

MEIO ERASMUS+

OID Number: E10049116



Course – Exploring and Creating with Emerging Technologies

ERASMUS + - Key Action 1: Learning Mobility of Individuals¹

Context

In this course we will show that “*learning to code and emerging technologies exploration*” is a key skill and competence in the context of today. It will be an introduction to computer science to all teachers, even with no high experience in coding and robotics. It will show that schools can teach coding and robotics to every student in every age by developing very interesting and motivating activities/projects. Coding and emerging techs are one of the new trends in education. Many studies have shown that coding and robotics, IoT, AI, VR and AR 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 (5 days) immersive course organized with educational and cultural activities.

Session 1

Icebreaking Activities

Emerging Educational Technologies in the XX1 Century

- Education in the XX1 century: a new approach for a new educational framework
- What are these technologies?
- The need of innovation in the classroom
- The context of Digital Transformation: IoT, Artificial Intelligence, Quantum Computing and Big Data

Introduction to Coding and Robotics

- Importance of coding and emerging tech in the context of Digital Transformation
- Pedagogical approaches to support code and emerging tech environments.
- Introduction to the fundamentals of coding - Python.

Session 2

Introduction to IoT (Internet of Things)

Projecting with Arduino

- Arduino framework
- Pedagogical approaches to Arduino
- Focus on programming: developing circuits and project structures
- Advanced concepts for Arduino Environment

Session 3

Projecting with Raspberry PI

- Raspberry framework
- Pedagogical approaches to Raspberry PI
- Exploring coding with Raspberry Devices
- Advanced concepts for Raspberry Environment

Session 4

Projecting with Arduino and Robotics

- Fundamentals of Arduino and Robotics
- Moving and Sensing with Arduino – setup and programming
- Setting up and robotics and Arduino project
- Develop the robot (hardware and software)

Session 5

Artificial Intelligence and Virtual and Reality concepts in the field of coding

- AI definition and exploration
- AI Projects development
- VR and AR definition and exploration
- Using Coding to improve your VR Experiences
- VR and AR development

Main goals

- To had better understand how the integration of emerging technologies (coding, IoT, robotics) to improve the quality of teaching and learning;
- To guide their students to develop creativity, collaboration, curiosity trough the integration of emerging technologies in educational contexts;
- To learn new approaches/methodologies to implement in the classroom.

Target

For schools that want to give their teachers and other educational staff the opportunities and incentives to acquire new competences in the field of the Digital Transformation linked to the needs of the school.

Outcomes

- improved competences, linked to teacher's professional profiles;
- better quality of teacher's work and activities in favor of students, trainees, apprentices, pupils, adult learners, young people;
- increased opportunities for professional and career development;

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 rebuilt 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, such as laptop and mobile 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 be the most suitable for all)
- 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 the monastery of Batalha and Alcobaça
 - Visit the beach of Nazaré (the big waves beach)
 - Visit to the mediaeval village castle of Óbidos
 - Farewell dinner

Course organization

Session 1	Session 2	Session 3	Session 4	Session 5
<p>Icebreaking Activities Emerging Educational Technologies in the XX1 Century Introduction to Coding and Robotics</p> <ul style="list-style-type: none"> ➤ Importance of coding and robotics in the context of Digital Transformation ➤ Pedagogical approaches to support code and emerging tech environments. ➤ Introduction to the fundamentals of coding - Python. ➤ Group discussion: The educational Power of coding in Education 	<p>Projecting with Arduino</p> <ul style="list-style-type: none"> ➤ Arduino framework ➤ Pedagogical approaches to Arduino ➤ Focus on programming: developing circuits and project structures ➤ Advanced concepts for Arduino Environment <p>Final session thoughts: group discussion</p>	<p>Projecting with Raspberry PI</p> <ul style="list-style-type: none"> ➤ Raspberry framework ➤ Pedagogical approaches to Raspberry PI ➤ Exploring coding with Raspberry Devices ➤ Advanced concepts for Raspberry Environment <p>Final session thoughts: group discussion</p>	<p>Projecting with Arduino and Robotics</p> <ul style="list-style-type: none"> ➤ Fundamentals of Arduino and Robotics ➤ Moving and Sensing with Arduino – setup and programming ➤ Setting up and robotics and Arduino project ➤ Develop the robot (hardware and software) <p>Final session thoughts: group discussion</p>	<p>AI and VR and AR concepts in the field of coding</p> <ul style="list-style-type: none"> ➤ AI definition and exploration ➤ AI Projects development ➤ VR and AR definition and exploration ➤ Using Coding to improve your VR Experiences ➤ VR and AR development <p>Final session thoughts: group discussion</p>