



COURSE SYLLABUS

Object-oriented Software Development, 6 credits

Objektorienterad mjukvaruutveckling, 6 högskolepoäng

Course Code: TOMK18	Education Cycle: First-cycle level
Confirmed by: Dean Apr 6, 2018	Disciplinary domain: Technology
Revised by: Director of Education Feb 21, 2024	Subject group: DT1
Valid From: Aug 1, 2024	Specialised in: G1F
Version: 2	Main field of study: Computer Engineering

Intended Learning Outcomes (ILO)

After a successful course, the student shall

Knowledge and understanding

- display knowledge of different methods for system development and their pros and cons
- display knowledge of system design, requirements specifications and validation
- display understanding of the most common components of the Unified Modelling Language (UML)
- display understanding of established design patterns for object-oriented analysis, object-oriented programming, and system architecture

Skills and abilities

- display the ability to, via analysis of a requirement specification, create UML-diagrams that describe an IT-system that meets said requirements
- display the ability to transform UML-diagrams into object-oriented program code
- display the ability to apply object-oriented programming with design patterns for development of IT-systems

Contents

The purpose of the course is to provide students with knowledge required to carry out object-oriented design in accordance with established practice, and to be able to implement the results of said design in program code.

The course includes the following elements:

- Introduction to system development methods: waterfall methods, iterative methods, agile methods
- Software validation and requirements specifications for software validation
- Unified Modelling Language: class diagram, sequence diagram, use-case diagram, etc.
- Design patterns: object-oriented patterns, analysis patterns, patterns for system architecture

Type of instruction

The teaching is conducted in English.

Prerequisites

General entry requirements and taken course Object-oriented Programming, 7,5 credits or the equivalent.

Examination and grades

The course is graded 5,4,3 or Fail.

Registration of examination:

Name of the Test	Value	Grading
Written examination [†]	4 credits	5/4/3/U
Laboratory Work	2 credits	U/G

[†] Determines the final grade of the course, which is issued only when all course units have been passed.

Course literature

Literature

The literature list for the course will be provided 8 weeks before the course starts.

Title: Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development (3rd Edition)

Author: Craig Larman

Publisher: Prentice Hall

ISBN: 978-0131489066