DN2265 Parallel Computations for Large-Scale Problems, Part 2 3.0 credits

Parallella beräkningar för storskaliga problem, del 2

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 DN2265 valid from Autumn 2009

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Language of instruction

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

Intended learning outcomes

The goal of this course is to provide a deep understanding of the practical and theoretical issues of solving a complex project in high-performance computing.

This understanding means that after the course you are able to:

- find properties of a given problem which may by used for a potential parallelization
- discuss alternatives and select algorithms for the problem
- implement your project on a parallel computer
- evaluate the performance and discuss the results
- present your results in a report and at a seminar.

Course contents

The participants can choose their own project (subject to approval by the course leader) or select from a list of computationally expensive projects from different areas of applications (financial mathematics, fluid dynamics, computational chemistry, image processing, ...).

Specific prerequisites

Single course students: 90 university credits including 45 university credits in Mathematics or Information Technology. English B, or equivalent.

Course literature

It varies depending on the project.

Examination

- PRO1 - Project, 3.0 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.

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK.

Other requirements for final grade

Project work (PRO1; 3 university credits)

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.