

5.0 credits	30.0 h + 15.0 h	1q
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Teacher(s) :	Lobelle Marc ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Prerequisites :	-- Programming in a high-level language (C and Java) (e.g. LFSAB1401 and LSINF1252) -- Basic knowledge of networks (protocols, ...) (e.g. LINGI2141 or LELEC2920)
Main themes :	-- Main classical programming models for distributed applications. -- Introduction to the theoretical background of distributed applications.
Aims :	Students completing successfully this course will be able to -- design distributed applications ( i.e. programs consisting of several components cooperating through a computer network which can be hostile, and that run on computers that can be of different types); -- implement distributed applications; -- use application programming interfaces (API) usefull to build such applications -- design application protocols that will implement the specific functionalities on top of these APIs Students will have developed skills and operational methodology. In particular, they have developed their ability to -- write a good quality user's guide for an application developped by the student himself; -- write a technical description of an application which enables any system administrator to install it correctly; -- write a technical paper describing the application so that another programmer will be able to understand and contribute to its development <i>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".</i>
Evaluation methods :	-- Written exam (open books) (50% of the final grade) -- Reports of these assignments (50% of the final grade)
Teaching methods :	-- The course is structured in 7 missions of 2 weeks each. Missions 2 to 6 include a small project (assignment) to be completed in groups of two students. -- Students discover individually by themselves the learning material of each mission in the beginning of the corresponding two week period. They identify the points they find hard to understand or those they would like to know more about. These points are discussed in a meeting with the professor. -- Assignments
Content :	-- Introduction to distributed applications -- Low level programming model (socket interface) -- Client/server model (RPC, RMI interfaces) including security aspects and middlewares -- Symetrical model (PVM interface) -- Theoretical bases of concurrency and parallelism in information access
Bibliography :	Material available on the foditic website Further reading -- W. Richard Stevens, UNIX Network programming, Volume 1 Networking APIs, ISBN 0-13-490012-X -- Esmond Pitt, Kathleen McNiff, java.RMI, The Remote Method Invocation Guide, ISBN 0-201-70043-3 -- Geist, ..., Parallel Virtual Machine, ISBN 0-262-57108-0
Other infos :	
Cycle and year of study :	<a href="#">&gt; Master [120] in Electrical Engineering</a> <a href="#">&gt; Master [120] in Computer Science and Engineering</a> <a href="#">&gt; Master [120] in Computer Science</a>
Faculty or entity in charge:	INFO