Linnæus University

Course syllabus

Faculty of Technology
Department of Computer Science

1DV022 Klientbaserad webbprogrammering, 7,5 högskolepoäng
Client-based Web Programming, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by Faculty of Technology 2014-12-09
The course syllabus is valid from autumn semester 2015

Prerequisites
NO VALUE DEFINED

Objectives
The purpose of the course is that students will develop basic skills for web programming in a web browser. After completing the course the student should be able to:

- work with CSS preprocessors and static site generators, (1)
- describe a web browsers different internal components and their interactions including browser security mechanisms, (2)
- create web applications were JavaScript, HTML and CSS have clear roles and are clearly separated, (3)
- store and with asynchronous communication, transfer data with for the task appropriate data formats (4)
- create optimized and accessible custom single page applications with offline support and which takes advantage of the browser's native APIs. (5)

Content

- The web browser (internal structure, security models, developer tools)
- JavaScript in relation to CSS and HTML
- CSS Preprocessors
- Static site generators
- Offline web applications
- Single Page Applications (SPA)
- Optimization of client-based web applications

- An orientation about accessibility in web applications
- DOM (traversing, selecting, manipulating)
- Handling events in the browser
- Handling history in the browser
- Overview of the browser APIs and practical use of selected APIs
- Asynchronous communication (incl. Ajax)
- Data transfer formats (incl. JSON)

Type of Instruction
Teching is in the form of lectures with different forms of learning activities and labs. Theory combined with practical applications in problem solving oriented towards construction of client-based web applications.

The course can be studied at campus or remotely. The studies requires own access to a computer, headset, webcam and internet connection.

Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
Test 1: Examination Assignment 1 (1 credits). Goal 1 is examined through oral examination of a programming problem. The grades Fail (U), Pass (G) is applied.

Test 2: Examination Assignment 2 (3 credits). Goals 2-4 are examined through oral examination of a programming problem. The grades Fail (U) or Pass (G) is applied.

Test 3: Examination Assignment (3.5 credits). Goals 2-5 are examined through oral examination of a programming problem. The grades Fail (U), Pass (G) or (VG) is applied.

The grades Fail (U), Pass (G) and (VG) is applied in the final grade. To pass the course requires a minimum Pass on each sample moments. A Pass with distinction is required Distinction for the test items third

Students at Linnaeus University have the right to get their grades translated into the seven grade ECTS scale. In order to get their grades translated must submit a request to the course management at the start of the course.

Reexamination is offered within six weeks under the regular semesters. The number of examinations is limited to five times.

Course Evaluation
A course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The result of the course evaluation will be published on the course site and filed at the department.

Other
The teaching is mainly in Swedish, but English components are recurring in the form of, for example, English literature.

Course learning resources are open through the course's public website.

If the course ceases to be given or major changes to be students, over a year after the change occurred, offered two occasions for retesting based on the syllabus in force at registration.

Required Reading and Additional Study Material
Recommended learning resources

- Marijn Haverbeke, Eloquent JavaScript, No Starch Press, latest edition.

- Mozilla Developer Network (//developer.mozilla.org)
- Web-based resources specified on the web page of the course.

Additional learning resources

- Nicolas C. Zakas, Professional JavaScript for Web Developers, John Wile & Sons Inc., latest edition.