



Course syllabus

Faculty of Technology

Department of Computer Science and Media Technology

2DV604 Programvaruarkitekturer, 7,5 högskolepoäng

2DV604 Software Architectures, 7.5 credits

Main field of study

Computer Science

Subject Group

Informatics/Computer and Systems Sciences

Level of classification

First Level

Progression

G2F

Date of Ratification

Approved 2015-05-22

Revised 2023-09-04 by Faculty of Technology. Assessment methods and literature is revised.

The course syllabus is valid from autumn semester 2024

Prerequisites

Object Oriented Analysis and Design using UML (1DV607), 7.5 credits and Software Design (2DV608), 7.5 credits or equivalent.

Objectives

Upon completion of the course, the student should be able to:

Knowledge and understanding

- A.1 explain and apply software architecture concepts,
- A.2 describe software architecture design and evaluation methods
- A.3 explain advanced software architecture design principles

Competence and skills

- B.1 perform basic software architecture design and evaluation
- B.2 apply advanced software architecture design principles
- B.3 describe and apply software architectures documentation concepts and strategies

Judgement and approach

- C.1 explain the connection between software architecture and software quality
- C.2 describe how software architectures may assist in software reuse

Content

The course comprises:

- introduction to software design and software architectures
- introduction to software architecture concepts
- overview of architecture description techniques and architectural views
- architectural styles and patterns
- software product-line concepts and its architectures
- software architecture design and evaluation.

Type of Instruction

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

Examination

The examination of the course is divided as follows:

Code	Designation	Grade	Credits
2401	Exam	AF	3,00
2402	Assignment 1	AF	1,00
2403	Assignment 2	AF	1,50
2404	Assignment 3	AF	2,00

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).

The examination is based on an individual exam (3 credits) and a number of assignments (4.5 credits). The final grade is determined by: Assignment 40% and exam 60%.

Repeat examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University.

If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to give a customised exam or to have the student conduct the exam in an alternative way.

Objectives achievement

The examination elements are linked to the course objectives in the following ways:

Goal	2401	2402	2403	2404
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A.1	<input checked="" type="checkbox"/>				
A.2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
A.3	<input checked="" type="checkbox"/>				
B.1	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
B.2					<input checked="" type="checkbox"/>
B.3					<input checked="" type="checkbox"/>
C.1	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2	<input checked="" type="checkbox"/>				

Course Evaluation

During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

Credit Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course: 2DV104 Software Architectures, 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

Required reading

Bass, L. et al, *Software Architecture in Practice* 3th. ed. Addison-Wesley, 2021. Pages 450 (640).