Course Information Sheet

Higher education institution: Slovak Medical University in Bratislava

Faculty: Faculty of Medicine

Course code: *VL 055* | **Course title:** *Radiation protection*

Type, extent and method of educational activity:
Recommended range of teaching (in hours/semester): ***14***
Lectures: 14/weekly 1 hour
Practical excercises:
(Total work load of the student is **25 hours***)*
Method of the education full time study (distance study [1])
Form of study: full-time

Number of credits: ***1***

Recommended semester/trimester study: *9th semester*

Level of higher education study: *1st + 2nd level (MUDr.)*

Prerequisite courses: -

Requirements for completion of the course:

Method of final assessment and competition of the subject Radiation protection consists of continuous assessment of study results during the semester. For successful completion of the subject and obtaining credits is necessary to:

a) 90 % participation in lectures,
b) *70 % success in the written exam*

Classification scale:

A =100–94 % success A – excellent = 1 (excellent results)
B = 93–89 % success B – really good = 1,5 (above average results)
C = 88–83 % success C – good = 2 (average results)
D = 82–77 % success D – satisfactory = 2,5 (acceptable results)
E = 76–70 % success E – enough = 3 (the results meet only the minimum criteria)
FX = <70 % success FX – not enough (the results does not meet even the minimum criteria)

Credits will not be granted to a student who did not meet 90% attendance in lectures, did not meet the required level in tests during the semester.

Requirements for completion of the course:
The load of students in indirect teaching is 11 hours. It includes preparation for seminars and studies

Learning outcomes:

Of the student is required to:
VV1- remember and understand basic knowledge of radioactivity and ionizing radiation,
VV2- understand and be able to distinguish between individual dosimetric quantities in radiation protection, state the relationships between these quantities,
VV3- clarify the relationship between the interaction of ionizing radiation with matter, explain by own words the methods of radiation detection, justify the biological effects of ionizing radiation and dose,
VV4- partially analyse radiation protection,
VV5- categorize dose values for individual groups.

Brief content of the course (syllabus):

- *Physical foundations of radiation protection, history of radiation protection (radioactivity, history and present of units and quantities in radiation protection).*
- *Interactions of ionizing radiation with matter.*
- *Detection of ionizing radiation (basic dosimetric systems).*
- *Biological effects of radiation (effect on cells, tissues, late somatic and genetic effects).*
- *Act 87/2018 on radiation protection. Acceptable dose (exposure) values in medical applications).*
- *Work with open and closed sources of ionizing radiation, basic principles, radioactive waste.*
- *Ensuring radiation protection (radiodiagnostics, nuclear medicine, radiotherapy, nuclear energy, industrial sources).*
- *Methods and principles of radiation protection of patients and workers.*

[1] *§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*

Recommended literature:

Gebeová, K., Burganová, A. Radiačná ochrana a rádiobiológia pre nelekárske zdravotnícke odbory. SZU, 2020

Kolektív autorov, Editor: Vladislav Klener: Princípy a praxe radiační ochrany. Azin CZ Praha. Praha 2000, 619 s. ISBN 80-238-3703-6.

Language requirements: *Slovak language*

Notes:

The subject is taught in the Slovak language

Course assessment

Assessed students in total: *135*

A	B	C	D	E	FX

Lecturers:

doc. RNDr. Silvia Dulanská, PhD.,
prof. RNDr. Ľubomír Mátel, CSc.

Date of last modification: *22.11.2021*

Approved by: *person responsible for realization, development and ensuring of the study program quality prof. MUDr. Iveta Šimková, CSc.*

[1]*§ 108e ods. 2 zákona č.131/2002 Z.z. o vysokých školách*