ID1019 Programming II 7.5 credits

Programmering II

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

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

Establishment

Course syllabus for ID1019 valid from Spring 2022

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

- Knowledge and skills in programming, 7,5 credits, corresponding to completed course ID1018.
- Knowledge in algorithms and data structures, 4,5 credits, corresponding to completed course component ARBA-Course work in ID1020/ID1021.
- Knowledge in discrete mathematics, 7,5 credits, corresponding to completed course IX1500/SF1610.

Active participation in a course offering where the final examination is not yet reported in Ladok is considered equivalent to completion of the course. Registration for a course is counted as active participation. The term 'final examination' encompasses both the regular examination and the first re-examination.

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, students should be able to:

- use recursion, pattern matching and non-modifiable data structures upon implementation in a functional programming language.

For higher grades, the student should also be able to

- use functions as first order objects and work with the functions of higher order
- explain the basics of functional programming, its structure and operational semantics
- evaluate functions with regard to time complexity
- use message based multi-threaded programming.

Course contents

The course goes through partly the programming techniques that are used in functional programming languages, partly how programmes can be divided into several executing threads and how these can be coordinated. Examples of programming techniques are recursive definitions, non-updateable data structures, functions of higher order and so called “closures”. Coordination of multiple threads is shown, partly through modification of common data structures, partly through message passing between processes.

The course will use a programming language as the main language but also show similarities and differences with other functional languages.

Examination

- INL1 - Hand in assignment, 7.5 credits, grading scale: A, B, C, D, E, FX, 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.

Transitional regulations

1. The previous course component TEN2 is replaced by INL1.

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.