

Coding and Robotics in Classroom

Teaching programming to 1-9 graders according to the Finnish National Curriculum for primary education

COURSE PROGRAMME

Sunday

Helsinki tour

Welcome and official opening.

Conference folders and badges; presentation trainers; practical arrangements. Introduction course programme.

Getting to know each other. Introduction group members Welcome dinner

Monday

Introductory module

- Principles and motivation
- Objective of curriculums internationally
- Basics concepts
- Learning paths
- Integrating programming into curriculum

Tuesday

Programming for grades 1-3

- Developing algorithmic thinking
- Unplugged activities
- Programming with tablets
- Code.org, Scratch and beyond

Wednesday

Robotics

- Principles and environments
- Hands-on implementation of a project suitable for own grade, select one of the following:

Module E1: Programming with BBC micro:bit

- Robotic projects for 1-3 graders (tamagotchi-style pet)

Module E4: Programming with BBC micro:bit

- Robotic projects for 4-6 graders (moving monsters with motors)

Module E9: Programming with BBC micro:bit

- Robotic projects for 7-9 graders (radio signals, interaction with mobile phones)

Thursday

Topics of choice - select one of the following tracks

Programming for 4-6 graders

- Graphical/semi-textual environment: Tynker, TouchDevelop
- Animations
- Game basics

Programming for 7-9th graders

- Moving from block languages to Python
- Game programming concepts
- Python implementation

Friday

Classroom visits

Finalizing hands-on projects

Option to get certified and gain access to learning modules of choice and to further utilize in teaching the contents of the Programming Learning Library provided by Code School Finland

Saturday

Project presentations, what did you learn this week?

Follow-up, networking

What beyond the course

Evaluation of the course

Certificates