LT1068 Introduction in Programming in visual environment for teachers 3.0 credits

Microbit programmering för lärare - grundläggande programmering i visuell miljö

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

General entry requirements

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student should be able to:

- give an account of basic concepts and building blocks of programming, for example sequence, alternative, condition, repetition, algorithm and function
- write simple programmes in a text-based programming language, and discuss differences and similarities between visual and text-based programming,
- create, modify, troubleshoot and test programs in a visual programming language and have basic knowledge of at least one other language
- use visual programming to control physical and virtual objects
- analyse relevant course and subject syllabuses to identify components and contents where programming in visual environments can be used
- orient themselves in current practices and didactic research within teaching of basic programming
- plan and evaluate teaching of basic programming for pupils

Course contents

The course contributes to giving active teachers, primarily in years 4-9 of the compulsory school, the knowledge required to teach programming, mainly within the technology subject, but also within mathematics and other subjects. The core of the course consists of basic programming in visual environments and how this can be used to introduce compulsory school pupils to programming.
The content is based on a course syllabus established by the Swedish National Agency for Education.

- Basic computational concepts
- Simple programming in a visual environment and basic programming in at least one other
- Introduction to visual programming languages and development environments common in schools
- Introduction to a text-based programming language
- Comparisons between visual and text-based programming from technical perspectives
- Comparisons between visual and text-based programming from didactic perspectives
- A number of social issues where information and communication technology is of great importance
- Introductory didactics of programming and didactic aspects on social issues related to information and communication technology

Examination

- TEN1 - Oral examination, 1.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboration/computer based assignments, 1.0 credits, grading scale: P, F
- SEM1 - Remote seminars, 1.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Compulsory attendance in seminars.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.

Additional regulations

Students are advised to use their own computer (laptop) for the course.