



# DIS-CODE one-day-crash-course Maths and Coding for a more effective teaching practice

19 January 2017, from 9am to 5pm

@ [Future Classroom Lab](#), Rue de Trèves 61, third floor, 1040 Brussels

*This course is open and free and it aims at teachers working in a secondary school in Belgium (possibly in a French speaking school) who teach Maths or STEM and are interested about learning innovative practices by taking part to the [DIS-CODE project](#). The teachers are expected to have intermediate knowledge of computer skills and a good level of English as the training will be in English.*

## INTRODUCTION

The aim of the DIS-CODE project is to empower students develop **digital literacy** and **mathematical skills** by coding and creating with digital.

Learning to code help students develop also strong transversal skills, **problem-solving**, **logical reasoning** and **creativity**, and can increase their motivation in learning mathematics while applying its principles to reality.



The course objectives are:

- To support teachers who are or will be involved in the teaching of maths or computer science, either as a direct subject or as an element of another subject, to find a more engaging and effective way of teaching maths through different programming tools.
- To provide teachers with concrete ideas and resources to develop computational thinking and maths skills.
- To offer teachers various ways to introduce programming in cross-curricular work through visual programming tools.
- To offer teachers a place of exchange with like-minded peers to exchange resources, ideas and provide guidance to each other.

## AGENDA

Friday 19 January 2018 – Future Classroom Lab	
8:30-9:00	<i>Arrival and coffee</i>
9:00-9:30	<b>Introduction</b> to the project and the one day course, objectives, structure
9:30-11:00	<b>Workshop I</b> <i>Visual programming languages: Scratch, theory &amp; hands on</i>
11:00 – 11:30	<i>Coffee break</i>
11:30-12:00	<b>Workshop II</b> <i>Visual programming languages: Scratch for math</i>
12:00-12:30	<b>DIS-CODE training program &amp; pilot</b>
12:30-13:15	<i>Lunch break</i>
13:15-14:45	<b>Workshop III</b> Innovative practices for teaching and learning Math. <i>Real-world Math, Project Based Learning, Flipped Classroom, Personalized learning and Multiple Intelligences in Maths</i>
14:15-14:30	<i>Coffee break &amp; Stretching your legs</i>
14:30-15:30	<b>Workshop IV</b> <ul style="list-style-type: none"><li>• <i>Manipulatives, graphic calculators, QR codes in Maths</i></li><li>• <i>Personalized learning and Inquire</i></li><li>• <i>Hands on activities</i></li></ul>
15:30-16:15	Brainstorming, discussion & reflection on how to integrate the DIS-CODE methodology in your school.
16:15-17:00	<b>Q&amp;A, wrap up, certificates &amp; end of the course</b>

**TO ATTEND THE FREE ONE-DAY-COURSE PLEASE [REGISTER HERE](#)**

**FOR MORE INFO PLEASE CONTACT [TOMMASO.DALLAVECCHIA@EUN.ORG](mailto:TOMMASO.DALLAVECCHIA@EUN.ORG)**

## DEFINITION OF KEY TERMS:

**Coding.** The process of designing, writing, testing, debugging / troubleshooting, and maintaining the source code of computer programs.

**Computational thinking.** Computational thinking is the thought processes involved in formulating problems and their solutions so that the solutions are represented in a form that can effectively be carried out by an information-processing agent. It is ultimately, a problem solving method that applies computer science techniques.

**Inquiry Based Learning.** Educational technique that always begins with questions, problems and challenges (rather than presenting known facts or a ready-made solution). The role of the teacher here is to pose the initial question to your students, then facilitate them in discovering answers. Ideally – and in order to meet the true definition of Inquiry Based Learning – that process involves them asking further questions.

Inquiry Based Learning is often used in scientific subjects, where there's likely to be a definitive answer for students to reach, often through a process of elimination, testing and trial and error. However it can equally be applied to any subject.

**Project Based Learning.** While this technique also begins with a challenge or question, its remit tends to be wider. If Inquiry Based Learning is about discovering an answer, Project Based Learning is about exploring an answer.

The aim here is that students gain and develop their knowledge and skills through working extensively to investigate and respond in detail to an issue that's engaging and complex, rather than clear-cut. For that reason, Project Based Learning is often used with literature, social and historical topics. It's also – in terms of outputs – a great opportunity for your students to create visual or multimedia material.

**Flipped Classroom.** Is an instructional strategy and a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It moves activities, including those that may have traditionally been considered homework, into the classroom. In a flipped classroom, students watch online lectures, collaborate in online discussions, or carry out research at home and engage in concepts in the classroom with the guidance of a mentor.

**CLIL: Content and Language Integrated Learning.** CLIL refers to situations where subjects, or parts of subjects, are taught through a foreign language with dual-focused aims, namely the learning of content, and the simultaneous learning of a foreign language.

**Digital games-based learning (edutainment).** Learning methodology where children acquire digital literacy informally by playing games. To this end, it is important that multimedia design for training and education should combine the most powerful features of interactive multimedia design with the most effective principles of technologically-mediated learning.