FDD3024 Research preparation course in programming languages and formal methods 10.0 credits

Forskningsförberedande kurs i programmeringsspråk och formella metoder

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

Establishment

Course syllabus for FDD3024 valid from Spring 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

See ”prerequisites”.

Language of instruction

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

Intended learning outcomes

At the end of the course the student should be able to

- Apply several theories and methods covered in the course on sample problems of limited scope and size
- Evaluate the suitability of a given theory/method within a given problem domain
- Define and execute a first own research project within the students research area
- Account for choice of approach
- Relate own work to the state of the art in the area

Course contents

Basic program verification techniques (symbolic execution, abstract interpretation, VC generation, type systems); program logics; inter/intraprocedural flow analysis; Concurrency models, concurrency semantics and verification techniques; Systems modelling and refinement; Modelling, specification, and verification of security properties.

Examination

- EXA1 - Examination, 10.0 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.

The examination is done through the take-home exam as detailed above.

Other requirements for final grade

Passed take-home exam.

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.