linfo1102

2018

9 credits	30.0 h + 30.0 h	Q1 and Q2

Teacher(s)	Bonaventure Olivier ;Riviere Etienne ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	This teaching unit revolves around programming projects. The objectives are : • to apply the concepts seen in parallel in LINFO1101 Introduction to Programming; • to model simple situations using computer systems; • to explore various applications of computing, including the use of information from sensors; • to confront professional constraints: group work, respect of deadlines, sense of responsibility; • to acquire transversal skills in taking notes, writing reports, oral presentation.
Aims	Given the learning outcomes of the "Bachelor in Computer science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • S1.I2 • S2.1, S2.2, S2.4 • S4.1, S4.2, S4.3 • S5.2, S5.3, S5.4, S5.5, S5.6 Students who have successfully completed this course will be able to: • analyze a concrete situation-problem requiring the development of a computer application and perceive the role that this application will have to play; • design the computer application corresponding to identified needs by making use of object-oriented programming and justify the design choices; • Implement a computer application that makes good use of Python language elements • realize an application of reduced scale, but correct, modular, readable, and well documented; • implement unit tests to validate the accuracy of a program • use a programming environment with integrated programming tools such as an intelligent editor, compiler, debugger, and tools for handling files, tests, documentation. Students will have developed methodological and operational skills. In particular, they will have developed their ability to: • contribute to group functioning within the framework of project-type cooperative active learning devices, explain the issues (advantages and disadvantages) of group work and provide some operational guidelines to promote effective group work; • conduct a development process for a computer application • understand a situation-problem described via written documents, an oral presentation and extract what makes it the essence and reformulate it to define the expected result; • establish the specifications and a roadmap for the project; • break down the initial problem into sub-problems that can be easily solved using a computer tool; • schematize the architecture of the application to give a description of high level allowing any computer scientist to quickly perceive the structure; • document the application so that it can easily be adapted later by another computer scientist; • design and perform tests to validate the developed application; • collaborate effectively on application development; • communicate effectively: • write a technical document describing the application developed, the recipients of this document being computer scientists who have not participated in its development but who must adapt it; • write a coherent and structured project report to convince of the success of the project; • Present with a multimedia support the solution developed so as to convince him of the success of the project. - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*

Evaluation methods	Group work, continuous assessment

	Fisrt semester part :
	January session
	
	  • Project 1 - 3 points
	  • Project 2 - 7 points
	  • Project 3 - 10 points
	
	September session
	
	  • Project 1 account if and only if it increases the note. P1 can not be redone.
	  • Project 2 and 3 counting necessarily. P2 and 3 can be represented (extension required)
	
	Second semester part:
	June session
	
	  • Project 4 - 10 points
	  • Project 5 - 10 points
	
	September session
	
	  • Project 1 counts if and only if it goes back the note. P1 can not be redone.
	  • Project 2 and 3 necessarily count. P2 and 3 can be redone (extension requested)
	  • Project 4 can be redone individually (15 points), project 5 can not be redone (5 points)

Teaching methods	The course content consists of problem-solving through computer science technologies. Each problem-solving phase will last 2 to 3 weeks.
Inline resources	https://moodleucl.uclouvain.be/course/view.php?id=12148
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Computer Science	SINF1BA	9		🔍
Minor in Computer Sciences	LINFO100I	9		🔍