Linnæus University

Jnr: 2017/5116-3.1.2.2

Course syllabus

Faculty of Technology
Department of Computer Science and Media Technology

4DV608 Avancerad programvarudesign, 7,5 högskolepoäng
Advanced Software Design, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved 2015-05-22
Revised 2017-09-04 by Faculty of Technology. Prerequisites are revised.
The course syllabus is valid from spring semester 2018

Prerequisites
2DV603, Software engineering – design, 15 credits
2DV604 Software architectures, 7.5 credits
2DV50E Degree project at Bachelor level, 15 credits
or equivalent

Objectives
On completion of the course, students are able to:

- describe and explain concepts, principles, techniques, and methods for the design of complex software systems
- explain the fundamental relationship between the software's design and its quality
- describe, explain, and apply evaluation methods that support design decisions
- individually or in groups design and analyze complex software systems
- identify and apply patterns at different levels of abstraction.

Content

The course provides a theoretical and practical introduction to advanced software design techniques. It includes advanced concepts, theories, and techniques for the design of software architectures and detailed designs.

Important concepts are:

- complex systems
- design
- risk management
- quality attributes
- evaluation of design alternatives
- design patterns

Type of Instruction

Teaching consists of lectures, seminars and practical work. Practical work is carried out individually or in groups. Attendance at some activities are be mandatory.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of student performance is made through written test and/or oral examinations and/or presentation of mandatory assignments. The assessment method is decided at the start of the course.

Students who do not pass the regular examination will be offered retrials close to the regular examination.

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap

The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: 4DV108 Advanced Software Design, 7.5 credits

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

- Scientific articles (500) pages