



ID2211 Data Mining, Basic Course 7.5 credits

Datautvinning, grundkurs

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

On 2019-10-15, the Head of School of EECS has decided to establish this official course syllabus to apply from the spring semester 2020 (registration number J-2019-0587).

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

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 shall be able to

- explain different fundamental concepts of data mining including information network analysis and mining (e.g., basic concepts of graph theory, network models, algorithms for clustering, community detection, label propagation, link prediction etc.)
- analyse, select, use, and evaluate data mining techniques and algorithms that are based on the above concepts, as well as independently explore existing data mining algorithms and implement them
- communicate findings, results and ideas in a clear, formal way.

Course contents

- Basic definitions of graph theory, strong and weak ties, degree distributions and clustering measures.
- Erdos-Renyi, Wats-Strogatz, configuration model, the small-world effect.
- Random walks on graphs, Page Rank.
- Clustering and community detection.
- Label Propagation, link prediction.
- Distributional semantics, topic modelling, document summarisation.

Specific prerequisites

Examination

- PRO1 - Project, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 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.

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.