DH2643 Advanced Interaction Programming 7.5 credits

Avancerad interaktionsprogrammering

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

Establishment

The official course syllabus is valid from the autumn semester 2026 as decided by the director of first and second cycle education. Decision date: 2026-04-16

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Specific prerequisites

Knowledge of basic interaction programming or mobile development, 7.5 credits, equivalent to completed course DH2642 or ID2216.

Intended learning outcomes

Having passed the course, the student should be able to

- choose appropriate technical platforms or JavaScript frameworks to create useful distributed interactive web applications (e g client/server) or native applications.
- structure interactive systems according to established architectures and design patterns
- assess and improve the usability of existing interactive applications

in order to be able to plan and implement useful interactive applications with both client and server sides.

Course contents

To create full stack web applications with high usability the course gives an overview of design principles and methods for interaction programming of client-server solutions. We examine how successful platforms and frameworks are designed to gain a better understanding of how one should program for respective framework. Client side technologies covered are advanced ReactJS: reducers, react-redux, containers and presentation components, complex components etc. Optimal use of remote data is examined and compared on React, Angular, Vue.
On the server side we look at design and use of e.g nodeJS, Firebase, Heroku, Docker. Between server and client, we look at communication technologies: advanced HTTPS, AJAX, JSON, web sockets, and web services.

Examination

- LAB1 - Laboratory work, 3.0 credits, grading scale: P, F
- PRO1 - Project, 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.

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

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.