

## Learning objectives - Music Programming Basics

### Programming: The student...

- ... can make, save and run a program in the Sonic Pi environment
- ... can understand what is a syntax of a programming language
- ... can write basic programming commands from scratch with the right syntax
- ... can understand how a computer reads the program
- ... can read error messages and fix the program according to them
- ... can do sequencing with functions and Iteration with code blocks
- ... can read comments and use them to explain the code.
- ... understands that programming can be a creative skill, like writing or playing
- ... can understand the difference between linear and multi-threaded programming

### Music: The student...

- ... can understand the concept of notes and octaves
- ... can change the tempo of a song
- ... can write simple melodies
- ... can use various synthesizer sounds included in Sonic Pi
- ... can modify sounds with options
- ... can program drum-beats with samples
- ... can write a simple bass line
- ... understands the role of repetition in music
- ... can use effects in songs
- ... can reflect on the musical decisions made in the projects

## Creative Project Work: The student...

- ... learns to search for inspiring projects in the web
- ... knows the meanings of different creative commons licences and the limits of copying others' work.
- ... learns to find answers to programming-related questions in the web
- ... can develop one's own musical idea with the given subject and programming tools
- ... can give constructive feedback on the creative projects of others.
- ... can utilise the feedback given by others to develop their own project further