EP272V Network Analytics and Data-Driven Engineering 7.5 credits

Nätverksanalys och datadriven teknik

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

The official course syllabus is valid from the autumn semester 2022 in accordance with head of school decision: J-2022-0093. Decision date: 25/01/2022

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

In total 180 higher education credits of which at least 90 higher education credits in computer science, electrical engineering or an equivalent discipline

• Knowledge in statistics, 6 higher education credits.

- Knowledge in machine learning, 6 higher education credits.
- Knowledge in networks and computer systems, 6 higher education credits.
- Knowledge in Python programming, 6 higher education credits.
- The upper secondary course English B/6

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:

- model an assignment for network analysis
- pre-process data and design models for prediction based on machine learning techniques and tools
- evaluate, interpret and apply the results when possible
- write report that describes and explains project result.

Course contents

This is a project course, where the students carry out analysis projects individually or in small groups. The projects use data from real systems, for example operational data from networks or computer clouds.

The course includes:

- initial lessons about selected machine learning techniques that are used in the projects
- introduction to the tools that should be used
- projects completed by the students based on message boards and project meetings
- preparations before the students' project reports.

The project tasks may be changed from one year to another.

Examination

- PRO1 - Project work, 7.5 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.