SYLLABUS

Initial programming in Java 7.5 credits D0017D

Inledande programmering i Java

Course syllabus admitted: Spring 2024 Sp 3 - Present

DECISION DATE
2023-06-16

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Inledande programmering i Java

First cycle, D0017D

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G#	Datalogi	Computer Technology

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language

Selection

The selection is based on final school grades or Swedish Scholastic Aptitude Test.

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Course Aim

Knowledge and Understanding:

- Demonstrate a good understanding of the fundamental concepts of Java programming, including basic syntax, variables, data types, and control structures.
- Understand and explain the principles of structural programming, including modularization, sequencing, selection, and iteration.
- Demonstrate knowledge of basic input and output operations in Java, including reading from and writing to standard input/output.
- Understand and explain the concept of methods and their role in structuring a program.
- Demonstrate a good understanding of basic data structures, such as arrays and their usage in Java Programming.

Competence and Skills:

- Demonstrate the ability to independently write, compile, and execute simple Java programs that follow the structural programming principles.
- Demonstrate the ability to apply structural programming techniques to design and implement Java programs that solve simple problems.
- Demonstrate the ability to analyze and debug Java programs to identify and fix logical/functional errors.
- Demonstrate the ability to break down complex problems into smaller, manageable tasks and implement them using structured programming concepts.
- Demonstrate the ability to use appropriate programming conventions, including naming conventions and code documentation, to enhance code readability and maintainability.

Judgment and Approach:

- Demonstrate the ability to evaluate and select appropriate Java programming constructs and data structures for solving specific programming tasks.
- Demonstrate the ability to independently identify the need for knowledge and search for appropriate learning resources, including documentation, forums, and communities, to solve programming challenges.
- Collaborate effectively with peers to solve programming problems and share knowledge.

Please note that these Intended Learning Outcomes are tailored specifically for a beginner's Java course focusing on structural programming without covering object-oriented programming concepts.

Contents

Programming is very much about solving problems. The course is therefore built around problem-solving, i.e., a solution to a problem is worked out through structured logic and then transferred to a functioning Java program. Hence considerable part of the course is focused on hands-on exercises that solve simple and common problems. This beginners' Java course focuses on structural programming and aims to provide students with a solid understanding of Java programming concepts. Students will learn about variables, control structures, basic syntax, and principles like modularization and sequencing. They will gain skills in writing, compiling, and executing Java programs. The course emphasizes problem-solving by breaking down complex tasks and applying structural programming techniques. Students will also develop debugging skills and adhere to coding conventions.

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Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
The course is organized as an online course without physical meetings. During the course you will use an Internet-based learning environment where there will be support in the form of study guidance, study questions, discussion forums and more. The student receives a number of problem descriptions that must be solved independently during the course.

The course requires the following equipment and software:
-An Internet-connected computer with the ability to install software
-A headset is recommended

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.
Compulsory laboratory assignments and home exam. Oral presentation of home exam.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Remarks

The home exam is given at the end of the course and you will need a web camera and microphone connected to your computer. The course is at basic level and do not require previous knowledge within the subject.
The course can not be included in a degree together with the course:
D0009E - Introduction to Programming 7.5 credits,
D0017E - Introduction to programming for engineers 7.5 credits,
D0028E - Programming and Digtalisation 7.5 creduts,
D0019N - Software Development with Java 7.5 credits, or
L0002B - Basic Programming 7.5 credits.

Overlap

The course D0017D is equal to SMD180, ISI791, SMD134, D0042D, D0019N, D0014E, D0009E, SMD170, D0028E, L0002B, D0017E

Course offered by

Department of Computer Science, Electrical and Space Engineering

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0010	Take-Home Examination	U G#	2.5	Mandatory	A17	
0011	Assignment report 1	U G#	1	Mandatory	A23	
0012	Assignment report 2	U G#	1	Mandatory	A23	
0013	Assignment report 3	U G#	1.5	Mandatory	A23	
0014	Assignment report 4	U G#	1.5	Mandatory	A23	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Robert Brännström 2023-06-16

Syllabus established

Kursplanen är fastställd av institutionen i Skellefteå 2007-02-28 att gälla fr o m H07.

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