Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

1ME205 Webbprogrammering, 15 högskolepoäng
Web Programming, 15 credits

Main field of study
Media Technology

Subject Group
Media Production

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved by the Board of the School of Computer Science, Physics and Mathematics 2009-09-08

Revised 2012-06-08. Literature list is revised.

The course syllabus is valid from autumn semester 2012

Prerequisites
Web Design 15 credits (1ME101).

Objectives
Upon completion of the course the student should:

- understand principles for design of database-driven web applications
- know how to handle and have experience in programming in common languages for managing web applications on client and server side
- be able to structure and define database tables for a web application
- be able to discuss relevant aspects of future development of the web
- know how to put together data from different web applications to a new web application.

Content
The course consists of:

Database-driven Web Applications

- analysis and evaluation of web applications.

CSP, Client Side Programming

- object-based/object-oriented programming with DOM, Document Object Model
- event handling
- structure and distribution of web applications on several web pages
- dynamic content with techniques such as Ajax
- managing cookies
- Used languages are JavaScript, XHTML, XML and CSS.

SSP, Server Side Programming

- principles for design of web applications distributed on client and server
- fundamental programming in PHP
- managing cookies and sessions
- database connection
- support for Ajax and XML.

Relational Databases

- theoretical principles for relational databases
- structuring data in tables
- SQL and MySQL.

Modern Web Design

- modern techniques, such as semantic web, RDF, XForms and ”web sevices” (information exchange between web sites) as well as web 2.0 from the programmer’s perspective
- API, common programming interfaces for ”web services”
- mash-ups, combination of data from different web applications.

Type of Instruction

Campus course are based manley on lectures, seminars, tutorials and practicals.
For distance course, the communication is conducted through a learning management system over the Internet. Practical work is conducted individually or in groups. Attendance is mandatory for some sessions.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
The examination consists of submission on written hand-in assignments. These must be submitted by the due date.

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

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 filed at the department.

Required Reading and Additional Study Material

Required Reading

Keith, J. & Sambells, J. (2010) *DOM Scripting: Web Design with JavaScript and the Document Object Model, 2nd Edition*, Friends of ED, 314 p. ISBN 978-1-4302-3389-3

Powers, D. (2010) *PHP Solutions: Dynamic Web Design Made Easy, 2nd Edition*, Friends of ED, 508 p. ISBN 978-1-4302-3249-0

Web-based material, Linnaeus University, et al. ca. 400 p.