

Field: RADIATION PROTECTION

Topic: FUNDAMENTAL CONCEPTS OF RADIATION PROTECTION

Course type: TRAINING

Format: Massive Open Online Course (MOOC)

Duration: 4 × half days
Working through the course at own pace

Working language of the course: English

Objectives and learning outcomes

This course provides trainees with basic knowledge and skills in radiation protection for the different radiation fields in order to prepare students for regular, more advanced courses related to radiation protection.

Outline of course content

- Main characteristics of atoms and basic equations of radioactivity.
- Interactions of ionizing radiations with matter and definitions of dose units.
- The biological effects of ionizing radiation.
- The natural and artificial sources of ionizing radiation.
- ALARA principles and their implementation, general safety rules.
- Dose limits, monitoring of workers.
- Radiation protection dosimetry.
- Interpretation of the European Union (EU) regulation in general and the EU and international (e.g. IAEA) regulation on radiation protection, with particular emphasis on the implementation of European Basic Safety Standards (EU BSS) into the national regulations.
- Introduction of radiation protection related international regulations for the fundamentals of safe transport of radioactive materials, including radioactive waste management.

Technical schedule and delivery methods

The course will be organized as a MOOC with theoretical lectures (pre-recorded video presentations) continuously accessible, regular consultation sessions and opportunity to ask questions.

The course will take about 4 × half days but participants can work through the course materials at their own pace.

Target audience

This course is intended for young professionals aiming at understanding the main concepts needed to deal with more advanced topics radiation protection. Employees of Nuclear Regulatory Authorities (NRAs) and Technical Support Organizations (TSOs), preferably with responsibilities related to radiation protection or wishing to interact consciously and effectively with experts in this area, with little initial technical knowledge and skills but with potential for future direct involvement, are the ideal target audience.

The fundamentals acquired here will be applicable not only in everyday work but the course, as an introductory methodological approach, will create a shared and common background and ensure that adequate knowledge is available to comprehend the regular, more advanced courses on radiation protection.

Prerequisites and requirements for participants

As this is a foundation course, no specific technical knowledge or preparation is required but participants should have an adequate level of knowledge in English.

Participants need to have possibility to attend pre-recorded video lessons via the Internet.

Terms of participation

The project is implemented under the European Union (EU) external assistance programme, called the European Instrument for International Nuclear Safety Cooperation (INSC), and aims to support the National Nuclear Regulatory Authorities (NRAs) and their Technical Support Organisations (TSOs) in non-EU countries in strengthening their capabilities with regard to their regulatory tasks and responsibilities in the field of nuclear safety and radiation protection.

Employees of the NRAs or their TSOs in the Beneficiary Countries are eligible for financially supported participation in the T&T courses. Beneficiary Countries of the project are published on the website <https://training.ek-cer.hu/>.

Costs

Participation and access to the course materials is free, but registration is required.

Application

Application via the website <https://training.ek-cer.hu/>, according to the process there, enrolment in the course following appropriate registration.

Examination

Acquired knowledge of the participants will be assessed through a technical test at the end of the course, which full course completion and successful test can be a prerequisite for attending the regular, more advance radiation protection courses. Participants attending the full course will be issued with attendance certificates.
