

Programming in C (E741058)

Course size *(nominal values; actual values may depend on programme)*

Credits 3.0 **Study time 90 h**

Course offerings and teaching methods in academic year 2023-2024

A (semester 1)	Dutch	Gent	lecture seminar
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Lecturers in academic year 2023-2024

Van Den Breen, Wim	TW05	lecturer-in-charge
Naessens, Helga	TW05	co-lecturer

Offered in the following programmes in 2023-2024

	crdts	offering
Bachelor of Science in Engineering Technology(main subject Electromechanical Engineering Technology)	3	A
Linking Course Master of Science in Electrical Engineering Technology(main subject Automation)	3	A
Linking Course Master of Science in Electrical Engineering Technology(main subject Electrical Engineering)	3	A

Teaching languages

Dutch

Keywords

Programming language, C, Pointers, Computer Science (P170), Informatics (P175), Computer Technology (T120)

Position of the course

An in-depth course in C for those already familiar with some programming language, like for example Python.

Contents

The section Programming in C includes the following topics:

- Basic concepts: variables and basic data types, operators, control structures, input/output, functions, arrays, structs
- Pointers: basic concepts, call by reference, pointers and arrays, operations on pointers, C-strings, dynamic memory management, linked lists
- Bit fiddling

Initial competences

A good experience with some programming language: methods, sequence, selection, iteration,

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Final competences

- 1 To be able to independently implement, test and execute a computer program in C.
- 2 To be able to transform a design into a working computer program in C.
- 3 To be able to analyze and to structure a problem and to translate it into a computer program in C.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Seminar, Lecture

Extra information on the teaching methods

During the lectures (15 h) the theory is explained step by step, partly based on examples.
During the exercise sessions (15 h) the student works independently on his laptop

Learning materials and price

Slides, examples and exercises with solutions are provided on the electronic learning environment.
Some books about the course topics are available in the library.

References

- Head First C, David Griffiths & Dawn Griffiths, ISBN 978-1-4493-9991-7
- Beginning C, 5th Edition, Ivor Horton, ISBN 978-1-4302-4881-1
- C in a Nutshell, Peter Prinz & Tony Crawford, ISBN 978-0-596-00697-6
- The C Programming Language, second edition, Kernighan & Ritchie, ISBN 978-0-131-10362-7
- Programming in C, 4/E, Stephen G. Kochan, ISBN 978-0-3217-7641-9
- The C Programming Language, B.W. Kernighan, D.M. Ritchie, ISBN 978-0-1311-0362-7

Course content-related study coaching

The student can always make an appointment with the teacher.

Assessment moments

end-of-term assessment

Examination methods in case of periodic assessment during the first examination period

Written assessment with open-ended questions

Examination methods in case of periodic assessment during the second examination period

Written assessment with open-ended questions

Examination methods in case of permanent assessment**Possibilities of retake in case of permanent assessment**

not applicable

Extra information on the examination methods

PE: the exam is a written exam (partly on the computer), consisting mainly of exercises, possibly complemented by a few theoretical questions.

Calculation of the examination mark

Written examination: 100%