WHILE EVALUATING THE ANNETTE PROGRAMME, WE ARE CREATING A NEW

COMMUNITY OF LIFELONG LEARNERS IN NUCLEAR MATTERS

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Approaching the end of the ANNETTE Project (December 2019), in which we had the privilege to attract the attention of many to our courses, we are now trying to establish a longer term connection with attendees, while evaluating the ANNETTE pilot programme.

The main purpose of this action is to regularly inform about learning opportunities for Continuous Professional Development (CPD) in view of Lifelong Learning (LLL). The final aim is to constitute a Community of Lifelong Learners in Nuclear Matters, which will offer the chance to know about learning opportunities for Continuous Professional Development.

Unlike during the ANNETTE Project, many of the future courses will be probably not free of charge. However, as it is at present through the ENEN+ Project (https://plus.enen.eu/), it is possible that ENEN will find the way to sponsor you for travelling and paying course fees in the frame of future projects. The Institution for which you are working may also value your professional development and sponsor your participation in some courses.

We now count on the feedback to be received on pilot courses, in order to improve our service to the European Union in keeping and developing Education and Training in the Nuclear fields. In this purpose we asked attendees to fill a short questionnaire that will take 5 minutes to be completed.

The questionnaire for evaluating the ANNETTE Programme can be filled also by persons that would like to join now the Community of Learners and can be found at the already reported link:


SO, PLEASE, JOIN THIS GROWING COMMUNITY TO KEEP IN TOUCH AND COOPERATE WITH US!
Concerning the forthcoming courses, 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.

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

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/jD0pxu0ZcwI

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 a 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.
When you first enter a NOOC link you will have to register in UNED MOOC platform. Then you will be able to freely enrol in all the NOOCs. You can enrol anytime and you will be announced when the course starts.
The starting date for the first NOOC is **October 1st, 2019**, the second will start the following week **October 8th, 2019**, and the third **October 15th, 2019**. All the courses will be active until October 28th, and enrolment in any of the NOOCs will be allowed until October 24th.

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

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

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.

**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

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**Nuclear Safety Culture in the ITER Project:**
**The Supply Chain**

**Online Course, Course duration ~ 1 hour**

**September – December 2019**

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**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.

The course consists of the following units:
- 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

**Requested Background**
The training shall mainly target workers or other personnel that are employed by subcontractors of the ITER project (down to the lowest level), and that are active in ITER related manufacturing, construction, assembly, and commissioning of ITER equipment.

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.

**Course fee and application**
- no course fee
- In order to apply for this course, please enroll at the [ANNETTE application page](#)

**Method of Delivery:** online training through a course provided in UNED Abierta Virtual Learning Platform

**Administrative contact:** Mercedes Alonso – malonso@ind.uned.es

**Date of delivery:** October 15th – December 2019

**Organised by:** FuseNet, the European Fusion Education Network, and UNED, the Spanish National Distance Education University

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**Course on Protecting the Nuclear Industry**
**University of Central Lancashire**
**21 - 24 October 2019**

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**Protecting the Nuclear Industry**

**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.
Attendees will gain:

- 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

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:
Final Stage of the Nuclear Lifecycle

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.

Course contents
- 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

Announcement: July 25th, 2019

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.

Method of Delivery
Presence is required. Links to the lecture presentation material will be provided at a later stage.

Final Examination
Written test

Venue and Date of availability: Karlsruhe, Germany, December 02-06, 2019

Deadline for registration: October 15th, 2019

Workshop Content
The goal of this workshop is to apply and compare different proliferation resistance methodologies in a case study of a nuclear installation. The characteristics of the installation taken as case study is presented at the start of the workshop. Then, the principles of several proliferation resistance methodologies (TOPS, PR&PP, INPRO) are introduced and realistic examples are shown. After the introduction of
each methodology a table-top exercise is prepared to give the possibility to the participants to apply directly the methodology.

Large sections of the workshop are dedicated to the application of the different methodologies to the specific case study and discussion of the results among the participants. A comparison of the methodologies is foreseen at the closing of the workshop.

**Requested Background**

This workshop is intended for professionals that are involved in nuclear safeguards tasks in their organization. Knowledge of nuclear safeguards is required to attend the workshop.

The principles needed to apply each proliferation resistance methodology are presented before the table-top exercise.

**Registration**

Interested participants must register both via the ESARDA and ANNETTE websites:

ESARDA: [https://esarda.jrc.ec.europa.eu/](https://esarda.jrc.ec.europa.eu/)


**Information**


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### e-LEARNING COURSE REMINDERS

**Principles of Radiation Protection. International Framework. Regulatory Control** (e-learning)

**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  
**Method of Delivery:** Asynchronous e-learning.  
**Final Examination:** multiple-choice test  
In order to apply for this course, please use the application form on the ENEN website: [ANNETTE application page](http://esarda.sckcen.be/-media/Files/Esarda/ANNETTE/WS_ProlifRes_ANNETTE.PDF)

**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](mailto:walter.ambrosini@unipi.it)

### INFORMATION ON INDEPENDENT EUROPEAN E&T INITIATIVES

**ELINDER COURSE 'Decommissioning licensing and environmental impact assessment'**

In the framework of the [European ELINDER project](http://elinder.jrc.ec.europa.eu/), 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.

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<th>European Nuclear Education Network Association</th>
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<td>Tel: +32 484 20 15 04 E-mail: <a href="mailto:secretariat@enen.eu">secretariat@enen.eu</a></td>
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Web page of ANNETTE Courses

Web page for course application:

Web page concerning the grants of the ENEN+ project,
- [https://plus.enen.eu/grants/](https://plus.enen.eu/grants/)