

CRISTAL - Tools for Criticality Safety Calculation

Session: Consult on-line training schedule

Intra-company training session is available on demand.

Registration deadline: 3 months prior to course

Duration: 5 days
Certificate of attendance will be issued to participants who attend the full course.

Price: Contact us
The maximum number of students is limited to twelve participants.

Code: CO1055

[REGISTER NOW](#)

Contact

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Online catalogue

www.enstti.eu/training-catalogue

Examination:

Knowledge testing (multiple choice exam) will be performed on the full course content and successful candidates will be issued with a Knowledge Certificate.

Teaching methods:

Lectures, discussions and practical sessions are included.
Practical exercises and software practice on real cases will take place during the week.

A USB stick containing the course material will be provided.

OBJECTIVES

The main objective of the training is to use the CRISTAL V2 package for criticality calculations with LATEC graphical front-end and simulation back-end with CRISTAL codes (APOLLO2, MORET 5 et TRIPOLI-4®). Underlying numerical recipes of simulation and their limitations in the criticality-safety assessment framework are described. This training is designed to meet the needs of nuclear criticality safety practitioners.

TARGET AUDIENCE

A person and organization responsible for design, fabrication, maintenance or review of nuclear criticality safety for a process or transportation. These persons would be Nuclear criticality safety specialists with the responsibilities of assessment and calculation.

CRISTAL package is used to performed calculations for:

- fissile materials transportations.
- nuclear fuel cycle facilities (fuel processing, reprocessing...).
- laboratories and storage units.
- unloaded nuclear reactor core.
- decommissioning or decommissioned facilities.

PREREQUISITES

Knowledge in neutronics and main principles on nuclear criticality safety (criticality control parameters, fissile materials, etc).

PROGRAM

Basics

CRISTAL V2 package – Architecture and main components – Calculation routes

Deterministic method

APOLLO2 simulation code, recommended calculation routes, standard calculations, practical cases.

Monte Carlo method

MORET 5 and TRIPOLI-4® simulation codes, features, practical cases.

Modelling environnement

LATEC workbench, dilution laws, basics, perform and validate criticality-safety calculations

LEARNING OUTCOMES

After the course, participants will :

- Have a general knowledge of CRISTAL package (structure, simulations tools, libraries, etc).
- Be able to perform criticality calculations with CRISTAL V2 package, relying on state-of-the-art neutronic simulation tools (APOLLO2, TRIPOLI-4®, MORET 5) and international nuclear database.
- Understand the application range of different simulation tools and methods.