# Linnæus University

# Course syllabus

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

4ME110 Den adaptiva och semantiska webben, 7,5 högskolepoäng
Adaptive and Semantic Web, 7.5 credits

**Main field of study**
Media Technology

**Subject Group**
Media Production

**Level of classification**
Second Level

**Progression**
A1F

**Date of Ratification**
Approved by the Board of the School of Computer Science, Physics and Mathematics
2011-11-25

The course syllabus is valid from autumn semester 2012

**Prerequisites**
4ME102 Foundation of Computational Media, 7.5 credits and 4ME105 Web and Mobile
Development, 7.5 credits or the equivalent.

## Objectives
The aim of this course is to offer students knowledge and in depth understanding of
advance methods and approaches related to the use of modern information retrieval and
adaptive mechanisms for web-based content, as well as semantic web technologies.

Upon completion, the student should:

- have a good understanding of different methods for data mining and information
  retrieval on the web
- have a good understanding of different approaches for gathering, deriving and
  applying intelligence mechanisms to web based data and content
- understand the principles underlying semantic modeling of information and how
  they can be used for automation, integration, and reuse across web applications
- understand different development frameworks for deploying adaptable web
  applications and services
- be able toimplement a prototype web application that makes use of adaptive and
  semantic mechanisms for providing rich user experiences.

## Content

The course comprises of the following topics:

- An overview of relevant concepts and approaches for structuring, modeling, mining and retrieving of data and information on the web.
- Different approaches and techniques for harnessing intelligence to transform web applications from being content-centric to user-centric services.
- Different approaches and technologies for designing and developing semantic web applications.
- Prototype implementation and deployment of a web application that offers a more targeted and personalized experience for each user.

## Type of Instruction
Lectures, seminars and supervision.

## Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
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.

The mark will be based on the quality of the process, including seminars, supervision and progress reports, and the quality of the product, in the form of a report and the oral presentation and defense of this report. The student is also required to be active as opponent to some other student report.

## 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.

## Other
Upon request, a Swedish University course certificate will be awarded upon successful completion of the course.

## Required Reading and Additional Study Material
### Required Reading
Marmanis, H. and Babenko, D. (2009) *Algorithms of the Intelligent Web*. Manning Publications. Grenwitch (USA) 368 (368) pages

Yu, L. (2011). *A Developer's Guide to the Semantic Web*. Springer-Verlang, Berlin (Germany). 628 (500) pages

DFM distributed materials 150 pages

### Recommended literature
Alag, S. (2008). *Collective Intelligence in Action*. Manning Publications. Grenwitch (USA)

Russell, M. (2011). *Mining the Social Web: Analyzing Data from Facebook, Twitter, LinkedIn, and Other Social Media Sites*. O'Reilly Media, Sebastopol, CA (USA)

Hebeler, J., Fisher, M., Blace, R., Perez-Lopez, A. and Dean, M. (2009) *Semantic Web Programming*. Wiley Publishing, Indianapolis, IN (USA)