



CODE RED FOR HUMANITY

NEW!



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Constantly evolving.*



COURSE DESCRIPTION

Saving our planet starts with understanding it.

Increasing population, global warming and the current global health crisis are catalytic factors causing collateral damage to our environment and accelerating the negative effects of climate change. Research shows that the world needs to cut its emissions at least by half until 2030 and reach net-zero by mid-century to prevent the worst effects of climate change. Forging a sustainable future demands an appreciation of what's at stake and how to protect it.



Never before in history has the future of our environment faced a more pressing issue than it is today. This generation of students will feel the effects of climate change more than any other and it is critical that every student is provided with an opportunity to study and understand the climate crisis through the school curriculum.



Climate change education is key to turn the tide on this crisis and to create a safe, sustainable world for generations to come. Remember that no step is too small and that the best way to promote change and encourage others to join the fight of our lives is by taking action and leading by example.



Course Objectives: The course goal is to bring climate change education outside the science classroom into the many other subject areas upon which climate change now has an impact, or will impact in the future on our future life on Planet Earth.

COURSE INFORMATION

Learning Outcomes

- Strengthen the abilities and skills to work with the values and principles of sustainability and Internalize the ethical framework for sustainable development that is articulated in the Earth Charter
- Clarify concepts of sustainability, sustainability values and principles, sustainable lifestyles and responsible consumption; and global citizenship, as well as the synergies between them.
- Deepen and expand knowledge about new paradigms of education associated with education for sustainability, sustainable lifestyles, education for global citizenship and transformative education.
- Strengthen the capacities and skills of the educators to integrate the values of sustainability in their areas of action, and develop educational programmes that promote a new awareness of our relationship with the environment and sustainable lifestyles.
- Explore methodological and transforming pedagogical tools that can be used in educational programmes.
- Motivate and inspire educators to contribute, through their areas of action, in building more coherent, harmonious, and sustainable societies.
- Stimulate the exchange of experiences between educators from different contexts and regions.

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COURSE INFORMATION

Duration: 1 week (6 days – Sunday to Monday – 9h00 to 14h00)

Location: Porto, Portugal

Language: English

Certification: Certificate of Attendance, including a description of the learning outcomes from the previous page; Europass validation

Price: 580€ (course fee + administration costs + social program). Prices according to the new Erasmus+ 2021-2027 program*

*(Our courses are eligible to be completely funded by the Erasmus+ KA1 funds and several other programs)

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DAILY PROGRAM*

Our courses also include a daily Coffee Break & Social Program (4 ACTIVITIES)

DAY 1

- Welcome dinner, icebreaking
- Meet & greet, networking – participants and staff
- Week briefing & planning

DAY 2

- Waste: know the principles underlying waste management and the different specific waste streams
- Tallying plastic waste around the globe
- Noise pollution and health: acquire general notions of acoustics and know the noise reduction measures

DAY 3

- Water: learn ways of acting in daily life, which contribute to reduce pollution and waste of this vital resource
- Water cycle – Main issues affecting water quality and quantity
- Fish stocks are over-exploited and depleted

DAY 4

- Energy: understand what energy is, its sources, forms and transformations Distinguish the concept of primary energy, useful energy and energy efficiency
- What is green energy? Definition, types and examples
- Renewable and clean energy

DAY 5

- Indoor and outdoor air quality and health: to acquire knowledge in the field of air pollution, identifying air pollutants (associated with indoor and outdoor environments) and their impact on environment and health
- Group work

DAY 6

- Group work
- Presentations
- Course roundup & review
- Learning outcomes' validation
- Certification Ceremony

*This schedule/ program describes likely activities but may differ based on the trainer's discretion and objectives.



CYBER SECURITY



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COURSE DESCRIPTION

The Internet and all digital technology is now an essential part of our lives, providing many positive experiences for families and teachers, and it's being used at an ever-younger age.



Cyber safety is an extraordinarily important pre-requisite for making the most of the opportunities the Internet has to offer, so it is absolutely important to become aware of (and master) the techniques and tools to ensure safe navigation, avoiding information theft and identity, from external attacks or malware intrusion. Without our involvement (parents and teachers), children are left to self regulate in a world that is not moderated.



Course Objectives: cyber security training serves to **educate** users about the **potential risks** they face when surfing the Internet, using communication tools such as social media, downloading applications, using e-mail, online games, and accessing potentially dangerous sites. In short, the main objective is to **help participants understand clearly the importance of online safety**, learning to recognize potential threats and impacts as well as adopting good browsing practices, defend against cyber attacks, respond to emergencies. Plus, know how to keep various security systems active and up-to-date in order to integrate this knowledge into activities, as well as transfer it to their peers/students in order to disseminate good practices. Vulnerability to malware attacks, as well as identity theft, can be considerably reduced when users are educated about these risks.

COURSE INFORMATION

Learning Outcomes

- Understand basic cyber security concepts;
- Know authentication mechanisms;
- Know dangerous site profiles;
- Understand the dangers of accepting strangers in social media as friends;
- Strengthen the ability to identify major types of malware and their propagation systems;
- Know about prevention tools: firewalls, anti-malware programs, Virtual Private Network (VPN) – to help prevent threats & computer attacks and theft of information and identity;
- Identify security risks and prevent them from occurring;
- Know how to navigate safely, adopting various practices to prevent attacks;
- Ensure proper desktop security and restore security holes;
- Reinforce self-awareness as a European citizen;
- Improve ICT skills;
- Improve communication, language and social skills;
- Promote intercultural awareness.

Duration: 1 week (6 days – Sunday to Friday – 9h00 to 13h00)

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FUTURE CLASSROOM

APPS FOR EDUCATION



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COURSE DESCRIPTION

The challenges of today's school are increasingly demanding for nowadays teachers.



School competes in several levels with the internet, digital apps and other sharing systems of communication and knowledge. Students of today are part of a digital generation very different from their teachers', and because of that they learn everything in a distinct way.



This course's aim is to update teachers in order to overcome this challenge and place students in the center of learning by doing what they know best: using digital apps.



Course Objectives: During this course we'll use teachers and students daily life situations while using educational apps to transfer knowledge. Our methodology is learning by discovery to promote motivation and creativity for educational subjects. These apps can be used in every school activity: school trips, museums, students' everyday life and so on.



By leveraging these digital tools, teachers can **better motivate** students in their subjects!

COURSE INFORMATION

Learning Outcomes

- Use online tools to support and improve innovative teaching and learning methods, in order to motivate and encourage students;
- Use mobile devices as an important tool for teaching and learning activities;
- Explore the “ best of” educational apps, not only in the classroom but also in every school activity;
- Explore active methodologies within and during the classroom;
- Experiment educational apps to improve teaching and learning activities;
- Improve English communication & competences;
- Share experiences and ideas with peers from other cultures, ideologies.

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DAY 1

- Welcome dinner, icebreaking
- Meet & greet, networking - participants and staff
- Week briefing & planning

DAY 2

- "The best of" apps for education - how to prepare our classes in an innovating way
- Team building/Team Up
- Group work

DAY 3

- Apps for collaborative learning - Making learning more fun
- Group Work
- Introduction to Symbaloo
- Practical training: Kahoot

DAY 4

- Apps for all subjects (Chemistry, Geography, Science...) - how to learn and evaluate knowledge
- Group Work
- Practical training: Socrative

DAY 5

- Apps - Augmented Reality & Virtual Reality
- Practical training: VR headsets
- Video's potential (Smartphone and/or Tablet)
- ✓ Mentimeter ✓ Quiver
- ✓ Animoto ✓ Edmodo
- Group Work

DAY 6

- Group work
- Create your own video
- Presentation
- Course roundup & review
- Learning outcomes' validation
- Certification Ceremony

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GAME-BASED LEARNING VERSUS GAMIFICATION



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COURSE DESCRIPTION

Digital games are becoming increasingly popular among young people, and the games market has grown. The popularity of digital games can still be illustrated by the growing number of companies, conferences and publications devoted to the theme. At the same time, the continuous evolution of information and communication technologies (ICT) is leading to increased sophistication and potential of these games and to their development for mobile devices.



Educational games for mobile devices are also becoming popular and their sales have surpassed non-mobile games. Mobile devices "seem to give their users a very strong sense of control and ownership which has been highlighted in research on motivation as a key motivational factor". The idea of control has often been discussed in the context of the use of technology in learning. Ideally students should perceive themselves as being in control of their learning process. Thus, the importance of freedom to define the tasks in which the students want to be involved is supported by the emphasis on control and motivation for learning.



There is also an increasing recognition on the need to integrate all students (with and without special educational needs) into regular education, as well as the importance of doing it properly. There's a need for the development of learning approaches based on the media used by learners, which very definitely include games. The use of digital games as learning tools is known as Game-Based Learning. A concept related to Game-Based Learning is gamification. Gamification applies elements associated with video games (game mechanics and game dynamics) in non-game applications to engage the student in the learning process.



This course's objectives focus on **promoting the use of games in educational context**, as well as gamification strategies to **engage** students in the learning process. Through gamification processes, this course helps trainees to apply these ideas and how to use and produce learning activities with games.

COURSE INFORMATION

Learning Outcomes

- Know the difference between Game-based Learning and Gamification innovative pedagogical scenarios;
- Know and apply Gamification processes in Educational contexts;
- Know and apply Game-based Learning activities in Educational contexts;
- Design a Gamification process using the seven characteristics of the innovative scenario;
- Design Game-Based Learning activities;
- Produce Games for Education;
- Improve ICT skills;
- Improve communication, language and social skills;
- Promote intercultural awareness.

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DAY 1

- Welcome dinner, icebreaking;
- Meet & greet, networking – participants and staff;
- Week briefing & planning.

DAY 2

- Introduction – game-based learning vs gamification: a playful approach to learning
- Games presentation
- Why Games in School? Lucidity vs Serious learning?
- What is Game Based-Learning and Gamification? (Differences between them)

DAY 3

- The Gamification Process – Narrative as a motivational element; Rules: implicit or explicit; Tasks: the student must accomplish a set of tasks to level up (game logics); Levels: the student is motivated to improve performance through increasing difficulty levels; Competition: create a healthy competitive spirit among students; Collaboration: collaboration strategies between students; Motivation: extrinsic (tasks, goals, levels) and intrinsic (own interest or pleasure in the activity)
- Practical: Design & produce a Gamification Process (Apps in education)

DAY 4

- Games to develop competencies & achieve learning objectives
- Game-based scenarios to develop collaborative skills, problem-solving, communication, critical thinking & digital literacy
- Practical: Design & produce a Game-Based Learning activity

DAY 5

- Practical: Plan activities using Game-based Learning and Gamification processes: Multiple Choice; Scales; Word Cloud; Open-ended; Augmented Reality; Ranking

DAY 6

- Game-based Learning & Gamification as monitoring and evaluation processes in education
- Work presentations
- Learning validation
- Certification Ceremony

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MATHS MOBILE LEARNING



MILAGE+ LEARNING
PLATFORM IN MATH
CLASSES



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COURSE DESCRIPTION

Participants will explore the free MILAGE Learning+ platform (Android and iOS), developed to help maths' teachers as well as other subjects, enabling students to access educational content in and outside the classroom.



This functional app works as a support tool for students, providing them with the opportunity to autonomously solve given exercises compiled in worksheets. Simultaneously, it supports teachers when managing classroom time, by not having to provide solutions to exercises, which are already integrated into the app.



The MILAGE Learning+ app interface incorporates gamification features, segmenting different levels of exercise difficulty to support students with greater difficulties and also motivate more advanced students in learning maths. To integrate everyone, the app provides detailed exercise solving videos for students with more learning difficulties.

There is also a concise essential steps video to guide students through exercise solving. In addition, this platform includes a self & peer assessment to stimulate the student to work independently. Later on during the course, participants will explore the MILAGE Learning + Teachers, that works has a back office in Windows & Apple computers. It's free for teachers and schools, to make content for mathematics teaching, as well as other subjects that can be included in the MILAGE Learning+ app.



This course is highly practical and the MILAGE Learn+ app has already many exercises for teaching. This platform can also support online, blended-learning or flipped-learning models.

COURSE INFORMATION

Course Objectives

- Experiment innovative methodologies to improve teaching & learning;
- Explore innovating learning activities with mobile devices;
- Practice with the MILAGE Learn+ for educational contexts;
- Create digital content to creative learning scenarios.

Learning Outcomes

- Experiment new methodologies to increase student involvement;
- Use the MILAGE Learn+ platform to support innovative teaching & learning;
- Use the MILAGE Learn+ app in educational contexts;
- Share experiences and ideas with their peers.
- Improve ICT skills;
- Reinforce self and cultural awareness as a European citizen;
- Improve language, communication and social skills.

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DAY 1

- Welcome dinner, icebreaking;
- Meet & greet, networking - participants and staff;
- Week briefing & planning.

DAY 2

- Mobile learning: benefits and challenges;
- Exploring the MILAGE Learn+ app for teaching and learning.

DAY 3

Exploring the MILAGE Learn+ app & the MILAGE Learn+ Teachers to:

- promote students' autonomous work;
- motivate students to make self and peer assessment & to learn in a gamified environment.

DAY 4

- Making content for the MILAGE Learn+ app;
- Create instructional videos;
- Group work: Project creation.

DAY 5

- Content integration;
- Instructional videos in the MILAGE Learn+ platform;
- Autonomous work.

DAY 6

- Group work: presentation;
- Discussion and evaluation of the course;
- Learning validation;
- Certification Ceremony.

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THERE IS NO PLANET B



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COURSE DESCRIPTION

First of all, climate change education provides an important window into individual and societal responsibility.



This course is designed to introduce climate change education for sustainable development across the curriculum, on multiple subjects. We all need to understand **how and what to teach** about the complex forces driving climate change as well as its impacts on culture, safety and well-being of our lives and the ones to come (future generations).



We all have to change!

Teachers have an essential role when it comes to push forward a whole-school response to climate change. That includes addressing climate and sustainability across the curriculum, build upon the participatory learning approaches called for by education for sustainable development, move learning out of the classroom and into the community.



How can Climate Change Education and Environmental Sustainability be part of the school curriculum?

****NEW PROGRAM****

Our program has completely changed its approach – it is now a much more practical and dynamic course, with outdoor activities, expeditions, museums and real-life cases/situations. If you're interested in this course, contact us for last edition's daily program.

COURSE INFORMATION

Learning Outcomes

- Explain how the concept of sustainability applies at a local, regional, national and global level;
- Explain how systems theory applies to sustainability;
- Explain the concepts of ecological and carbon footprint, as well as personal footprints;
- Analyse the effects of humans on the planet – past, present and future;
- Create and implement a plan to reduce personal/school, ecological or carbon footprints (energy, waste, water, and transportation);
- Identify and compare strategies to influence behavioural change;
- Create/continue to implement an action plan to make schools and communities more sustainable;
- Develop language and social marketing skills;
- Share best practices and peer experiences;
- Teamwork and collaboration.






Duration: 1 week (6 days – Sunday to Friday – 9h00 to 14h00)

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COMPUTATIONAL THINKING & PROGRAMMING

PYTHON IN MATH CLASSES



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COURSE DESCRIPTION

Computational thinking helps you develop logical processing and algorithmic thinking while solving real-world problems across a wide range of domains. There's a shift in mathematics education from procedural symbolic manipulation toward skills, like computational thinking, that better prepare students for the future of work.



Python is a free, popular, powerful and easy to learn programming language. With the aid of the Python programming language and a multiple math platform developed by Texas Instruments (that adds modules for Python, like BBC microbit), you'll learn how to visualize solutions for a range of math problems as you use code to explore key mathematical concepts like algebra, trigonometry, matrices and cellular automata.



People learn best by doing. This hasn't been a daily practice in schools, though, which tend to favor passive learning. "Doing" in English and history classes might mean students write papers or give presentations, and science students perform experiments, but what do math students do? Teachers can use this course's ideas to challenge their students, making Mathematics more approachable and relevant.



What better way to teach this subject than in a real world context? What better way to develop a math's teaching technique in a STEM context?

Once you develop some programming knowledge, especially when you know how to use Python, you can do this and much more!

COURSE INFORMATION

Course Objectives

This course is for any math teacher that wants to apply the most modern tools available to approach math topics like trigonometry and algebra.

The main goal is about using the newest, coolest tools out there to get creative and learn real computer skills while discovering the connections between math, art, science and technology.

Processing will provide the graphics, shapes, motion, and colors, while Python does the calculating and follows your instructions behind the scenes.

By the end of this course, you'll have an arsenal of practical coding solutions that can be used and modified to solve a wide range of practical problems in mathematics and data science.

Learning Outcomes

- Understanding computational thinking;
- Decomposing problems, recognizing patterns & generalizing them;
- Designing algorithms;
- Identify Python language core aspects (programming and features);
- Understand and apply core programming concepts like data structures, conditionals, loops, variables, and functions;
- Use different tools for writing and running Python code;
- Design and write fully-functional Python programs using commonly used data structures, custom functions, reading and writing to files;
- Create digital content for creative learning scenarios;
- Exchange experiences & grow professionally in a European environment, build strong relationships with European teachers
- Reinforce self-awareness as a European citizen;
- Improve language, communication and social skills.

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COURSE INFORMATION

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DAILY PROGRAM*

Our courses also include a daily Coffee Break & Social Program (4 ACTIVITIES)

DAY 1

- Welcome dinner, icebreaking
- Meet & greet, networking – participants and staff
- Week briefing & planning

DAY 2

- Computational thinking & its importance for learning mathematics
- Developing computational thinking in mathematics without programming – examples
- The need for a programming language to fully develop computational thinking and the motivation for learning math

DAY 3

- First steps in Python programming language
- Solving math problems by applying simple Python's programming language features
- Python conditions in a real-world context

DAY 4

- Using python lists to solve problems with data and probabilities
- Functions in Python
- Case practice, individual work




DAY 5

- Texas Instruments Turtle graphics module/ BBC micro:bit with Python
- Activity performed for students during maths and/or STEM classes using Python language (its capabilities and tools)
- Group Work

DAY 6

- Activity presentation
- Course roundup, feedback, & review
- Learning outcomes' validation
- Certification Ceremony

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THE SCIENCE CENTERS

IN EDUCATIONAL CONTEXT



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COURSE DESCRIPTION

How can Europe capitalize the increasing investment in science and technology? What are the challenges that schools face nowadays to respond to the need of improving digital and scientific skills?



Science Centers are privileged places for learning. Here, teachers can get and experience a new dimension and perspective, since they can offer a unique and multisensory experience. So, let's take science and education to another level and use our Interactive Science Centers, laboratories and institutions as a new classroom through experimental activities, and learning by exploring.



The visits that we propose to the Environment and Interpretative Center of Viana do Castelo, the Aquamuseum of Cerveira (Minho river), Natural Park of the North Coast of Esposende and The Environmental Monitoring and Interpretation Center (CMIA) of Matosinhos, will show us, in loco, how to explore the activities that those institutions (experimental activities, field trips, nature paths...) provide. The apps (Android and Apple/iOS) will be used as a fundamental teaching and learning resource, helping us develop creativity, teamwork and autonomy when learning.



This training course intends to **motivate** our participants (school management; teachers & school staff: primary level and secondary level; government & policy makers; recent graduates) to use these interactive centers as **teaching and learning resources**, and as a prime location to develop a European dimension of education.

COURSE INFORMATION

Course Objectives

- Increase the value of experimental teaching in sciences;
- Explore the cultural dynamics of each curriculum through experimental & scientific expertise, using the resources that interactive centers have to offer;
- Explore apps & mobile devices in educational contexts;
- Raise awareness for natural heritage preservation by creating science interpretative centers;
- Use interactive working methods for teaching;
- Enhance communicative competences in English;
- Identify & share good practices that can be implemented at a local level.

Learning Outcomes

- Use interactive science centers as teaching & learning resources;
- Integrate experimental activities, field classes, nature trails, among others, within the curriculum (scientific experiences);
- Use apps for mobile devices in educational contexts;
- Protect the assets of the European natural heritage through the creation of interactive science centers.

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DAY 1

- Welcome dinner, icebreaking
- Meet & greet, networking - participants and staff
- Week briefing & planning

DAY 2

- Working Tools (APPS)
- Sparkvideo, Wevideo, Biteable
- Parque Natural Litoral Norte
- Team building

DAY 3

- **Serralves Museum** - Gardens / Teaching Farm - New forms of cultural participation, from sharing interests & knowledge, in transversal approaches that span art, architecture & the environment
- **Water Museum** - The importance of water for life; its different environments; its various uses and its behavior in different situations, connecting scientific & technological issues within Water Resources to ordinary citizens

DAY 4

- **Center for Living Science - Porto Planetarium** - Educational activities. Movie "The Phantom of the Universe" - explore the exciting story of the discovery of dark matter
- **Botanic Museum of Porto University** - Guided visit to the awarded and most emblematic spaces of the Botanical Garden, framing historical, botanical & literary, all in one place

DAY 5

- Monitoring & Environmental **Interpretation Center (Viana do Castelo)** - Educational services; exhibitions; laboratory activities...
- Visit to the Habitats of the **Natural Park of the North Coast of Esposende**

DAY 6

- Development work
- Work presentations
- Course roundup & review
- Learning outcomes' validation
- Certification Ceremony

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TEACHING TI-NSPIRE-CX TECHNOLOGY



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COURSE DESCRIPTION

When discussing and applying concepts from subjects such as Mathematics, Physics or Chemistry, the graphing calculator is a recurrent tool for solving problems analytically!



TI-Nspire-CX technology allows teachers to create dynamic and shared learning scenarios, making it easier for their students to understand the content. Through different problem perspectives and representations this technology provides significant learning. Its applications allow the creation of complete documents and structured teaching activities.

This course aims to understand the framing of scientific and/or graphing calculator application within the current basic and secondary Education curricula, in subjects such as Mathematics and Chemistry.



Take the first steps to get to know the essential tools of the TI-Nspire™ CX technology in order to maximize the advantages that it allows when working with students, especially when performing autonomous research tasks and problem-solving exercises.



By actively engaging in innovative learning scenarios (that promote 21st century skills), teachers should act as facilitators – transversally promoting creative and reflective and computational thinking, by resorting to Algorithms and Programming.



The **main goal** is, as you know, to solve problems. Using TI-Nspire™ ecosystems, allows to explore mathematical concepts according to a STEM (Science, Technology, Engineering, Mathematics) approach. This is becoming increasingly relevant given that technology and mathematics have a large and growing influence in many aspects of society. *The TI-Nspire™ CX II-T graphing calculator received the Comenius EduMedia 2020 Seal.*

COURSE INFORMATION

Course Objectives

- Experiment innovative methodologies in order to improve teaching and learning;
- Understand graphing technology within the current Maths curriculum;
- Solve Mathematical Modeling Problems in the classroom (physical or virtual);
- Use this technology's tools in order to enhance students' work and performance when working autonomously, helping them solve mathematical modeling tasks, problem solving and maths communication;
- Learn and design useful resources to implement in the classroom, using TI-Nspire™ CX II-T technology;
- Explore innovative learning activities and create digital content for creative learning scenarios.

Learning Outcomes

- Experiment new methodologies to increase student involvement;
- Share pedagogical experiences involving investigations/research feasible in the classroom within the world of mathematics;
- Create frameworks in order to use the graphing calculator in the current education curricula;
- Develop graphing tech knowledge;
- Use essential TI-Nspire™ CX-II technology tools to enhance its advantages at a work and productivity level
- Exploit useful resources/tasks for the classroom by promoting research activities, using this technology;
- Share experiences and ideas with their peers.
- Reinforce self-awareness as a European citizen;
- Improve language, communication and social skills;
- Promote intercultural awareness.

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