COURSE TITLE:

RADIOACTIVITY IN OUR ENVIRONMENT

COURSE DESCRIPTION:

Overview of the occurrence of radioactive isotopes in our environment

The determination of the amount of the radioactive isotopes in environmental samples, the basics of gamma-spectroscopy, alfa-spectroscopy, liquid scintillation spectroscopy

The description of radioactivity, time dependence, differential equations. Natural radioactive series.

Radioactive equilibrium, uranium series, thorium series.

The occurrence of the members of the uranium series in specific geological environment, potential uranium bearing minerals, radium and uranium migration in geological processes

Radon. Dosimetry of radon, geological origin of radon, radon in indoor air, radon in caves, and in subsurface waters.

Radon detectors. Radon diffusion. The radon, as a trace element.

LITERATURE:

W.W. Nazaroff and A.V. Nero: Radon and Its Decay Products in Indoor Air, ISBN-13: 978-0471628101

M. Eisenbud, T.F. Gesell: Environmental Radioactivity from Natural, Industrial & Military Sources, ISBN-13: 978-0122351549

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