DD100N Programming Techniques, Web Course 6.0 credits

Programmeringsteknik, webbkurs

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for DD100N valid from Spring 2019

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

For non-programme students:

- General entry requirements (completed upper-secondary education or the equivalent including Swedish and English) as well as
- mathematics D.

For all questions concerning entry requirements, admission, application and waiting list, contact KTH's central admission on admissions@kth.se

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

General aims of the course: independently be able to solve problems by designing programs of up to 500 rows in a modern programming language.

Aims of the course: After passed course, you should be able to

- follow the rules of the syntax of the programming language,
- apply and account for rules for good programming style (such as usability, comments, error handling, structuring, flexibility),
- discover and correct programming errors,
- transfer data between file and program,
- identify the need of, and use control structures (conditional statements and loops),
- divide a larger problem into manageable parts and design functions for these,
- use the data structures that are embedded in the programming language, and choose data structures that fit for the current problem,
- develop simple graphical interfaces,
- review others' programs

in order to have the possibility to:

- use programming to solve problems,
- apply the problem solving methodology also within other fields than programming,
- discuss software development with experts
- assess commercial programs.

Course contents

Fundamental computer concepts.

Programming in a modern programming language (Python). Data structures. Use of simple graphical routines (for grade A). Problem-solving through division into sub-problems. Program structuring. Several smaller programming assignments as well as a larger, individual programming assignment with strong emphasis on structuring and specification of included modules.

Disposition

The course is taken at distance via the net. The sole exception is the final oral presentation, that will be at KTH Vallhallavägen, Stockholm (or via video call (e g Skype) with at least VGA resolution).

Course literature

All course material will be available via the course homepage.

Equipment

Computer with web browser and internet access. Python interpreter can be downloaded at the beginning of the course.

Examination

- LAB3 - Laboratory Work, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB2 - Laboratory Work, 1.5 credits, grading scale: P, F
- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

In this course, the code of honor of the school is applied, see: http://www.kth.se/en/csc/utbildning/hederskodex

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.