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| Course title | STEM teacher training: tools and ideas for the classroom |
| Course code | 050 |
| Course category | STEM and digital education |
| Course purpose and overview | <p>STEM (Science, Technology, Engineering, and Math) is a multi-disciplinary approach to teaching. The STEM approach encourages discussions and problem-solving among students, thus making them more self-confident and motivated to solve problems more efficiently.</p> <p>If you are interested in learning how to prepare inspiring and relevant lessons based on the STEM approach, this is the perfect course for you! The course will have practical activities and discussions on the tools that can be used to make the STEM disciplines creative and engaging (for example Scratch, Arduino, etc.), and how to create lesson plans integrating different aspects of STEM education such as coding, virtual reality (VR), robotics, and augmented reality (AR) into your class. This course will give you a better understanding of STEM and how to transform your teaching strategy!</p> |
| Course structure and content | The course is designed to offer a comprehensive and engaging learning experience, emphasizing experiential, participatory, interactive, and problem-based methods. Throughout the course, participants will delve into the exciting world of STEM education through a diverse range of activities, fostering a deep understanding of the subject matter. |
| Duration | One week |
| Daily programme example | <p>Here is an example of the programme:</p> <p><i>Day 0</i> (usually Sunday) Arrival date</p> <p><i>Day 1</i> Welcome and introduction Ice breakers and team-building exercises What is STEM and how it works in the different countries? Cultural and social activities Feedback day 1</p> <p><i>Day 2</i> Methodologies for STEM differences and effectiveness Developing an organisational policy plan on STEM</p> <p><i>Day 3</i> Virtual and Augmented Reality within the learning environment Finding appropriate online learning resources for self and distance learning Cultural and social activities</p> <p><i>Day 4</i> Writing Code and programming with blocks Different Assessment Tools and use of Assessment Tools in learning environments Cultural and social activities</p> <p><i>Day 5</i> Technology and online teaching and learning Recap of content Final test & closing Discussion of future cooperation and planning follow-up activities / Brainstorming dissemination ideas Final feedback Validation of learning outcomes and a certification ceremony</p> |

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| | <p>Cultural and social activities</p> <p><i>Day 6</i></p> <p>Social, cultural and professional interactions between participants</p> <p>Sociocultural activities</p> <p>Exchanges of contacts and discussion of future cooperation</p> <p><i>Day 7</i></p> <p>Departure date</p> <p>Programme details may be subject to amendment based on trainer, participant needs and other factors such public holidays. Changes might be needed to make up for time lost due to unforeseen or changing circumstances which might be out of the reasonable control of the hosting organisation.</p> |
| Learning objectives | <p>This course aims at supporting the participants to:</p> <ul style="list-style-type: none"> - Develop understanding of the variability principle and that inclusive classrooms consider all types of students, not just the “average”. - Experience then deduce a fluency-based framework to develop a student-centred lesson plan. - Explore the project-based approach by an immersive experience and reflecting on it. - Explore an array of STEM workshops and simplify the myth STEM is just for Science and Math streams. - Acquire a safe path to give and receive feedback based on observed student behaviour and focused more on the learning and less not the teaching. |
| Learning outcomes | <p>By the end of the training course, participants will be able to:</p> <ul style="list-style-type: none"> - Understand what STEM is and what its benefits are - Learn how to create a lesson plan based on STEM - Learn how to adapt previously used materials to create a STEM lesson - Acknowledge all the different ways in which STEM education can be implemented in everyday learning - Develop a strategy about how to present new STEM materials and lessons in an engaging way |
| Assessment and validation of learning outcomes | <p>Participants will demonstrate their achievement of learning outcomes through:</p> <ul style="list-style-type: none"> • Lesson plans using principles and guidelines • Daily Feedback/Journals • Pre- and post-training surveys |
| Target audience | Teachers of any subject, educators, and school administrative staff |
| Admission requirements for participants | No specific requirements |
| Language of delivery | English |
| Language level requirements for participants | B1 or more |
| Maximum number of participants | 16 |

Please note that the course outlined is intended as an example only and may not necessarily be fully executed in accordance with all its details. Our need analysis is primarily based on enrolment information, information shared at kick-off meetings, and pre-evaluation of competencies. As such, it is possible that the programme may be adjusted to better accommodate the diverse needs of participants.

