



Faculty of Health, Science and Technology
Computer Science

Syllabus

Software Testing Foundations

| | |
|------------------------------------|---|
| Course Code: | DVGB17 |
| Course Title: | Software Testing Foundations <i>Grunderna inom mjukvarutestning</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 2023-02-23, and is valid from the Autumn semester 2023 at Karlstad University.

Prerequisites

30 ECTS credits in Computer Science, including basic knowledge of programming, or equivalent

Learning Outcomes

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

- explain and discuss basic concepts of software testing,
- apply modern testing processes to the life cycle of software,
- identify different methods for securing the quality of software,
- identify different test constructions, test generation, implementation, and methods for prioritising,
- present different levels of testing, and
- use tools and methods to generate test cases and apply them in practice.

Content

The course covers software testing at different stages of the life cycle of software development in order to reach various measures of quality. There is a special emphasis on modern testing strategies and applications such as test design, techniques, and levels. The course also covers the generation and use of test cases for model-based, functional, and non-functional testing. Instruction is in the form of lectures and supervised and text-supported literature studies. The course includes mandatory hand-in assignments as well as practical exercises on model testing and test methods, and is divided into a number of modules focused on different aspects of software testing.

Reading List

See separate document.

Examination

Assessment is based on written hand-in assignments after each module, laboratory exercises including written reports, and an individual oral exam.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades 5 (Pass with Distinction), 4 (Pass with Some Distinction), 3 (Pass), or U (Fail) is awarded in the examination of the course.

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.