



Monthly Bulletin

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DECEMBER 4TH, 2018

ISSUE NO. 7

In this bulletin

In this issue, we present an updated list of courses **adding new information** on **pre-existing and new courses**. There is still a **plenty of places** in interesting courses, while **courses by NTEC and University of Manchester are mostly saturated**. So, please diversify your choices.

We again suggest 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 **decide if you want to apply on your own or let the Course Providers apply for you, carefully avoiding duplication of applications**. Please, also read the ENEN+ [Mobility Manual](#) for knowing the conditions for applications and avoid possible rejection.

We had up to now more than 110 applications most of them for multiple courses.

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

COMING SOON COURSES

[2-days Workshop on "Proliferation Resistance Methodologies for Nuclear Installations"](#)

SCK•CEN (Brussels), Belgium
(Deferred to a new date)



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 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.

APPLY HERE

In order to apply for this course, please use the application form on the ENEN website here: <http://www.enen.eu/en/projects/annette/annette-project-courses1.html>

Please enter **Workshop on "Proliferation Resistance Methodologies for Nuclear Installations"** as the course name and **ESARDA** as the course provider.

COURSE FEE

The course is offered as part of the ANNETTE-project and there is no course fee for the participant. However, participants will need to pay for travel, accommodation and meals.

CONTACT

For questions and further information, please contact:

Riccardo Rossa

Scientific collaborator Nuclear Science and Technology Studies at SCK•CEN

Email: riccardo.rossa@sckcen.be

[Regulation and its Application in Nuclear Projects](#)

Framatome (Karlstein, close to Frankfurt), Germany (December 17-18, 2018)



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:**

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

COURSE FEE

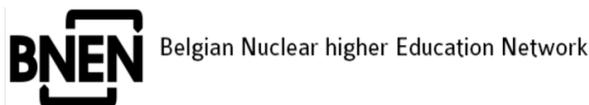
The course is offered as part of the ANNETTE-project and there is no course fee for the participant. However, participants will need to pay for travel, accommodation and meals.

CONTACT

For questions and further information, please contact:

Goerge Baltin
Course Manager at Framatome Training Center Germany
Email: goerge.baltin1@framatome.com

**THE FULL CALENDAR
OF BNEN COURSES
HAS BEEN PUBLISHED:
SPEED UP TO
RESERVE!**



THE BELGIAN NUCLEAR EDUCATION NETWORK
BNEN Courses: the full available programme proposed for ANNETTE in a modular fashion (ACADEMIC CALENDAR)

[Nuclear thermal hydraulics \(5 ECTS\)](#) (3-14 December 2018)
[Nuclear reactor theory \(6 ECTS\)](#) (7-25 January 2019)
[Safety of nuclear power plants \(5 ECTS\)](#) (11-22 February 2019)
[Advanced nuclear reactor physics and technology \(3 ECTS\)](#) (11-15 March 2019)
[Advanced nuclear materials \(3 ECTS\)](#) (18-22 March 2019)
[Advanced courses of the nuclear fuel cycle \(3 ECTS\)](#) (25-29 March 2019)
[Nuclear and radiological risk governance \(3 ECTS\)](#) (1-5 April 2019)

**STILL COLLECTING
APPLICATIONS FOR
FPS@KIT SCHOOL**



COURSES OFFERED BY THE FRAMATOME PROFESSIONAL SCHOOL (FPS) AT KIT FOR ANNETTE

- [Reactor Exercises](#) (spring 2019)
- [Design Basis Accidents for Light Water Reactors and Numerical Simulation Tools](#) (20-24 May, 2019)
- [Computational fluid dynamics with OpenFoam](#) (November 2018)
- [Design of Pipelines against Earthquake Loads](#) (on demand)

AN EXTENDED OFFER BY FPS@KIT FOR ANNETTE (TENS OF PLACES)

- Reactor physics calculations with deterministic methods ([link](#));
- Beyond-design accidents, core-melt accidents ([link](#));
- Coupled Neutron Kinetics /Thermal Hydraulic Codes for Safety Assessment of Nuclear Power Plants ([link](#));
- Thermohydraulic Stability Analysis ([link](#));
- Radiolytic Gas Management in Boiling Water Reactors ([link](#));
- Stress Analysis ([link](#));
- Light Water Reactor (LWR) core design and fuel management ([link](#));
- Light Water Reactor (LWR) core feedback and transient response ([link](#)).

**CEA-INSTN COURSES
WITH NEW DATES**



Courses by CEA INSTN (FREE of CHARGE FOR ANNETTE)

- [PWR operation and safety](#) (3-7 December 2018) [Click here for the Learning Outcomes](#)
- [Thermal Hydraulics and safety](#) (14-18 January 2019)
- [Materials for Nuclear Reactors](#) (21-25 January 2019)
- [Reactor core physics: Deterministic and Monte Carlo methods](#) (21-25 January 2019)
- [Nuclear fuels for light water reactors and fast reactors](#) (28 January - 1 February 2019)
- [Neutronics for light water reactors](#) (11-15 March 2019 and 18-22 March 2019) [Click here for the Learning Outcomes](#)

**INFORMATION ON
RECENTLY
ADVERTISED
COURSES**



REMINDERS

[Principles of Radiation Protection. International Framework. Regulatory Control \(e-learning\)](#)



Lecturers:

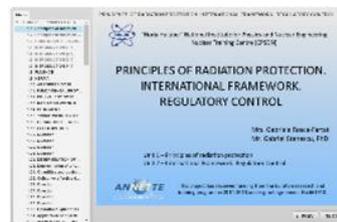
Mrs. Gabriela Rosca-Fartat
Mr. Gabriel Stanescu, PhD
"Horia Hulubei" National Institute for Physics and Nuclear Engineering (IFIN – HH)
Nuclear Training Centre
30 Reactorului, RO-077125, Bucharest-Magurele, Romania

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](#)



**[COURSE BY
UPPSALA
UNIVERSITY](#)**



UPPSALA
UNIVERSITET

[Course on Human-Technology-Organisation/Human Factors for Nuclear Safety including Virtual Reality Resources as part of Safety Culture \(6 ECTS\)](#) (November 5, 2018, to December 21st, 2018)

<p><u>SINGLE AND TWO-PHASE THERMAL-HYDRAULICS</u> - for nuclear applications</p> <p>(e-learning)</p>	 <p><u>SINGLE AND TWO-PHASE THERMAL-HYDRAULICS</u> The theoretical lectures and exercise material are already posted. Videos fully available. Contact: walter.ambrosini@unipi.it</p>
<p><u>MASSIVE OPEN ONLINE COURSE ON NUCLEAR SAFETY CULTURE</u></p> <p>By TECNATOM and UNED</p>	 <p>MOOC (Massive Open Online Course):</p> <p><u>Introducing safety culture and its application to the nuclear field</u> A completely online, free, international course. General information about the MOOC is available in the link above. 30 h of participant work – 1ECTS Divided in 4 independent NOOCs (Nano Open Online Courses):</p> <p><u>NOOC I. What is safety culture?</u> <u>NOOC II. Understanding Nuclear Safety Culture</u> <u>NOOC III. Developing leadership for safety</u> <u>NOOC IV. Refreshing Nuclear Basics</u></p> <p>Open now the free registration, by clicking on each NOOC above. Provisional starting date: February 4th 2019, we are actually in the production process! If you want to receive information about the MOOC/NOOCs, please fill the form here</p> <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 style="text-align: center;">DISSEMINATION ACTIVITIES</p>
<p><u>Presenting the MOOC course for ANNETTE project in the international congress "Learning with MOOCs 2018" (LWMOOCS V)</u></p> <p><u>INOOC in EADTU OOFHEC 2018 in Aarhus presenting our MOOC within the Horizon 2020 ANNETTE project</u></p>	<p><u>UNED</u> has presented the MOOC course for ANNETTE project "Introducing safety culture and its application to the nuclear field" in the international congress "<u>Learning with MOOCs 2018</u>" (LWMOOCS V), celebrated in Madrid 26th-28th September in UNED.</p> <p><i>Innovative social approach in the nuclear sector: a MOOC in Nuclear Safety Culture within H2020 ANNETTE project</i></p> <p>Mercedes Alonso-Ramos¹, Ángeles Sánchez-Elvira¹, Javier Sanz Gozalo¹, David Abarca Ahijado², Álvaro Pablo Muñoz Rodrigo², Fernando González González², Tiberio Feliz Murias¹, Manuel Alonso Castro Gil¹</p> <p>¹UNED, Spain; ²Tecnatom, Spain</p> <p>The audience talked about the big expectation on what a MOOC of this type in the nuclear sector could attain regarding specially the collaborative learning environment and the interaction between very different target groups: the nuclear sector professionals as well as master students and professionals from other industries.</p> <p><u>UNED</u> has participated in "<u>The Online, Open and Flexible Higher Education Conference</u>" – <u>OOFHEC2018. Blended and online Learning: Changing the Educational Landscape</u>, organized by the <u>EADTU</u> (European Association of Distance Teaching Universities). The conference was hosted by Aarhus University, Denmark.</p> <p>In the Conference, our work in the field of nuclear E&T innovation was presented, and more specifically our current development of the MOOC on Nuclear Safety Culture within <u>ANNETTE project</u> in collaboration with <u>TECNATOM</u>.</p> <p><i>Fostering innovation in the nuclear ET sector through e-learning and MOOCs within the Horizon 2020 ANNETTE project</i></p> <p>Alonso Ramos, M., Sánchez-Elvira Paniagua, A., Sanz Gozalo, J., Abarca Ahijado, D., González González, F., Feliz Murias, T. & Castro Alonso, M.</p>

UNED has played an important role in the introduction of eLearning to guide the innovation in the project. Our commitment to the project is centred in the MOOC "Introducing Nuclear Safety and its application to the nuclear field". Nuclear Safety Culture (NSC) is a multidisciplinary discipline, the first driver for all nuclear organizations, and a must when teaching on any subject in the nuclear field. The MOOC, built on the expertise in NSC of the engineering company Tecnatom, and guided by the know-how of UNED in open, online learning and MOOCs, is then part of an innovative offer for advanced education, contributing as well to a horizontal communication between stakeholders in the nuclear sector. Also, the possibility to be followed by anyone anywhere opens the scope of the participants to professionals from other industrial sectors, and to talented young students or professionals. Considering the number of people retiring and the difficulties to attract talent to the nuclear sector this networking activity becomes one of the strategic objectives of the MOOC.

MERRY CHRISTMAS AND HAPPY NEW YEAR 2019

FROM



AND



**European Nuclear
Education Network
Association**



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E-mail: secretariat@enen.eu

GENERAL INFO:

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



LINK TO THE APPLICATION FORM

Web page concerning the grants of the ENEN+ project

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

(PLEASE, READ CAREFULLY THE INSTRUCTIONS !!!)