possible only in the case of a student's illness documented by sick leave or Making up missed classes is possible only in the case of a student's illness documented by a medical exemption or other fortuitous reasons. Excusing classes and passing the material covered during the period of absence is done by the lecturer conducting the classes. Both a student returning from dean's leave and a student repeating a year are obliged to attend all classes and to take examinations. Only if a grade of at least "pass" (3.0) is obtained in an examination in a given year may a student repeating a year because of another subject be exempted from the obligation to attend classes and to pass the subject.

Acceptance: Vice-Chancellor for Science and Educational Quality