

OS4b - Human exposure to various types of radiation - course description

General information	
Course name	OS4b - Human exposure to various types of radiation
Course ID	13.9-WB-OS2P-Prom.czt-S17
Faculty	Faculty of Biological Sciences
Field of study	Environmental Protection
Education profile	academic
Level of studies	First-cycle studies leading to Bachelor's degree
Beginning semester	winter term 2021/2022

Course information	
Semester	4
ECTS credits to win	3
Course type	obligatory
Teaching language	english
Author of syllabus	dr Anna Timoszyk

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	15	1	-	-	Credit with grade
Class	15	1	-	-	Credit with grade

Aim of the course

The aim of the course is to understand the sources of various types of radiation and the degree of human exposure to it.

Prerequisites

Basic knowledge of physics and biophysics.

Scope

Division of radiation into ionizing and non-ionizing. Sources of radiation. The degree of human exposure to ionizing and non-ionizing radiation. Impact of ionizing and non-ionizing radiation on matter. Positive and negative effects of radiation.

Teaching methods

Lecture - presentation method (multimedia presentation)

Practice classes - discussion, analysis of available data, project execution

Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
The student defines, describes and explains concept of fundamental phenomena and processes happen in nature for example thermal processes and phenomena concerning electromagnetic field.	K1A_W15	- a discussion - a final test - a project - activity during the classes	- Lecture - Class
The student appreciates the importance of this knowledge; understands the possibilities of its use in practice; he can present his knowledge and skills.	K1A_K25	- a discussion - a final test - a project - activity during the classes	- Lecture - Class
The student uses the self-learning method and realizes the need to study and improve the skills in the given scientific branch	K1A_K08	- a discussion - a final test - a project - activity during the classes	- Lecture - Class
The student is able to -- formulate the precise and detailed oral and written statements as well as explain the attitudes in the issues being discussed presenting the advantages and disadvantages concerning various solutions.	K1A_U14	- a discussion - a final test - a project - activity during the classes	- Lecture - Class

Outcome description	Outcome symbols	Methods of verification	The class form
The student is able to give definition, describe and explain basic phenomena and natural processes for matter construction, thermodynamics and radiation.	• K1A_W07	• a discussion • a final test • a project • activity during the classes	• Lecture • Class
The graduate student defines notions and physical processes in human organism as well as in environment.	• K1A_W02	• a discussion • a final test • a project • activity during the classes	• Lecture • Class
The student uses literature as well as electronic sources, can interpret and integrate the information obtained, use the self-learning method, and see the need to learn and improve their cognitive skills; is aware of the dynamic changes in knowledge, cares about keeping it updated.	• K1A_U08	• a discussion • a final test • a project • activity during the classes	• Lecture • Class

Assignment conditions

Practice classes - carry out, presentation and pass the project on a given topic.

Lecture - write a final test and get 51% correct answers to pass the course

Recommended reading

1. red. F. Jaroszyk, Biofizyka - podręcznik dla studentów, PZWL, Warszawa 2001.
2. red. M. Bryszewska, W. Leyko, Biofizyka dla biologów, PWN, Warszawa 1997.

Further reading

1. L. Latanowicz, J. Latosińska, Promieniowanie UV a środowisko, Wydawnictwo WSP w Zielonej Górze, Zielona Góra 2000.
2. A.Z. Hrynkiewicz, Człowiek a promieniowanie jonizujące, PWN, Warszawa 2001.
3. red. H. Podbielska, A. Sieroń, W. Stręk, Diagnostyka i terapie fotodynamiczne. Urban i Partner, Wrocław 2004.

Notes

Modified by dr Olaf Ciebiera (last modification: 19-05-2021 22:02)

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