Blended learning in radiation protection and radioecology

Programme: ERASMUS+

Action: Key Action 2 (Strategic Partnership)

Kick-off meeting

Erasmus+

Overview

- General presentation of the project
- Implementation of the project
  - Academic workpackage
  - Administrative workpackage
- Quality
- Dissimination & sustainability

Strategic Partnerships in a few words

Strategic Partnerships aim to:

- **develop initiatives addressing one or more fields of education training**
- **promote innovation, exchange of experience and know-how between different types of organisations involved in education**, training and youth or in other relevant fields.

EU priorities that we are targeting

- Improving the **quality and relevance** of higher education
  - By identifying, in the partner countries, the market needs for a specific knowledge and training related to nuclear applications
- Contributing to the development of a **European Area of Skills and Qualifications**
  - Through the blended learning program that we will develop
- Contributing to the **standardization of the knowledge across Europe** in radiation protection and safe use of radioactive materials
  - By sharing the knowledge in radiation protection and radioecology

Project Vision

- *What are we trying to achieve?*
  - PHASE 1 : **To increase student's employability** by offering a program which respond to the market needs:
    - E-learning platform
    - Real mobilities
    - Internships
    - Certification (Europass Certificate Supplement and ECTS for students)
  - PHASE 2 : **To increase the qualifications of the people already involved in the work market** by:
    - Extending the e-learning modules to this specific audience

3 target groups

1. The **students of the participating institutions**
   - ***involved* in a Master in physics or in nuclear engineering.**
   - ***not involved* in a Master in physics or in nuclear engineering**

   →They can apply for e-learning courses but also for training activities (for free) to acquire specific skills to extend their employability.
2. The **persons already involved in the work market**
   - ***involved* in radiation protection**
   - ***not involved* in nuclear and radiological techniques during their studies**

   → They can apply for e-learning courses but also for training activities (providing the payment of fees).
3. the **teaching staff** who can take benefit from the experience of foreign colleague when participating to training session.

Achievement indicators

How will you know when the project is complete?

- The assessment of the effectiveness of the program will be based on **3 achievement indicators**:
  - the number of participants along with the gross average mark
  - the level of proficiency gained by the participant students/trainees in the studied subject
  - the increased marketability of their skills

Duration

- Project Start Date: 01-09-2015
- Project End Date: 31-08-2017
  - Total Duration: 24 months

Partnership: Academic partners

- Academic Partners (from the CHERNE network) representing **7 countries**:
  - HAUTE ECOLE PAUL-HENRI SPAAK – **BELGIUM**
  - UNIVERSITEIT HASSELT (UHasselt)- **BELGIUM**
  - FACHHOCHSCHULE AACHEN (FH Aachen) - **GERMANY**
  - UNIVERSITA DI BOLOGNA(UNIBO) - **ITALY**
  - UNIVERSIDADE DE COIMBRA - **PORTUGAL**
  - CZECH TECHNICAL UNIVERSITY IN PRAGUE(CUT) – **CZECH REPUBLIC**
  - NATIONAL TECHNICAL UNIVERSITY OF ATHENS(NTUA) - **GREECE**
  - UNIVERSITAT POLITECNICA DE VALENCIA (UPV)- **SPAIN**

Partnership: Non-academic partners

- Non-academic partners to add value to the partnership:
  - a research institute: THE NATIONAL RADIATION PROTECTION INSTITUTE (SURO) – **CZECH REPUBLIC**
  - a regulatory body: GREEK ATOMIC ENERGY COMMISSION **- GREECE**
- The non-academic partners have been chosen according to:
  - their competence in a specific field
  - their possibilities to promote the program during and after this project

Objectives

- **Development of a blended learning program** in radiation protection and radioecology
- **Continuous education program** for people already *involved* in radiation protection
- **Acquisition of specific competences** in the nuclear field for those who were *not involved* in nuclear and radiological techniques during their studies
- **Contribution towards standardization of the knowledge across Europe** in radiation protection and safe use of radioactive materials

Ways to fulfil these objectives

- E-learning (= virtual mobility)
- Training courses (= real mobility)

How will it work

- For the students:
  - E-learning modules will be used as a preparation for advanced course modules, for selection of the students in the case of practical sessions (pre-requisite) and finally for the follow-up of the global program
  - Real mobility to access large experimental devices not present in each country and to be given the opportunity to do an internship in other EU countries.
- For the workers:
  - E-learning mobility to acquire new competences and for continuous education purposes

Intellectual outputs: deliverable proposed

- O1: Analyze of the present situation in radiation protection and radioecology within the European countries
- **O2: Implementation of course modules on an e-learning platform**
- O3: Trainings in Radiation Protection and Radioecology

For each output, we have defined

- A leading institution
- Partners, regarding skills of each participant

Project Deliverables

- **Database/report** on the market needs
- E-learning platform (including internship platform)
- Mobility trainings
- Certifications (Europass Certificate Supplement for professionals, Europass Certificate Supplement and ECTS for students) in the radiation protection field that will be recognized by the national authorities of the partner institutions.

- **+ Who will ensure that the completion and the quality of these deliverables? UNIBO (including fo the report and the certifications)?**
- **+ Who will coordinate the certifications?**

Distribution of tasks and responsabilities

The project work has been divided into **workpackages** approved by and assigned to the partners.

- **Academic** WP: UHasselt (Alumni) & University of Aachen (platform)
- **Event** WP: CUT
- Dissimination WP: NTUA (communication) & UPV (dissemination)
- Quality WP: UNIBO
- Administration WP: HESPAAK

O1: analyze of the present situation in radiation protection and radioecology within the European countries

- Leader: U Hasselt
- Participants: all
- Aim:
  - Evaluation of the present situation
  - Evaluation of the need of the labour market in terms of skills and competences
- Deliverable:
  - (Data base)
  - Report to be published on the project website?
- NO MONEY FOR THAT so need to find cheap solutions
  - Questionnaire distributed via local organisations like ABR-BVS in Belgium
- **DEADLINE IS: May 2016**

Academic WP

O1: short action plan proposal

- Analyse of already existing analysis- U Hasselt
- Creation of a survey specifically focused on the course we wanted to develop -U Hasselt
- Survey distributed to all the partner who transfer it to their list of contact
- Analyse by U-Hasselt
- Database/report by May 2016
- Sonia will make a more detailed short action program

O2: Implementation of course modules on an e-learning platform

- Leader: EEAE (Greek Energy atomic Commission) (organizing the platform)
  - Konstantinos will propose a short action program
- Coordinator of content: Athens
- Leader of each module have to coordinate the content with Athens
- Participant: all (feeding all the modules)
- Aim:
  - Accessibility for workers
  - Pre-requisite for training modules
- Deliverable:
  - 6 e-learning modules of 2 ECTS each
  - First modules (1, 2, 5 and 4?) have to be ready for first trial for April or May 2016

Academic WP

E-learning platform: use

- During the 1st phase of this SP, these e-learning modules will be used for:
  - the preparation of the training modules
  - the selection of the students in the case of practical sessions
  - the follow-up of the global program

- During the 2nd phase of this SP, these modules can also be followed individually as continuous education for workers who need to develop specific skills.

Academic WP

E-learning modules (1)

Title	Basics nuclear and radiation physics	Basics of measurement and dosimetry	Radiation protection
Subject	•Radioactivity, radionuclides and ionizing radiations • Nuclear reactions • Applied nuclear physics • interactions between radiation and matter • Description of a radiation beam	• Measurement of γ, neutron,... •spectrometry • Dosimetry	•Basic principles of radiation protection • EU legislation •Shielding evaluation •ALARA principles
Participants	SURO, Coimbra	Athens, CTU	UPV, EEAE
Leader	CTU	FHAachen	SURO

Academic WP

E-learning modules (2)

Title	General safety principles	Basics radiochemistry	Medical applications
Subject	•European legislation •Risk related to industry (chemistry, electricity, biology) • Risk assessment: methodology	•Introduction (principles , industrial applications of radionuclides) • radiochemical working techniques • decontamination techniques	• Medical techniques for diagnostics and therapy •Quality assurance •R P for workers and public •R P for patients
Participants	ISIB	FHAachen, U Hasselt	Athens, (Unibo, FH Aachen) EEAE
Leader	UPV	ISIB	Coimbra

Academic WP

O3: Trainings in Radiation Protection and Radioecology

- EXPLANATION :
  - Mobility trainings will consist in **5 days of experimental work on real devices**.
  - The training modules will involve **student mobility** and **staff mobility (from academic and non-academic partners)**.
  - The **institutions where the different modules will take place, will also be in charge of the development of each module**.
    - These institutions have be chosen according to the experimental devices they can give access to.
    - But other partners can of course contribute to the development or the implementation of a part of the module.
  - A total number of **16 students/module is foreseen**.
    - The students selection based on their knowledge in **nuclear and radiations physics** (developed in the distance learning module) and in **English**

Events WP

O3: Trainings in Radiation Protection and Radioecology

- Leader: CUT
- Participant: all
- Aim:
  - Real mobility
  - Uses of large specific devices
- Deliverable:
  - 6 training modules of 2 ECTS each
- a coordinator for each training activity have been defined (see table):
  - 2 modules during academic year 2016-2017

Events WP

Mobility

- Funds for
  - 2 students/partner
  - 1 teacher/active partner in the module
- Recognition
  - ECTS certificate to be used in own institution
  - Europass Certificate Supplement delivered to increase participant's employability.

Events WP

Training modules (1)

Title	probability risk assesment.	Environmental measurements	Safe industrial applications of radiation and radionuclides
Subject	•principle of risk assessment • applications in nuclear industry. • Exercises on software for specific cases	•Introductive lectures •Field trip and sampling • Analyze of sample in the laboratory	•Introductive lectures •Radiation protection in industry: real manipulation on large devices •Alara workshop
Participants	ISIB	HESpaak, Uhasselt SURO, NTUA	SURO, Coimbra, NTUA, FH Aachen
Leader	UPV (01-2017)	?	CTU (05/2016)

Events WP

Training modules (2)

Title	Radiochemistry	Radioactive waste management	Practical radiation protection in medical field
Subject	•Radiochemical techniques •Safe handling of radionuclides •Tracer applications •Decontamination techniques	• Identification of radioisotopes: •Evaluation of the activity, energy and efficiency calibration(experimental and/or MC calculation, Activity measurement in real samples)	•R P of the workers, patients and public • Practical cases •Measurement of doses •Calculation of shielding
Participants	EEAE, UPV	HESpaak	Coimbra, CUT, GEAC
Leader	HESpaak, FHAachen,(05/2016)	FHAachen, UHasselt	Unibo

Events WP

Project Milestones: Gantt chart

PROJECT TIMETABLE

MONTHS	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24
Project activity*																								
O1																								
O2																								
O3																								
M1																								
M2																								
M3																								
C1																								
C2																								
C3																								
C4																								
C5																								
C6																								

Please insert rows as needed

*Project activity types:

A*n*	- PROJECT MANAGEMENT AND IMPLEMENTATION ACTIVITIES
O*n*/A*n*	- INTELLECTUAL OUTPUTS/ACTIVITIES
M*n*	- TRANSNATIONAL PROJECT MEETINGS
E*n*	- MULTIPLIER EVENTS
C*n*	- LEARNING/TEACHING/TRAINING ACTIVITIES
n	- number of the activity

Administrative WP

Obligations

- To work in accordance with:
  - **programme guide**
  - **grant agreement** - *Normally you have received it*
  - **project application** - *Normally you have received it*

- Don't forget to:
  - To document what is being done
  - To spread the results
  - To use the Erasmus+ logo in communications

Administrative WP

Grant agreement: duration and budget

- Project duration between 01/09/2015 and 31/08/2017 both inclusive
- Maximum amount of the grant: 169.295€
  - Prefinancing (= 40% of the grant): **67.718€ - already received**
  - 2nd payment after interim report (= 40% of the grant): **67.718€ - by end of August 2016**
- **Interim report due: 30/06/2016** (period covered: 01/09/2015-30/04/2016)
- **Final report due: 30/10/2017 it includes:**
  - MOBILITY TOOL+ (Mobilties and progress/interim/final reports)
  - VALOR (all products/results have to be uploaded on this dissimination platform)
  - = request for the remaining 20% on approuved final report: **33.859€ - by end Decembre 2016** *NOTE*: Reports to be submitted in French or in English

Administrative WP

Grant agreement: budget transfers

- It is allowed to transfert up to 20% of the funds allocated for: project management and implementation, transnational project meetings, intellectual output, (multiplier events) and learning/teaching/training activities and exceptional costs to any budget category (but project management and implementation and exceptional costs)
- A budget transfert can maximum increase 20% of the original budget
- It is allowed to transfert funds allocated for any budget to the budget category Special needs support.

Administrative WP

Grant agreement: protection and safety of the participants

- The beneficiaries shall have in place effective procedures and arrangements to provide for the **safety and protection of the participants in their project**
- The beneficiaries shall ensure that **insurance coverage is provided to participants involved in mobility activities abroad**.

Administrative WP

1. Budget category: project management and implementation

- Total budget : 66.000€
- Fixed amount
  - 500€/month for the coordinator
  - 250€/month for partners
- To cover everything not covered by other budget categories (coordination and communication between partners, information, promotion and dissemination - e.g. brochures, leaflets, web information, etc.)
- Supporting documents:
  - Activities and results to be detailed in the FINAL REPORT

Administrative WP

2. Budget category: transnational project meetings

- Total budget : 4.210€ (unfortunately less than expected! It will not even cover the 4.600€ that we need for this kick-off meeting)
- Unit cost:
  - Each partner will receive 575€/institution to cover the expenses (travel and stay) related to this meeting
- Supporting documents:
  - Signed and stamped declarations of attendance (original documents)

Administrative WP

3. Budget category: intellectual outputs

- Total budget : 40.105€
- Unit cost for number of staff workdays (the amount depend on staff category and country)
- For the distribution the overall workload will be taken into account (Platform/WPL/Local organizer)
- This budget cannot be used for adminstrative staff
- Supporting documents:
  - Outputs uploaded on the VALOR platform
  - Proof of time invested: nomintative timesheet (existing template)
  - Employment contract

Administrative WP

4. Budget category: learning/teaching/training activities

- **TRAVEL** total budget : 26.105€
  - Unit cost 275€ or 360€ depending on the distance
- **STAY** total budget : 31.000€
  - Daily rate: 55€/day
  - To cover the students and staff mobilities in the frame of learning/teaching/training activities
- Supporting documents:
  - Signed and stamped declarations of attendance (original documents)

Administrative WP

5. Budget category: Exceptional costs

- Total budget : 1.875€
- To cover 75% actually incurred for external subcontracting
- Supporting documents:
  - Invoices

Administrative WP

Reports

During the project *(and not only after)*, activities and expenses should be updated regularly in Mobility Tool+

- There will be 2 reports:
  - Interim report due: 30/06/2016 (period covered: 01/09/2015-30/04/2016)
  - Final report due: 30/10/2017
- The purpose of these reports is to demonstrate that the activities foreseen in the application form have been carried out and in accordance with the grant agreement
- We, as coordinator, are responsible for submiting the reports (MOBILITY TOOL+* & VALOR)
- You, as partner institutions, are responsible for providing the necessary data and documentations in due time

Administrative WP

Responsabilities

Coordinator

- Is responsible for:
  - Project monitoring
  - Budget control
  - Sending in due time correct data, information and documentation to the Agency
  - Informing the Agency if significant changes arise
  - Reporting in Mobility Tool+
  - Submitting the reports
  - Paying the partners in due time

Partners

- Jointly responsible for carrying out the project activities
  - Deliver output
  - Organise the training modules
  - Inform the coordinator immediately of delays or any significant issue
  - Sending in due time correct data, information and documentation

Administrative WP

Paiement issue

- We will directly pay 40% of the **implementation and intellectual output** budget to the partners
- The **transnational meeting** budget will be spend now
- The **learning/teaching/training activities** (travel and stay) will be pay to the institutions once we know the location and the final number of participant/institution
- **Exceptional costs** will be used when needed (75% of the invoice amount)

Administrative WP

Partnership agreement

- Once we have agreed on:
  - payment procedure
  - tasks responsabilities
- An agreement stating the duties, obligations and responsibilities of the partners but also mentioning administrative aspects (such as reports, financial management, accounting principles, insurance, etc.) will be prepared by HESPAAK and signed by all partners
- It will be done in order to prevent the non-fulfillment of obligations, delays and budget overrun

Administrative WP

Project management: tools

- Kick-off to ensure a common vision **~~(Mid-term in 2016 and Final in 2017)~~**
- Partnership agreement: to prevent the non-fulfillment of obligations
- Budget tracking: to avoid budget overun
- Gantt chart, action plan and tasks lists will be used to monitor the project progress (meeting of deadlines and completion of the deliverables)
- Communication tools :
  - **Cherne platform as a central documentation webpage**
  - **Cherne intranet (to be developped) or Dropdox to share useful documents**

Administrative WP

Global project quality: Measures

- WPL : UNIBO
- *How will you know when the project is complete?*
  - The assessment of the effectiveness of the program will be based on 3 achievement indicators:
    1. **The number of participants along with the gross average mark** will be communicated after each teaching activity
    2. **the level of proficiency gained by the participant students/trainees in the studied subject**
    3. **the increased marketability of their skills.**
       - Will be assessed with the help of the non-educational partners
       - A survey can be organized by the Quality WPL (UNIBO)to analyze if the teaching and training program ensure the completion of skills needed in the industry. Companies will be chosen at random in all the fields covered by the teaching and training program to evaluate the matching between the needs and the present offer.

Quality WP

Quality of modules

- Each module (e-learning and training) will be **evaluated by the students and by the professors by means of a questionnaire**.
  - The answers will be analyzed at the end of the 1st year by Unibo.
  - According to the results modifications of the contents could be implemented in the 2nd year of the project.

Quality WP

Dissimination/communication

- WPL : NTUA
- **PHASE 1 OBJECTIVES:**
  - **to promote our project**
  - targeting**:**
  1. the students from the partner institutions (to register for the e-learning module and IP's)
  2. the field related job market in the partner countries (to first grasp the market need and secondly inform the potential participants)
  3. employment agencies, sectorial agencies and federations in the partner countries (for promotional purposes).

- **PHASE 2 OBJECTIVES:**
  - **ensure that we are properly responding the job market and participants needs.**
  - **to give visibility to the results obtained and the project added value**
  - **to ensure the project sustainability**
  - **targeting:** alumni, non partner academic institutions and their students and field related job market in the non partner countries.

Dissimination WP

Foreseen dissemination activities

- Visibility at student **fairs**, "open campus days", "international days" or/and "international staff training weeks" of each institution.
- Participating in **meetings, congresses and workshops devoted to education or related to radiation protection or radioecology** at European level.
- The University of Coimbra will coordinate the network participation at **the 9th Workshop of the EANNORM** (European ALARA Network for Naturally Occurring Radioactive Materials) which will take place in December 2016, in Stockholm, Sweden. We intend to run a stand at the exhibition and to lead a roundtable.
- Encourage each **partners** to disseminate the information to their **contacts** in industries, research institutions and public bodies (i.e. representatives of the labor market).
- Use **social networking**: Facebook to communicate to students, alumni and LinkedIn/ Tweeter to address professional (through discussion groups for instance)

Dissimination WP

Dissimination: Ressources

- The **platform**
  - It will be the central point. It should be updated regularly and carefully referenced.
- The **partner websites, intranet and newsletters**
  - A short presentation of the project and the link to the platform will be placed on each PW.
  - Information will be posted on the partner intranet and will also be circulated via newsletters.
- The program will be added to the already available academic programs of each institution so it will appear in the **partner institution promotional materials**
- **Posters** (drawing the attention on the project) and **flyers** (briefly explaining the program)
  - will be created for universities and professionals.
  - The folders will also be distributed in national or local student fairs, during the "open campus days" or "international days" or "international staff training weeks" of each institution.

Dissimination: FU

- Could we define a publication policy (publication manager, book…) for the network ?/
  Web site?
  Logo ?

Dissimination WP

Sustainability: content (1)

- WPL: UPV
- **After the end of the project, the e-learning modules and the training documentation (lecture and exercises) will remain accessible to**:
  - the partners institutions
  - their students
  - non academic people for continuous educational purposes.
- The modules used during the training modules will be in most cases **integrated into the existing curricula** of each institution

Dissimination WP

Sustainability: content (2)

- Besides, we could develop the following **advance courses for master students and companies employees** for instance:
  - Module 1: Environmental measurement
  - Module 2: Radiation protection and safe use in industry
  - Module 3: Radiochemistry
  - Module 4: Nuclear measurement methods
  - Module 5: Waste management
  - Module 6: Practical RP in medical field
- With the idea is to make this program grow into an **60 ECTS program** and to develop a **codiplomation** between certain partners.

Dissimination WP

Sustainability: participation

- An **alumni network** will be created to witness the program quality and circulate the information. Alumni could also be interested in further developments.

Dissimination WP

Sustainability: financial aspects

- As stated above, in most cases the training modules will be integrated into the existing curricula of each institution (and therefore **included in the tuition fees**). It would be the same for the advanced module courses if they are created.
- Nonetheless **specific tuition fees could be asked to non academic participants** (e.g. workers as continuous education). In this situation, a prizing system as it is known from other continuous education schemes could be adopted. The amount of these tuition fees should reflect the real cost to organize that type of course, for instance a rather low price for e-learning modules and higher prices for "live" course or training session involving international mobility or use of large experimental devices.
- Another option could be found in **partnerships between academic institutions and private companies (within or outside the network)**. The educational program could be presented to private companies to obtain a global support for the establishment of training session involving student short time mobility.
- Last but not least, **student internships and staff exchanges could still take place on Erasmus+ mobility funds**.

Dissimination WP

Sustainability: FU

- Other ideas?
- Action plan?

Dissimination WP

Coming activities

- Short term action plan/WP by 15 November
- Next meetings
  - Sara: date to be defined in 2016 (may 2016)
  - Infopoint: date to be defined in 2017 (may 2016)