ID1015 Logic for Computer Science 7.5 credits

Logik för datavetenskap

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 ID1015 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Three years of upper secondary school or equivalent and a TOEFL test result, minimum score 173(CBT), 500(PBT) or 61(iBT) or an IELTS test result with an overall band score of minimum 5,0 and no band score below 4,5. The English test is COMPULSORY for all applicants except citizens of Australia, Canada, Ireland, New Zealand, United Kingdom and USA. At KTH we make exemption from requirements in Swedish when the course is given in English or other foreign language.

Language of instruction

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

Intended learning outcomes

On successful completion of this module students should be able to:

1. translate texts in natural language to predicate logic, modal logic and temporal logic.

2. deduce formulas in predicate logic using the various methods.

3. deduce formulas in modal logic.

4. utilise methods for automatic theorem proving.

5. create conceptual models in e.g., UML from system descriptions.

6. formally analyse and verify such descriptions.

Course contents

(i) An extensive discussion of the concepts and tools of various logics.

(ii) An assignment where the students use logics for modelling and analysis.

Course literature

Logic – Basics and Beyond, G. Davies, L. Ekenberg and J. Thorbiörnson

Upplaga: Förlag: År:

ISBN: ISBN 91-89278

<>Complementary web-based materials

Examination

- PRO1 - Project Assignment, 4.0 credits, grading scale: P, F
- TEN1 - Examination, 3.5 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.

Written exam (3,5 hp) and hand-in (4 hp).

The grades on the written exam are A/B/C/D/E/Fx/F and on the hand-in pass or fail (P/F).

Other requirements for final grade

To pass the course, the student needs to pass on both the written exam and the hand in. The grade associated with the course is only based on the student's result on the written 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.