



Faculty of Health, Science and Technology
Computer Science

Syllabus

Software Development Methodology

Course Code:	DVGA02
Course Title:	Software Development Methodology <i>Programutvecklingsmetodik</i>
Credits:	7.5
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has less than 60 credits in first-cycle course/s as entry requirements (G1F)

Major Field of Study:
DVA (Computer Science)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2017-09-12, and is valid from the Spring semester 2018 at Karlstad University.

Prerequisites

Programming Techniques 7.5 ECTS cr. or equivalent

Learning Outcomes

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

- describe models for software development,
- apply a model for software development to solve an uncomplicated problem,
- apply abstraction in software development, i.e. create simplified representations of objects and phenomena,
- apply practical methods to handle the complexity of software models,
- apply and consistently use sound programming behaviour regarding, for instance, the use of code, documentation, naming and code structure,
- design graphical user interface, and
- systematically test software by developing a relevant selection of test cases.

Content

The different steps in software development such as analysis, design, implementation, testing and maintenance are treated with an emphasis on design, implementation and testing. The design step includes applying abstraction and practical methods for handling the complexity of software models. As the course throughout builds on object-oriented programming, the practical methods involve encapsulation and division and categorisation of objects into sub and inheritance hierarchies. Software development is largely a practical skill and students are given ample opportunities to design, implement and test in lab sessions. Theory and methodology are presented in lectures and students

document their work in written laboratory reports.

Reading List

See separate document.

Examination

Assessment is based on completed mandatory laboratory reports, hand-in assignments, and a written exam.

Grades

One of the grades 5 (Distinction), 4 (Some Distinction), 3 Pass, or Fail (U) is awarded in the examination of the course and its modules, or one of the grades Distinction (VG), Pass (G), or Fail (U).

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.