FDD3445 Complexity Theory 7.5 credits

Komplexitetsteori

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

Establishment

Course syllabus for FDD3445 valid from Autumn 2015

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

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:

â€¢ Define and justify basic concepts within complexity theory and explain how they stick together.

â€¢ Describe some of the most important results within modern complexity theory.

â€¢ Use established tools and methods within complexity theory to prove basic theorems and independently solve problems that can be tackled with these methods.

â€¢ Present complexity theoretical arguments with mathematical stringency orally and in writing.

â€¢ Read and understand a research article in the area of complexity theory and show reading comprehension by giving an oral presentation of the article.

Course contents

The aim of this course to give an introduction to complexity theory, present an overview of some of the most important research results and discuss some of the open-ended questions that are studied intensive in the area today.

Course literature

Computational Complexity: A Modern Approach av Sanjeev Arora och Boaz Barak

Examination

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

Written assignments and oral presentation.

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.