

## DESCRIPTION OF THE COURSE OF STUDY

<b>Course code</b>	<b>12.6-3LEK-F-IPwDiT</b>	
<b>Name of the course in</b>	Polish	<b>Izotopy promieniotwórcze w diagnostyce i terapii</b>
	English	<b>Radioactive isotopes in the diagnosis and therapy</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
<b>1.7. Person/s preparing the course description</b>	prof. dr hab. Janusz Braziewicz
<b>1.8. Person responsible for the course of study</b>	prof. dr hab. Janusz Braziewicz
<b>1.9. Contact</b>	janusz.braziewicz@ujk.edu.pl

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

<b>2.1. Affiliation with the module</b>	optional – faculty
<b>2.2. Language of instruction</b>	English
<b>2.3. Semesters in which the course of study is offered</b>	Choice between 2nd-9th semester
<b>2.4. Prerequisites*</b>	

### 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>	Courses in the teaching rooms of the UJK	
<b>3.3. Form of assessment</b>	Credit with grade	
<b>3.4. Teaching methods</b>	Lecture, classes	
<b>3.5. Bibliography</b>	<b>Required reading</b>	Larson SM Journal of Nuclear Medicine : Official Publication, Society of Nuclear Medicine [1985, 26(5):538-545]
	<b>Further reading</b>	

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

<b>4.1. Course objectives</b> <i>(including form of classes)</i> C1 – acquaintance with the basics of using radioactive isotopes in medicine C2 – acquaintance with the process of the production of radioactive isotopes C3 – acquaintance with the principles of the synthesis of radioactive isotopes with chemical compounds C4 – acquaintance with the quality control isotopes used in medicine
<b>4.2. Detailed syllabus</b> <i>(including form of classes)</i> 1. The history of radioisotopes for medical applications 2. Production of radioisotopes for bundles cyclotrons and in the reactors 3. Radioisotopes derived from generators 4. Short-lived positron isotopes 5. Long-lived isotopes in brachytherapy 6. Isotopes in treatment of thyroid and bone metastases
<b>4.3 Education outcomes in the discipline</b>

Code	A student, who passed the course	Relation to teaching outcomes
within the scope of <b>KNOWLEDGE:</b>		
W01	knows natural and artificial sources of ionizing radiation and its interaction with the matter;	B.W6
W02	knows the physical basis of non-invasive imaging methods;	B.W8
W03	knows the physical principles of selected therapeutic techniques, including ultrasound	B.W9

	and radiation;	
within the scope of <b>ABILITIES:</b>		
U01	uses the knowledge of the laws of physics to explain the impact of external factors such as temperature, acceleration, pressure, electromagnetic fields and ionizing radiation on the body and its elements;	B.U1
U02	assesses harmful ionizing radiation dose and applies the principles of radiation protection;	B.U2
U03	uses databases, including online ones, and searches for necessary information using available tools;	B.U11
within the scope of <b>SOCIAL COMPETENCE:</b>		
...K01		
...		

#### 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			Form of classes		
	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...	L	C	...
W01																					
W02																					
W03																					
U01																					
U02																					
U03																					
...K01																					
...																					

\*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% correct answers
	3,5	69% - 76% correct answers
	4	77% - 84% correct answers
	4,5	85 % -92% correct answers
	5	93-100
classes (C)*	3	61% -68% correct answers
	3,5	69% - 76% correct answers
	4	77% - 84% correct answers
	4,5	85 % -92% correct answers
	5	93-100
others (...)*	3	
	3,5	
	4	
	4,5	
	5	

## 7. 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>	<b>5</b>
<i>Preparation for the classes, seminars, laboratories*</i>	<b>10</b>
<i>Preparation for the exam/test*</i>	
<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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