



Monthly Bulletin

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SEPTEMBER 2ND, 2019

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In this bulletin

THE SUCCESS OF OUR COURSES

In this issue, while recalling already planned courses or **newly envisaged ones**, we wish to communicate something about the **level of success of our courses**.

At the time of writing, in front of more than **300 applications** received on the website <http://www.enen.eu/en/projects/annette/eoi1.html>, we counted **a preliminary number of actual participations in our courses in the order of 190 !** This adds to the **more than 50 participants in the ANNETTE Summer School** organised by Aalto University, a very successful event !

These numbers **do not include courses that are scheduled for autumn**. Let us express some **prudent degree of satisfaction for this result**; an analysis of the applications showed that most of the applicants are professionals, suggesting that we hit our intended target.

However, **challenges are still there for setting up our "Master"** that should follow the pilot courses. We will devote an entire issue of the bulletin to this aspect in the next future.

We highlight **recently advertised courses**:

- Course on **Protecting Nuclear Industry** by UCLAN (21-24 October 2019)
- **Nuclear Safety Culture in the ITER Project: The Supply Chain** (September – December 2019)
- **Final Stage of the Nuclear Lifecycle** by JRC-KIT (2-6 December 2019)
- **ANNETTE Training Course on Nuclear Safeguards**, by ESARDA, Week 2: Forschungszentrum Jülich, (11-15 Nov 2019)
- **MOOC on Nuclear Safety Culture by TECNATOM and UNED** (October 1st, 2019)

**WHILE PLANNING FOR THE REMAINING COURSES
LET US WISH YOU A HAPPY RETURN TO WORK !**

We again retrieve the suggestion that, **if you apply for support by the ENEN+ project, you should prompt the Course Providers about this request, soon at the time of being contacted.**

Please, also read the ENEN+ **Mobility Manual** for knowing the conditions for applications and avoid rejection.

Thanks for your interest in our courses !

[Link to the course application page](#)

[Link for asking support for mobility to the ENEN+ project](#)

**PLEASE LOOK ALSO AT THE COMPLETE OFFER
FOR LAST MINUTE SELECTION OF COURSES ALREADY ADVERTISED**

**Regulation and its
Application in Nuclear
Projects**

**Framatome (Karlstein,
close to Frankfurt),
Germany**

**September 9th and
10th, 2019**



FUSENET

The European Fusion Education Network

framatome****

Course Outline

The course is directed towards engineers that are employed by the ITER Organization, Fusion for Energy, or their sub-contractors in the ITER project (down to the lowest level, i.e. in the supply chain), or in any other supply chain company active in fission new build projects. Preferably they should be active in ITER (or any other fission/fusion new build) related design, procurement, manufacturing, construction, assembly, and commissioning of ITER (or fission/fusion new build) equipment.

The course will impart specific knowledge on nuclear licensing and the impact of licensing requirements on the design as well as on subsequent down-stream activities. Furthermore, it will be complemented by additionally training the skills that are necessary in the nuclear environment of a fission or fusion project like ITER.

Course Content

The training contains the following:

1. Introduction to and overview of national / international nuclear law(s) and related regulation, involved national and international organizations (e.g. ASN, IAEA),
2. Main licensing activities / deliverables / responsibilities,
3. Overview of Codes and Standards (C&S) and introduction to relevant C&S, their impact on regulation or licensing,
4. Introduction to and overview of nuclear risks, safety objectives, and derived requirements,
5. Basic safety principles: management / technology / process oriented (e.g. defense in depth),
6. Introduction to (deterministic and probabilistic) safety analysis and related tools used by different technical disciplines for simulations in support of licensing,
7. How to integrate nuclear regulation requirements into fusion projects, and perform requirements management,
8. How to apply nuclear regulation requirements in design/manufacturing/construction/assembly/commissioning activities.

REQUESTED BACKGROUND

The targeted trainees should have undergone a suitable technical engineering education, preferably in a technical subject matter important for their actual job position. They shall be able to understand the basic design of a power plant and its systems and components, and the technical basics (physics/chemistry resp. design/operation) of a nuclear (fission or fusion) reactor.

APPLY HERE

In order to apply for this course, **please enroll at the [ANNETTE application page](#) and then contact:**

Goerge Baltin, Email: goerge.baltin1@framatome.com

CONTACT

For questions and further information, please contact:

Goerge Baltin, Course Manager at Framatome Training Center Germany

Email: goerge.baltin1@framatome.com

**Hands on OpenFOAM
CFD simulations for
heat and mass
transfer in industrial
processes.**

**By Technical
University of
Catalonia(UPC)
Barcelona (Spain)**

**September 16th to
20th, 2019**



**UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH**

Course Description

The course objective is to prepare the assistants to bring to practical cases the best practices and guidelines on Computational Fluid Dynamics (simulations Best practices and guidelines are derived from the CFD fundamentals The required theoretical background will be provided Along the course, the case method is used to introduce the CFD fundamentals and approaches The cases will be related to nuclear technology but the concepts are valid in any other technical field The covered topics are

Topics covered

- 1) Diffusive heat transfer: Introduction to CFD, boundary conditions, the Finite Volume method for diffusion problems
- 2) Hydrodynamics and turbulence: The conservative laws of fluid motion, the Finite Volume method for advection diffusion problems, algorithms for pressure velocity coupling
- 3) Thermal hydraulics diffusive convective heat transfer: CFD strategies for temperature velocity coupling, finite Volume method for unsteady flows

After the introduction to each case, its fundamentals, modelling and case set up, the instructors will provide indications on how to proceed with the computer simulations. Attendees will have time to perform the simulations on their own. Eventually, common conclusions will be shared and best practices and guidelines for successful simulations will be retrieved.

[Link to the full description of course conditions \(https://ant.upc.edu/en/activities\)](https://ant.upc.edu/en/activities)

**MASSIVE OPEN ONLINE
COURSES TO ENHANCE
NUCLEAR SAFETY
CULTURE**

**By TECNATOM and UNED
October 1st, 2019**



MOOCs (Massive Open Online Courses)

Promo video



<https://youtu.be/iD0pxu0ZcwI>

These MOOCs are conceived as a first contact with the safety culture in all areas to continue, then, deepening in more specific concepts in the nuclear field. In order to establish a good safety culture and nuclear safety culture, aligned leadership is necessary. All these aspects will be worked in a dynamic, different and participative way, in which collaborative learning will be a key aspect.

These are completely online, free, international courses. General information about the MOOCs is available in the link below.

Introducing safety culture and its application to the nuclear field

It will cover 25 h of participant work, equivalent to 1 ECTS.

MOOCs content

It is divided in 3 smaller MOOCs called NOOCs (Nano Open Online Courses):

1. [**NOOC I. What is safety culture?**](#)
2. [**NOOC II. Understanding Nuclear Safety Culture**](#)
3. [**NOOC III. Developing leadership for safety**](#)

It also has a Nuclear terms glossary, where students without nuclear background can look for different subjects in order to follow all the NOOCs.

Requested Background

Participants are assumed to have some technical background, from mechanical engineering, chemistry, physics or others. It is not necessary to have previous nuclear knowledge to follow the course, as the MOOCs provide tools to help any participant.

Course certification

The satisfactory completion of each MOOC leads to a free badge and/or the payment of a credential. In addition, it is possible to obtain an academic certificate of 1 ECTS, issued by UNED, when successfully completing the three NOOCs.

Open now the free registration, by clicking on each NOOC above.

We are actually in the production process. The course has been delayed and the starting has been postponed to **October 1st, 2019**. This will be the starting date for the first NOOC, the second will start the following week **October 8st, 2019**, and the third **October 15st, 2019**. The courses will be active during three weeks.

Apply here

In order to apply for this course, **please enroll at the [ANNETTE application page](#). The first 20 applicants successfully fulfilling the courses with earn a free 1 ECTS university certificate.**

If you just want to receive information about the MOOCs, please fill the form [here](#)

	<p>We highly thank those advertising this initiative within the nuclear sector, but as well towards professionals from other industries (specially high-risk industries), as well as master students of nuclear and other technical studies, to gather a varied audience to enhance global networking and a collaborative learning experience. This course will allow a research study and its dissemination is crucial to achieve massive participation from the main target groups</p> <p>Dissemination A broad dissemination strategy is being designed and we really thank those who can contribute to disseminate about the course. Please contact Mercedes Alonso, co-director of the courses, for this purpose: malonso@ind.uned.es</p>
<p><u>Nuclear Safety Culture in the ITER Project: The Supply Chain</u></p> <p>Online Course, Course duration ~ 1 hour</p> <p>September – December 2019</p>	 <p>Course Objective and Outline The training shall impart knowledge on nuclear safety culture, and motivate the trainees to implement continuously and consistently all traits of a nuclear safety culture in their actual job positions within the ITER project.</p> <p>The course consists of the following units:</p> <ul style="list-style-type: none"> • Introduction and Overview • Basics of Fusion • Why Nuclear is different! • Safety objectives and functions at ITER • Contribution of a safety culture to achieving safety objectives • Nuclear Safety Culture: commitment of management and individuals <p>Requested Background The training shall mainly target workers or other personnel that are employed by sub-contractors of the ITER project (down to the lowest level), and that are active in ITER related manufacturing, construction, assembly, and commissioning of ITER equipment.</p> <p>The trainees should have undergone at minimum a suitable vocational training, preferably in a technical subject important for their actual job position. They should be able to understand basic technical descriptions (including schematics) of a power plant and its systems and components.</p> <p>Course fee and application</p> <ul style="list-style-type: none"> • no course fee • In order to apply for this course, please enroll at the <u>ANNETTE application page</u> <p>Method of Delivery: online training through a course provided in UNED Abierta Virtual Learning Platform</p> <p>Administrative contact: Christian Schoenfelder – christian@schoenfelder.training</p> <p>Date of delivery: September - December 2019</p> <p>Organised by: FuseNet, the European Fusion Education Network, and UNED, the Spanish National Distance Education University</p>
<p><u>Course on Protecting the Nuclear Industry</u></p> <p>21 - 24 October 2019</p>	 <p>Protecting the Nuclear Industry</p> <p>Workshop outline and contents The workshop will address international and national nuclear security, but with emphasis on the UK position. The development of a comprehensive nuclear security culture to prevent, detect, delay and respond to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving radioactive materials will be explored.</p> <p>Attendees will gain:</p> <ul style="list-style-type: none"> • understanding of the international approach to nuclear security regulation and knowledge of the historical and current provision for regulation of the UK's civil nuclear facilities. • detailed knowledge of the UK approach to guard force protection. • detailed knowledge of governance, responsibilities and accountabilities for nuclear security. • knowledge of progress made in effective integration of nuclear safety with nuclear security. • appreciation of emergency planning.

Date of delivery

21 - 24 October 2019

Fees

As this workshop is part of ANNETTE project, there is **no charge**, except for £25 per day to cover refreshments and lunch

Application

For further details and registration, please apply to: PTNISymposium@uclan.ac.uk
Please, **make sure you register also at the website of ANNETTE**.

[Download the flyer of the course here](#)

ANNETTE Training Course on Nuclear Safeguards

**Week 2:
Forschungszentrum
Jülich, 11-15 Nov 2019**



ANNETTE Training Course on Nuclear Safeguards

Week 2: Forschungszentrum Jülich, 11-15 Nov 2019

Objective

The course is aimed to provide an introduction to nuclear safeguards and the non-proliferation of nuclear weapons. Following the efforts of the European Safeguards Research and Development Association ([ESARDA](#)), this course contributes to enlarge the number of university students and young professionals aware of these themes.

The first week was organised and hosted by the [SCK•CEN Academy for Nuclear Science and Technology](#) in Mol/Belgium from 4 to 8 February 2019 ([Programme](#))

The second week is organised and hosted by Forschungszentrum Jülich in Germany from 11 to 15 November 2019.

The course is part of the H2020 "Advanced Networking for Nuclear Education and Training and Transfer of Expertise" ([ANNETTE](#)) project, coordinated by the European Nuclear Education Network ([ENEN](#)).

Topics of week 2 ([Programme](#))

- Refresher of week 1
- Implementation of safeguards
- Physical protection
- Export control
- Probabilistic and statistical methods for nuclear safeguards
- Destructive analysis
- Containment and surveillance
- Novel technologies, approaches and methodologies
- Upcoming challenges

Target audience

This training course is targeted to university students and young professionals working in the nuclear field.

Language

The training course will be given in English.

Required knowledge

The workshop is open to students and professionals with an interest in nuclear safeguards and non-proliferation. Basic knowledge of the nuclear fuel cycle is recommended but not mandatory.

The participation in the first week of the course is **not** obligatory.

Registration

You can register for the course from 1 August to 11 October 2019. The minimum number of participants is 5, the maximum number is 20.

Participants are required to register twice:

1. Registration at ENEN webpage ([Link](#))
2. Registration by email to Dr. Thomas Krieger, t.krieger@fz-juelich.de

and to pay a **registration fee of 100 Euro**. Following your registration you will receive an invoice from Jülich including instructions for this payment. The registration is only complete as soon as we have received the full payment (see the note below for reimbursement).

The registration fee includes:

- Participation to the course, practical exercises and technical visits;
- Coffee breaks
- Lunch breaks
- Closing dinner on Thursday, 14 November 2019
- Training material and documentation
- Certificate of attendance

Note: In case that less than 5 participants have registered until 11 October 2019, the registration fee will be reimbursed. Refunds will not apply for cancellations or no show of participants.

<p><u>JOINT JRC-KIT Course on Final Stage of the Nuclear Lifecycle</u> Karlsruhe, Germany December 02-06, 2019</p>	<p>Accommodation Participants are requested to make and pay their own travel arrangements. Pre-registration will be made at Best Western Hotel Royal in the centre of Aachen.</p> <p>Transport Daily transport will be provided by the Best Western Hotel Royal and Forschungszentrum Jülich.</p> <p>Venue Forschungszentrum Jülich, IEK-6</p> <hr/> <div style="text-align: center;">  </div> <p>Final Stage of the Nuclear Lifecycle</p> <p>Course Outline and Content The five-day teaching module is open to all interested graduate students, Ph.D. students, post-docs, professionals and is limited to 15 participants. It will provide advanced level understanding of final stage of the Nuclear Lifecycle including the dismantling and decommissioning of nuclear facilities and the radioactive waste management. The course will comprise lectures by experts and laboratory and facilities visits with practical training.</p> <p>Course contents</p> <ul style="list-style-type: none"> • Radioactive waste: nuclear waste streams, safety relevant properties, management of damaged nuclear fuels • Decommissioning of nuclear facilities: decommissioning of nuclear research facilities, operational radiation protection • Radioactive waste management: conditioning and interim storage, long-term safety assessment of nuclear waste disposal, safety case and international site selection processes • Acceptance and implementation: social and governance aspects of nuclear waste management, safeguard issues for geological repositories <p>Announcement: July 25th, 2019</p> <p>Requested Background The learner is assumed to have basic knowledge of Mathematics and Physics. Basic knowledge on Nuclear Science and Technology is also an important component and learner can get or refresh it following the GENTLE MOOC (free registration on the EdX platform). Therefore, is recommended to follow the MOOC before accessing the course.</p> <p>Method of Delivery Presence is required. Links to the lecture presentation material will be provided at a later stage.</p> <p>Final Examination Written test</p> <p>Venue and Date of availability: Karlsruhe, Germany, December 02-06, 2019</p> <p>Deadline for registration: October 15th, 2019</p>
<p>e-LEARNING COURSE REMINDERS</p>	<div style="text-align: center;">  <p>REMINDERS</p> </div>
<p>Principles of Radiation Protection. International Framework. Regulatory Control (e-learning)</p>	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>Lecturers: Mrs. Gabriela Rosca-Fartat Mr. Gabriel Stanescu, PhD "Horia Hulubei" National Institute for Physics and Nuclear Engineering (IFIN – HH) Nuclear Training Centre 30 Reactorului, RO-077125, Bucharest-Magurele, Romania</p> <p>Method of Delivery: Asynchronous e-learning.</p> <p>Final Examination: multiple-choice test</p> <p>In order to apply for this course, please use the application form on the ENEN website: ANNETTE application page</p>

SINGLE AND TWO-PHASE THERMAL-HYDRAULICS - for nuclear applications

(e-learning)



SINGLE AND TWO-PHASE THERMAL-HYDRAULICS

The theoretical lectures and exercise material are already posted. Videos fully available.

Contact: walter.ambrosini@unipi.it

ELINDER COURSE
'Decommissioning
licensing and
environmental impact
assessment'

**INFORMATION ON INDEPENDENT
EUROPEAN E&T INITIATIVES**

In the framework of the [European ELINDER project](#), the SCK•CEN Academy for Nuclear Science and Technology organizes a specialisation training course in decommissioning **'Decommissioning licensing and environmental impact assessment'**



21- 25 October, 2019
SCK•CEN Lakehouse in Mol, Belgium.

Objective

Activities related to the decommissioning of nuclear installations significantly differ from those performed during the operational period. The various actors (managers, engineers, technicians, health physicists, regulatory bodies, etc.) are faced with specific issues such as changing environments, numerous “one shot” operations, the production of huge amounts of waste, discrepancies between original design and the final layout of the facility, etc. The regulatory requirements and associated licensing procedure necessitate a good preparation for the dismantling strategy, safety assessment, risk management and environmental impact assessment. With the many questions emerging when a decommissioning project has to be set up, it is of utmost importance that the involvement of the stakeholders addresses the concerns of society.

The main objective of this training course is to provide the participants with the basic requirements regarding the licensing and environmental impact assessment of a decommissioning project and to share experience from ongoing decommissioning projects. Visit the SCK•CEN Academy website for a [detailed programme](#).

Target audience

All stakeholders such as regulators, plant managers and operators, health physicists, technical service organisations should take benefit from this event.

Registration

Online registration is mandatory for all participants via the [SCK•CEN Academy website](#). The registration deadline is **October 2, 2019**. Prices are available on the [website of the ELINDER training course](#)

**European Nuclear
Education Network
Association**



Tel: +32 484 20 15 04
E-mail: secretariat@enen.eu



Web page of ANNETTE Courses

<http://www.enen.eu/en/projects/annette/annette-project-courses1.html>

Web page for course application:

<http://www.enen.eu/en/projects/annette/eoi1.html>



LINK TO COURSE LIST

Web page concerning the grants of the ENEN+ project,

<https://plus.enen.eu/grants/>



LINK TO THE APPLICATION FORM