linfo2241 *2021*	Architecture and performance of computer systems

6.00 credits	30.0 h + 30.0 h	Q1

Teacher(s)	Sadre Ramin ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	• Organization of operating systems • Management of devices by the operating system • Management of storage devices by the operating system • Filesystems • Virtualization • Evaluation and improvement of performance of computer systems
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 Given the learning outcomes of the "Master in Computer Science and Engineering" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • INFO1.1-3 • INFO2.4-5 • INFO5.2-5 • INFO6.1, INFO6.3 Given the learning outcomes of the "Master [120] in Computer Science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • SINF1.1-3 • SINF2.4-5 • SINF5.2-5 • SINF6.1, SINF6.3 Given the learning outcomes of the "Master [60] in Computer Science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • 1SINF1.M1 1SINF1.M2 • 1SINF2.4-5 • 1SINF5.2-5 • 1SINF6.1, 1SINF6.3 Students completing this course successfully will be able to • compare different implementations for operating systems and highlight the advantages and disadvantages of these achievements • explain the interactions between the operating system and the hardware (storage, network, virtualization) • evaluate the performance of a computer system • identify factors that limit the performance of a computer system
Evaluation methods	Mode of evaluation in the January session: • Project (40% of the final mark) • Final exam (60% of the final mark) If the student fails to obtain at least 50% of the total points in the January session, the student can repeat only the failed part(s) (exam and/or project) in the August session. However, in that case the project has to be done alone and a new topic might be assigned.
Teaching methods	The course consists of a series of lectures and accompagning exercises and project(s). The teaching method can change depending on the circumstances and the number of participating students or for other reasons. Face-to-face classes as well as remote teaching or a mix of the two methods are possible.
Inline resources	Moodle et/ou Teams
Bibliography	• Publications (scientific papers and public websites) • MoodleUCL

Other infos	Background :
	• basic computer architecture and operating systems concepts (LINFO1252) • computer networks organisation and protocols LINGI1341
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Data Science Engineering	DATE2M	6		🔍
Master [120] in Computer Science and Engineering	INFO2M	6		🔍
Master [120] in Data Science: Information Technology	DATI2M	6		🔍
Master [60] in Computer Science	SINF2M1	6		🔍
Master [120] in Computer Science	SINF2M	6		🔍