FID3215 Management of Scientific Data at Scale 3.0 credits

Hantering av vetenskapliga data i stor skola

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

Establishment

Course syllabus for FID3215 valid from Spring 2024

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

None

Language of instruction

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

Intended learning outcomes

- List the FAIR principles and examine their application
- Use of different data formats

- Describe metadata concepts and apply standardisation methods

- Explain data provenance and relate it to data produced in the own research

- Describe storage architectures (including their environmental footprint) and debate the impact on scientific workflows

- Recall data protection principles and apply these to selected use cases

- Provide an overview of distributed data infrastructures

Course contents

- Introduction to data management

- FAIR principles

- Data formats

- Principles of metadata

- Technologies relevant to metadata

- Data provenance

- Introduction to I/O and storage

- Storage architectures and technologies

- Storage and I/O user tools

- I/O performance optimisation

- Data governance

- Data security

- GDPR compliance

- Data management frameworks

- Distributed data infrastructures

Examination

- EXA1 - Examination, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

The examination will be based on the assignments

Other requirements for final grade

None

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.