MEIO ERASMUS+

Our OID: E10049116

Course 3 - Coding in All Educational Contexts

ERASMUS + - Key Action 1: Learning Mobility of Individuals[1]

Course 3 - Coding in All Educational Contexts

In this course we will show that "***learning to code***" is fun and easy. It will be an introduction to computer science to all teachers, even with no experience in coding, not forgetting the difference between coding and programming. It will show that schools can teach coding to every student in every age by developing very interesting and motivating activities/projects. Coding is the new trend in education. Many studies have shown that coding helps students to develop critical thinking and problem solving.

By participating on this course you can get the **Europass Mobility Certificate**.
www.europass.ie/europass/euro_mob.html

[1] http://ec.europa.eu/programmes/erasmus-plus/documents/erasmus-plus-programme-guide_en.pdf (p. 30)

Course Organization

This is one-week course organized with educational and cultural activities.

Day 1

Icebreaking activities

Introduction to Coding

- Concepts and development of these 21st Century learning skills.
- Importance of "coding" for all ages
- Pedagogical support tools to code.
- Challenges to design APPs.

Day 2

Coding with Scratch - https://scratch.mit.edu/

- Educational programming language: a project to all ages.
- Pedagogical approaches to Scratch.
- Scratch language and the development environment.
- Designing educational games: help student to program their own games and animations.

Day 3

Developing with APP Inventor - http://appinventor.mit.edu/explore/

- Teaching with App Inventor.
- Pedagogical approaches to APP Inventor.
- Learning about the design process.
- Understand how to building an app that students care about and can immediately see and use.

Day 4

Projecting with Arduino - https://www.arduino.cc/

- Arduino Kits
- Pedagogical approaches to Arduino
- Focus on basic programming, basic circuits, and basic Arduino.
- Basic Arduino projects: LEDs and Sensors

Day 5

Project definition

- Proposing a project framework
- Creating in pairs a project proposal to integrate coding in educational contexts
- Presentation/discussion of the projects proposals

Objectives

- To get a deeper understanding of how coding works, and how the code you write gets converted into an instruction that a computer can 'understand'.
- To guide their students in accessing information through various electronic and print sources efficiently, in evaluating information critically, and using information accurately and creatively.
- To provide an adequate level of motivation to learn coding and gives students a better understanding of how computers work
- To provide access to learning tools, technologies and resources, expanding the learning environment and create solution to problems.

Target

For schools that want to give their teachers and other educational staff the opportunities and incentives to acquire new competencies linked to the needs of the school.

Outcomes

- improved competencies linked to their professional profiles;
- better quality of their work and activities in favour of students, trainees, apprentices, pupils, adult learners, young people;
- increased opportunities for professional and career development;
- increased motivation and satisfaction in their daily work;
- the ability to solve problems and if needed to split the problem into subproblems.

Follow ups

The training center will be available to help you with any doubts related to the course, send you the links with all resources of the course, supported in a secret group on Facebook.

Programme Package – Price

This program starts on **Sunday** and goes to **Saturday**

- Course fee (5 days – 70€ per day) ..... 350€
- Program fee ..... 180€
- Accommodation*(6 nights – 95€ each)..... 570€

Total per participant ..... **1100 €**

**Accommodation in double shared rooms.* If you prefer any other type of accommodation, please contact us.

The accommodation place is an old house rebuilded where you have access to all the spaces such as: the garden, the living room and the terrace. The training center is in the same building as the house accommodation.

Food restrictions, allergies and Intolerances:

In Meio we serve typical Portuguese dishes. The meals included on the course are part of the immersive experience by tasting the Portuguese flavors and dishes. Special diets or other food requests timely planned can be provided with additional costs. Contact us by email for further details.

We do not take any responsibility in what concerns participants to food intolerances. Nevertheless, we are open to help and support in finding a solution that fit your needs.

We kindly ask you to bring your devices.

This package includes:

- ➢ Course Certificate of Participation
- ➢ Mobility Pass Certificate
- ➢ Insurance for the participants
- ➢ 20 hours training
- ➢ Internet Access
- ➢ Daily Coffee Breaks
- ➢ Daily Breakfast, Lunch and Dinner

- Airport Transfers: Arrival and Departure from/to Lisbon Airport (*we provide one transfer for all the group. So the schedule of the transfer departure depends on all the flights participants. This means that the time will the most suitable for all*)
- Visit to a local school
- Cultural and historical tours – four half day trips
    - One day tour to the city of Lisbon (lunch and monuments entrance not include)
    - Visit to city of Santarém
    - Visit the beach of Nazaré (the big waves beach)
    - Visit to the mediaeval village castle of Óbidos
- Farewell dinner

It also includes:

Tours with transportation to visit to the Natural Park of Serra de Aire and Candeeiros (could include visit the Algar do Pena Cave and to the dinosaur footprints in Valley of Meio), visit to the city of Santarem where you can taste the conventual sweets, visit to Nazaré Beach (opportunity to visit the world famous North Beach) with traditional lunch and visit to the town of Obidos with **ginjinha** drink in chocolate cup).

Extra-activities can be provided, such as: Tour to Fátima, tour to the city of Tomar with visit to Convent of Christ, and tour to the Monasteries (Batalha and Alcobaça). These activities are only organized for a minimum number of participants. Contact us for prices or other information's.

Course organization

Our weekly plan is usually organized according this structure. So, if you're ready to be creative and eager to learn something, came and join us.

Day 1	Day 2	Day 3	Day 4	Day 5
Icebreaking activities **Introduction to Coding** ➢ Concepts and development of these 21st Century learning skills. ➢ Importance of coding. ➢ Pedagogical support tools to code. ➢ Challenges to design APPs.	**Coding with Scratch -** **https://scratch.mit.edu/** ➢ Educational programming language: a project to all ages. ➢ Pedagogical approaches to Scratch. ➢ Scratch language and the development environment. ➢ Designing educational games: help student to program their own games and animations.	**Developing with APP Inventor -** **http://appinventor.mit.edu/explore/** ➢ Teaching with App Inventor. ➢ Pedagogical approaches to APP Inventor. ➢ Learning about the design process. ➢ Understand how to building an app that students care about and can immediately see and use.	**Projecting with Arduino -** **https://www.arduino.cc/** ➢ Arduino Kits ➢ Pedagogical approaches to Arduino ➢ Focus on basic programming, basic circuits, and basic Arduino. ➢ Basic Arduino projects: LEDs and Sensors	**Project definition** ➢ Proposing a project framework ➢ Creating in pairs a project proposal to integrate coding in educational contexts ➢ Presentation/discussion of the projects proposals