



## SUBJECT DATASHEET

<b>Semester:</b>	2009/10/1
<b>Subject:</b>	Radiations
<b>Code:</b>	VEMKRK3353S
<b>Responsible department:</b>	Institute of Radiochemistry and Radioecology
<b>Responsible department code:</b>	MKRK
<b>Responsible lecturer:</b>	dr. Zoltán Németh

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### Educational objectives:

Providing basics and some practice of radioactivity and radiations in the environment

### Detailed content of the subject:

Radiations in the nature, nonionizing and ionizing radiations. Structure of the nuclei, the Standard Model. Radioactivity, radioactive decay. Nuclear radiations. Interaction of nuclear radiations with matter. Basics of radiation dosimetry. Basics of the radiation protection. Detection of nuclear radiations. Measuring with GM and scintillation detector. Measuring with semiconductor detector. Study of the beta- and gamma-absorption. Contamination-decontamination. Computer tomography. Measuring the radiation of radon. Determine the half life, dosimetry.

### Requirements:

Students have to write a test during the semester, and they got a mark based on the evaluation of the test. The evaluation is as follows: 27-30 points excellent (5) 23-26 points good (4) 19-22 points medium (3) 15-18 points pass (2)

### Required and suggested references:

Németh Zoltán: Radiokémiai és izotóptechnikai alapismeretek (VE 1996) Radiokémiai laboratóriumi gyakorlatok, Jegyzet, VE Egyetemi Kiadó, 1996