UNIVERSITY OF PANNONIA

SUBJECT DATASHEET

Semester:	2009/10/2
Subject:	Radioecology
Code:	VEMKRK3312O
Responsible department:	Institute of Radiochemistry and Radioecology
Responsible department code:	MKRK
Responsible lecturer:	dr. János Somlai

Educational objectives:

The processes and relations determine the transfer of radionuclides in the environment and the radiation pathways on the population including risk assessments, dose limitations and radiation

Detailed content of the subject:

Radiations in the environment (ionizing and non-ionizing). Health effects of the environmental radiations, risk assessments. Atmospheric dispersion of the radionuclides, deposition, resuspension. Diffusion and binding in the soils. Contamination of the vegetation (direct deposition, root uptake). Dispersion in the acquatic environment (rivers and lakes). Contamination of the sediment and fishes. Contamination of the terrestrial foodchain and man. Dose assessments from the various environmental contaminations. Natural radiation impact. Artifical radiation impact (global fallout, use of radioisotopes, wastes etc.). Population doses from nuclear accidents. Nuclear emergency systems, decision making and planning of interventions. Environmental monitoring (early warning system etc.). Population impact from non-ionizing environmental radiation.

Requirements:

In the course of an oral examination two overall questions on the issues of the lectures are provided to each student. A short period of time (maximum 30 minutes) is supplied to the students to prepare some drafts of their answers. The exam is qualified in the following ways: - If draft and the answers provided by the student are clear, correct and explains every important relationship on the subject, the record is marked as excellent one (5). - If he student is able to make an overall analysis on the issue solely by the directions of the teacher, he (she) is assessed with a good record (4). - If the student is not able to give clear description on the main relationships of the subject but he (she) can define the fundamental conceptions, his grade is a fair (medium) (3). - If the student can define the fundamental conceptions of the issue by the directions of the teacher, he gets a pass (2). - Without having studied the fundamental conceptions the student is qualified with an unsatisfactory (fail) record (1).

Required and suggested references:

Kanyár B., Béres Cs., Somlai J., Szabó S. A.: Radioökológia és környezeti sugárvédelem, tankönyv, Veszprémi Egy. Kiadó, Veszprém, 2000. Mészáros E.: Légkörtan. VE jegyzet, Veszprém, 1993. Merril Eisenbud: Environmental Radioactivity, UK Academic Press Inc., London, 1987. Eienne Van der Stricht: Radioecology, UIR, Fortemps, Belgium, 2001.