

Course Information**Reference Number : ES-2013-353-002****TITLE OF THE TRAINING ACTIVITY****IN THE LANGUAGE OF TUITION**

English : SCIENCE & ART: SO DIFFERENT, SO SIMILAR!

TYPE OF TRAINING ACTIVITY**TRAINING AIMED AT PARTICIPANTS RECEIVING :**

A COMENIUS GRANT (SCHOOL EDUCATION)

TYPE AND ORIGIN OF THE TRAINING:**COURSE***(training resulting from an LLP or previous socrates project (comenius, lingua, grundtvig, minerva))*

LLP OR SOCRATES PROJECT NO. : 07-ESP01-CO07-00094-1 / CY-2008-035-007

THEMATIC FIELD OF THE TRAINING**IN-SERVICE TRAINING IN THE FIELD OF SCIENCES**

- Maths, chemistry & physics
- Natural sciences, biology and environment
- New technologies
- Other courses for teachers of sciences ART and CREATIVITY

LANGUAGES USED FOR THE TRAINING

MAIN LANGUAGE:

English

OTHER LANGUAGE/S USED DURING THE TRAINING:

- Spanish

LANGUAGE VERSION(S) IN WHICH MATERIALS WILL BE PROVIDED:

- English

EDUCATION SECTOR OF THE TRAINING PARTICIPANTS**SCHOOL AND PRE-SCHOOL EDUCATION**

- Primary
- General secondary
- Vocational/Technical secondary

TARGET AUDIENCE

- Teachers (Pre-school, primary, secondary, vocational, adult, special needs)
- Teacher trainers
- Headteachers/principals/managers of schools/organisations offering adult education
- Members of students/teachers councils in adult education
- Other, namely: Teachers that teach science and/or art, design...

INSTITUTION ORGANISING THE TRAINING**NAME OF THE ORGANISATION:** IES Urbano Lugo. Coll. : ARSCIENCIA, SOTAVENTO, MUSEOS CIENTÍFICOS CORUÑESES

STREET AND NUMBER: Av Arteixo 128

POSTCODE: 15007 -

TOWN / CITY: A Coruña

COUNTRY: Spain

WEBSITE: www.iesurbanolugris.es

ORGANISER/S OF THE TRAINING:

PERSON 1: Margarita Lorenzo Cimadevila

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FULL DESCRIPTION OF TRAINING CONTENTS**IN THE LANGUAGE OF THE TRAINING: (EN)****Preparation*** Previous to the course, it will be necessary to reflect deeply on the relationship between Science and

Art. The best way would be to choose a field of Art (literature, painting...) and to write some words about the thin line, which (in your imagination) may link this field of Art with a field of Science. We suggest that you should write short essays (about 10 written lines) involving Art and Science, and the more imaginative, the better!

You are encouraged to visit these web pages in order to get some information about the course:

www.arthurimiller
 www.martademenezes
 www.davideangheleddu.net
 www.cimadevila.tk
 www.trettnak.com
 www.nairucu-arts.org
 www.sotavento.org
 www.casacencias.org

THE COURSE WILL BE HELD IN SANTIAGO DE COMPOSTELA. Due to the fact that Santiago de Compostela is a UNESCO Heritage site since 1984 and European Capital of Culture in 2000, we consider it important for you to get some information about this city and the Pilgrim's Way to Santiago in Wikipedia. Before and during the course we will provide information about two other Galician cities, which we are going to visit, and which are also UNESCO Heritage Sites: A Coruña (Hercules tower) and Lugo (Old Roman Wall).

- Objectives***
- The training course is an approach to the basic aspects of the relationship between Art and Science. Step by step we will analyse the various ways in which Science may become Art, and how and when Art could influence Science and in the actual fusion of Art and Science to make a Third Culture.
 - The main aim for the teachers is to get some hints, which they can use in their Art and Science lessons, in order to convey to their students the idea that both Science and Art are, in a deep sense, very similar and that they are closely related.
 - Opening of new links and routes of contact between the participants, thanks to the international dimension of the course. We will observe how different cultures have different artistic forms of expression/interpretation.
 - Spreading the culture of Galicia through its triangle of World Heritage Sites: Santiago and the Camino de Santiago (end point of pilgrimage, meeting point of cultures, location of international meetings), the tower of Hercules in A Coruña and the Old Roman Wall of Lugo. This also includes its society, traditions, cuisine, current technology, lifestyle, Celtic heritage...
 - Finally, yet not less important, contacting of teachers with the same interest in opening new avenues in the fields of science and art and to convey this concern to the new generations. We will encourage the trainees to develop some new projects (Comenius, Leonardo...), when they return home.

- Methodology***
- The course will begin with an introduction about the relationship between Science and Art. Next we will have lectures about different specific Art forms and their relationship with Science. We will talk in particular about Biology and Art, Literature and Maths, Women and Physics, Fishes and Electronics, Creativity in Science and Art... and some other subjects, which include a revisited view on science models, new architectural visions, keywords in literature and new tendencies like the so-called Third Culture. A session open for questions will follow each lecture.
- We will also have visits to the Heritage Cities A Coruña and Lugo, the Aquarium Finisterrae in A Coruña and the Renewable Energy Park of Sotavento.
- Different materials about the topics of the course will be provided to the students, and a small library, The Science & Art library, will be available, with books on the topics of the lectures or even written by the lecturers themselves.
- Workshops will be very important in the course, because here the new ideas and projects between teachers will appear.
- The trainees will come up with ideas, put forward suggestions and create papers with lesson plans, and we will analyse these proposals together.
- We have one important part of European dimension in the course: the Social Time, which is important to meet people, to share experiences, to interchange ideas, to speak... The course will be very intensive, trainees will be very busy and they will not have much free time. Therefore the Social Time will allow for interchange.
- The trainees will cover the form of evaluation (provided by the organizers) of the organization and the quality of the course, which will be sent to the National Agency. It will also include a section in which their personal opinion can be expressed, in order to correct possible mistakes and to enhance those activities, which are most interesting.

- Follow-up***
- Students will cover the form of the quality of the course, which will be sent to their National Agency. The organisers will provide, if possible, to the students the lectures and news, photos and events around the course.
- The trainers will be encouraged to carry out the proposals they submitted during the course, especially in workshops. They will keep in touch with the speakers and the students, being the main idea for them to start their own Comenius or Leonardo Project.

PROGRAMME OF THE TRAINING ACTIVITIES (DAY BY DAY)

IN THE LANGUAGE OF THE TRAINING:

SUN
 Arrival and welcome

MON
 Introduction
 A. Miller: VISUALISING THE INVISIBLE DRAWING AND THE SCIENTIFIC IMAGINATION
 S. Mataix: LITERATURE & MATH, A REWARDING ALLIANCE
 M. Cimadevila: CIENCIA EX AEQUO

Saint Jacques way
Official visit Santiago
Cathedral, Botafumeiro

TUE
Hercules tower, UNESCO heritage
Aquarium Finisterrae
Official visit A Coruña
Town hall A Coruña

WED
M. de Menezes: MAKING ART WITH BIOLOGY, AN EXPERIMENTAL STORY
W. Trettnak: OCEAN OF IDEAS
P. O'Leary: THE BEAUTY OF MATHEMATICAL IMAGE TRANSFORMATIONS
D. Anghelddu: SCIENCE AS INSPIRATION THROUGH TECHNOLOGY

THU
SOTAVENTO, Renewable Energy Park
Self-sufficient energy house / renewable energy
Hydrogen plant / wind turbines
LUGO
Roman Old Wall, UNESCO heritage
Cathedral
Official visit Lugo

FRI
W. Trettnak : LUMEN, LUMINIS
M. Bianchi : FROM DESCRIBING TO REINVENTING REALITY, A NEVER-ENDING FASCINATING STORY
Workshop 1 & 2: ART & SCIENCE - A WAY TO PROMOTE UNDERSTANDING KNOWLEDGE AND CREATIVITY AT SCHOOL
Evaluation of quality of the course by questionnaires

SAT
Conclusions and Certificate award

SPEAKERS:
DAVIDE ANGHELEDDU. Architect, artist, teacher of Digital Representation at the Polytechnic of Milan. Italy
SUSANA MATAIX. Mathematician, Master Business Administration, science magazine writer. Spain
MARTA DE MENEZES. Degree in Fine Arts, Master History Art. Portugal
Dr. ARTHUR MILLER. Physicist, writer, Emeritus Professor of History and Philosophy of Science at University College London. UK
Dr PAUL O'LEARY. Mathematician. Chair Dept. of Automation, University Leoben. Austria
Dra MARILENA STREIT BIANCHI. CERN. Biologist and art promoter. Switzerland
Dr WOLFGANG TRETTNAK. Chemist , painter. Austria
MARGARITA CIMADEVILA. Chemist, painter, teacher High School Urbano Lugrís. ORGANIZER. Spain

There will be two exhibitions with paintings about Science and Art in the hotel from the artists W. Trettnak and Cimadevila.

TYPE OF CERTIFICATION OF ATTENDANCE AWARDED

IN THE LANGUAGE OF THE TRAINING:

Certificate of attendance

ENGLISH: Certificate of attendance

INFORMATION ON COURSE SESSION/S

Show all sessions (including old sessions)

SESSION 1

SESSION ID: 49549

DATE OF START: 13/04/2014 TIME OF START: 20:00
DATE OF END: 19/04/2014
TIME OF END: 16:00
Deadline for registration: 15/03/2014

HOST INSTITUTION EQUAL TO ORGANIZER INSTITUTION:

NAME OF HOST INSTITUTION: IES Urbano Lugrís. Coll. : ARSCIENCIA, SOTAVENTO, MUSEOS CIENTÍFICOS CORUÑESES

POSTCODE: 15007

TOWN / CITY: A Coruña

COUNTRY: Spain

Nearest big city: A Coruña

Distance: 0km

CONTACT PERSON FOR THIS COURSE SESSION, NAME AND TITLE: Margarita Lorenzo Cimadevila

TEL NR: + 34 699 40 92 70

FAX NR: +34 981 15 40 66

EMAIL: mcimadevila@hotmail.com

IDENTIFICATION OF THE TRAINER/S: NAME, PROFESSIONAL QUALIFICATION, ROLE DURING THE TRAINING:
Margarita Lorenzo Cimadevila, Head of department of Physics & Chemistry of IES Urbano Lugo. High School Teacher. Painter

MAXIMUM NUMBER OF PARTICIPANTS ENVISAGED: 30

FEE IN € FOR ACCOMMODATION AND MEALS : 800.00

Accommodation & all meals

COURSE FEE IN €
(TUITION AND MATERIALS): 690.00

CANCELLATION FEE IN € (WHERE APPLICABLE): 0

PROVISION FOR SPECIAL NEEDS: No

SPECIAL REMARKS::

The course will take place with a minimum of 15 people. The assistance of the speakers and the theme of his lecture is always subject to their agenda, so there may be last minute changes. The final program will be sent to applicants during June