LSINF1102

2016-2017

Problem solving using computers

7.0 credits	30.0 h + 30.0 h	1q

Teacher(s) :	Schaus Pierre ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	> http://icampus.uclouvain.be/claroline/course/index.php?cid=lsinf1102
Main themes :	-- Problem analysis, -- programming methods, -- organisation methods -- and communication methods. -- Java programming
Aims :	Given the learning outcomes of the "Bachelor in Engineering" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: -- S1.l2 -- S2.1, S2.2, S2.4 -- S4.1, S4.2, S4.3 -- S5.2, S5.3, S5.4, S5.5, S5.6 Students successfully completing this course will be able to: -- analyze a specific problem situation requiring the development of a computer application and understand the role that this application will play ; -- design a computer application which meets the needs identified using object-oriented programming and justifying the design choice; -- implement a computer application using wisely the elements of the Java language; -- make 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 like Eclipse with integrated programming tools as an intelligent editor, compiler, debugger, and tools for file management, testing, documentation. Students will have developed skills and operational methodology . In particular, they have developed their ability to: -- contribute to the functioning of the group under active cooperative learning devices such project , explain the issues (advantages, disadvantages) of group work and give some operational ways to promote effective group work ; -- implement an approach to develop a computer application -- understand a problem situation described through written documents, oral presentations and extract main elements and reformulate them in order to define the expected result ; -- establish the specifications and a roadmap for the project; -- decompose the original problem into sub-problems that can be easily solved using a software tool ; -- schematize the application architecture to provide a high-level description allowing any computer scientist to quickly perceive the structure ; -- document the application so that it can easily be adapted by another computer scientist ; --

design and perform tests to validate the developed application ;

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collaborate effectively on application development;

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communicate effectively :

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write a technical paper describing the application developed , recipients of this document are computer scientists who were not involved in its development but must adapt it ;

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write a coherent and structured project report to convince of the project's success ;

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present using multimedia the developed solution to convince of the project's success.

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 :	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)
Content :	The course content consists of problem-solving through computer science technologies. Each problem-solving phase will last 2 to 3 weeks.
Other infos :	To take in parallel the course on "Programming introduction" LSINF1101
Faculty or entity in charge:	INFO

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Bachelor in Computer Science	SINF1BA	7	-	🔍