UCLouvain

lsinc1503

2026

Project 3 in Computer Science: Improvement of Algorithms Efficiency

5.00 credits	30.0 h + 30.0 h	Q2

This learning unit is not open to incoming exchange students!

Language :	French
Place of the course	Charleroi
Prerequisites	This course assumes that students have already learned the fundamental concepts of programming, as well as the concepts of analyzing a computer problem, designing, specifying, and implementing a solution, as taught in the LSINC1101/LINFO1101 course; as well as the cross-disciplinary skills developed in the Bac1 computer science projects (LSINC1001/LINFO1001 and LSINC1002/LINFO1002).
Main themes	• Embedded programming in C • Implementation and testing of programmes and algorithms • Memory management • IT project
Learning outcomes	**At the end of this learning unit, the student is able to :** By the end of the course, students will be able to: • develop a programme in the C language • verify that a programme functions correctly through testing • compare, analyse and critique different programmes • select metrics for measuring a programme's efficiency • document a programme, its installation and its use • provide constructive feedback • use a professional collaborative software development system In accordance with the AA framework for the 'Bachelor of Engineering Sciences, Civil Engineering' programme, this course contributes to the development, acquisition and assessment of the following learning outcomes: • 2.2, 2.4, 2.5, 2.6, 2.7, 2.8 • 3.2, 3.3, 4.2, 4.3, 4.4, 4.5 • 5.1
Evaluation methods	• First session • Question on the mastery of programming in C language (35%) • Evaluation of the group work based on the project submitted, its documentation and the presentation (55%) • Continuous evaluation of the individual work of the student on the development platform and of his contributions to the peer review (10%) Groups that have obtained less than half of the points in the project can take an oral exam which, if successful, may eventually allow them to reach 50% as the project mark. In addition, the teachers reserve the right to invite to the exam any group that presents difficulties identified either by the students or by the teaching team during the correction of the project. Students who actively contribute to educational materials can earn bonus points. Second session Group work and peer-reviews cannot be redone in the second session. The skills of the students will be evaluated by a written exam which will focus on knowledge of programming in the C language. In the second session, this evaluation counts for 40% of the points. The remaining 60% is obtained by taking the maximum between the project evaluation and the project evaluation + the continuous evaluation of the work.
Teaching methods	Group project-based learning.
Content	Project organized in 4 phases - individual learning of the C language - improvements of existing algorithms in C and comparison of programs within the group - development of an embedded solution - peer-review of other groups' programs and improvement of the group's program

Inline resources	https://sites.uclouvain.be/SystInfo/ https://moodleucl.uclouvain.be/course/view.php?id=12904 Computer systems, part one, accessible via https://sites.uclouvain.be/SystInfo/theorie.html
Faculty or entity in charge	SINC

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Computer Science	SINC1BA	5		🔍