Logic

Programme course

5 credits

Logik

TDDD88

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science
and Media Technology

Date determined
2017-01-25

Main field of study
Mathematics, Computer Science and Engineering, Computer Science

Course level
First cycle

Advancement level
G1F

Course offered for
- Computer Science and Engineering, M Sc in Engineering

Prerequisites
Discrete mathematics

Intended learning outcomes
The aim of the course is that the students should gain an understanding of the basic concepts of logic as well as applications of logic in computer science. After the course the student will be able to:
- explain baisc concepts in logic
- formulate sentences in first-order logic
- show different relations between formulas and sets of formulas
- prove logic formulas using tableaux and/or resolution

Course content
Formal syntax and semantics of propositional and predicate logic. Concepts like consistency, consequence and equivalence, plus proofs and refutations of these properties. Reasoning using formal proof systems, in particular tableaux and resolution. Soundness and completeness.

Teaching and working methods
The course consists of a series of lectures and a number of problem solving seminars.

Examination
TEN1	Written examination	5 credits	U, 3, 4, 5

Grades
Four-grade scale, LiU, U, 3, 4, 5

Other information
Supplementary courses: Logikprogrammering

Department
Institutionen för datavetenskap

Director of Studies or equivalent
Peter Dalenius

Examiner
Andrzej Szalas

Course website and other links

Education components
Preliminary scheduled hours: 40 h
Recommended self-study hours: 93 h

Course literature
Ben-Ari, Mordechai (2001) Mathematical Logic for Computer Science. ISBN 1-85233-319-7.

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.