Course syllabus

Programmeringsteknik
Programming, First Course

EDAA50, 7,5 credits, G1 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED C/D
Date of Decision: 2023-04-18

General Information

Main field: Technology.
Language of instruction: The course will be given in Swedish

Aim

The students shall learn to write small and medium-sized computer programs and attain basic knowledge of object-oriented programming and the programming language Java.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to explain fundamental concepts in object-oriented and imperative programming
- be able to explain and give examples of use of fundamental algorithms, for example for searching and sorting
- be able to describe and give examples of use of fundamental data structures such as arrays, matrices and lists

Competences and skills
For a passing grade the student must

- be able to develop and implement algorithms to solve simple problems
- be able to implement Java classes, starting from given specifications
- be able to structure programs, both using subroutines and using classes and methods
- be able to use tools to write, test and debug programs

Judgement and approach
For a passing grade the student must

• be able to estimate the degree of difficulty of writing different programs

Contents

Programs as models of real systems. Objects and operations, classes and methods. Basic Java programming, fundamental algorithms. Data structures: arrays, the class ArrayList. Inheritance, polymorphism. String classes. Object-oriented program development.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: Written examination. To qualify for the written examination, students must have completed the compulsory course items.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts
Code: 0117. **Name:** Written Examination.
Credits: 3. **Grading scale:** TH. **Assessment:** Written examination. The final grade of the course is based on the result of this examination. To qualify for the written examination, the compulsory course items must be completed. **Contents:** Written examination.
Code: 0217. **Name:** Laboratory Work and Assignments.
Credits: 4,5. **Grading scale:** UG. **Assessment:** The compulsory laboratory work and the assignments must be completed to qualify for a passing grade. **Contents:** Laboratory work and assignments.

Admission

The number of participants is limited to: No
The course overlaps following course/s: EDA011, EDA010, EDA015, EDA016, EDA017, EDA390, EDA500, EDA501, EDA616, EDA618, EDAA10, EDAA20, EDAA55, EDAA65, EDAA45

Reading list

• Allen B. Downey & Chris Mayfield: Think Java, How to Think Like a Computer Scientist. O'Reilly, 2019, ISBN: 9781492072508. Second edition.

Contact and other information

Director of studies: Studierektor, dl_studierektor@cs.lth.se
Course coordinator: Patrik Persson, patrik.persson@cs.lth.se
Course homepage: http://cs.lth.se/edaa50
Further information: This course may not be included in a degree together with EDAA55.