

## DESCRIPTION OF THE COURSE OF STUDY

<b>Course code</b>	<b>12.6-3LEK-F-DOWSN</b>	
<b>Name of the course in</b>	Polish	<b>DIAGNOSTYKA OBRAZOWA W STANACH NAGLYCH</b>
	English	<b>EMERGENCY DIAGNOSTIC IMAGING</b>

### 1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

<b>1.1. Field of study</b>	medicine
<b>1.2. Mode of study</b>	full-time
<b>1.3. Level of study</b>	uniform Master's study
<b>1.4. Profile of study*</b>	practical
<b>1.5. Specialization*</b>	lack
<b>1.6. Unit running the course of study</b>	Faculty of Medicine and Health Sciences UJK
<b>1.7. Person/s preparing the course description</b>	dr n. med. Michał Spałek
<b>1.8. Person responsible for the course of study</b>	dr n. med. Michał Spałek
<b>1.9. Contact</b>	michal_spa@op.pl

### 2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

<b>2.1. Affiliation with the module</b>	facultative
<b>2.2. Language of instruction</b>	English
<b>2.3. Semesters in which the course of study is offered</b>	6-9 semesters of study
<b>2.4. Prerequisites*</b>	knowledge in the area of anatomy, biophysics and radiology

### 3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

<b>3.1. Form of classes</b>	Lecture: 15, classes: 20	
<b>3.2. Place of classes</b>	Lectures - in didactic rooms of the UJK Classes - didactic rooms of the UJK and the Kielce Region Cancer Centre	
<b>3.3. Form of assessment</b>	Lectures: credit with grade C – credit with grade	
<b>3.4. Teaching methods</b>	Lectures – information lecture with oral imparting of knowledge and use of visual means Classes – conversation lecture, discussion related with the lecture, display with description, analysis of cases	
<b>3.5. Bibliography</b>	<b>Required reading</b>	Emergency Radiology: The Requisites, ISBN: 9780323376402
	<b>Further reading</b>	Problem Solving in Emergency Radiology, ISBN: 9781455754175

### 4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

#### 4.1. Course objectives (including form of classes)

#### SEMESTER IV

- C1 – Familiarization with the techniques of imaging diagnostics used in the states of emergency.  
C2 – Obtaining knowledge of diagnostic algorithms in the states of emergency.  
C3 – Preparation for using proper imaging techniques in the states of emergency.  
C4 – Familiarization with the safety principles while performing various diagnostic imaging procedures in paediatrics.

#### 4.2. Detailed syllabus (including form of classes)

##### Lectures

- Ultrasound in the states of emergency  
Physical and technical essentials. Doppler ultrasound. Contrast media. Preparation of the patient for USG examination.
- Rentgenodiagnosics in the states of emergency  
Physical and technical essentials. Contrast media. Imaging systems in rentgenodiagnosics.  
Conventional X-ray. Digital radiology. X-ray picture. Radiological functional examinations. Possibilities and limitations of particular methods. Preparation of the patient for particular rentgenologic examinations.
- Computed tomography in diagnostics of the states of emergency  
Physical and technical essentials. Contrast media. Possibilities and limitations of the method. Preparation of the patient for computed tomography.
- Magnetic resonance in diagnostics of the states of emergency  
Physical and technical essentials. Contrast media. Possibilities and limitations of the method. Preparation of the pa-

tient for magnetic resonance examinations.

- Basic problems within the scope of radiological protection.  
Types of ionizing radiation. Immediate and distant somatic effects of radiation. Dose limits related with occupational exposure, types of control of doses. Methods of protection of patient against an excessive exposure.

**Classes**

- Ultrasound in the states of emergency - possibilities and limitations of the method.
- Rentgenodiagnosics in the states of emergency – possibilities and limitations of the method.
- Computed tomography in the states of emergency - possibilities and limitations of the method.
- Magnetic resonance in the states of emergency - possibilities and limitations of the method.

**4.3 Education outcomes in the discipline**

Code	A student, who passed the course	Relation to teaching outcomes
within the scope of <b>KNOWLEDGE:</b>		
W01	knows human anatomy topographically (upper and lower limb, chest, abdomen, pelvis, back, neck and head) and functionally (respiratory system, digestive system, urogenital system, nervous system and sense organs, integumentary system);	A.W2.
W02	knows the physical basis of non-invasive imaging methods;	B.W8.
W03	knows and understand the causes, symptoms, principles of diagnosis and therapeutic management in relation to the most common diseases requiring surgical intervention, taking into account the individuality of childhood, in particular: a) acute and chronic diseases of the abdominal cavity, b) diseases of the chest, c) diseases of limbs and head, d) bone fractures and injuries of organs;	F.W1.
W04	knows the issues concerning modern imaging tests, in particular: a) basic radiological symptomatology of diseases, b) instrumental methods and imaging techniques used to perform medical treatments, c) the indications, contraindications and preparation of patients to particular types of imaging tests and contraindications the use of contrast agents;	F.W10.
within the scope of <b>ABILITIES:</b>		
U01	makes conclusions as to the relationship between anatomical structures on the basis of intravital diagnostic tests, in particular in the field of radiology (plain images, tests using contrast agents, CT scans and magnetic resonance imaging);	A.U4.
U02	collects blood for toxicological studies and secures the material for hemogenetic research in accordance with given principles.	G.U7.

**4.4. Methods of assessment of the intended teaching outcomes**

Teaching outcomes (code)	Method of assessment (+/-)																				
	Exam oral/written*			Test*			Project*			Effort in class*			Self-study*			Group work*			Others*		
	Form of classes			Form of classes			Form of classes			Form of classes			Form of classes			Form of classes					
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01																					
W02																					
W03																					
W04																					
U01																					
U02																					

\*delete as appropriate

#### 4.5. Criteria of assessment of the intended teaching outcomes

Form of classes	Grade	Criterion of assessment
lecture (L)	3	61%-68%
	3,5	69%-76%
	4	77%-84%
	4,5	85%-92%
	5	93%-100%
classes (C)*	3	61%-68%
	3,5	69%-76%
	4	77%-84%
	4,5	85%-92%
	5	93%-100%

- **Thresholds are valid from 2018/ 2019 academic year**

#### 5. BALANCE OF ECTS CREDITS – STUDENT’S WORK INPUT

Category	Student's workload
	Full-time studies
<i>NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/</i>	<b>35</b>
<i>Participation in lectures*</i>	<b>15</b>
<i>Participation in classes, seminars, laboratories*</i>	<b>20</b>
<i>Preparation in the exam/ final test*</i>	
<i>Others*</i>	
<i>INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/</i>	<b>15</b>
<i>Preparation for the lecture*</i>	
<i>Preparation for the classes, seminars, laboratories*</i>	<b>10</b>
<i>Preparation for the exam/test*</i>	<b>5</b>
<i>Gathering materials for the project/Internet query*</i>	
<i>Preparation of multimedia presentation</i>	
<i>Others*</i>	
<b>TOTAL NUMBER OF HOURS</b>	<b>50</b>
ECTS credits for the course of study	<b>2</b>

**Accepted for execution** (date and signatures of the teachers running the course in the given academic year)

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