UCLouvain

lingi2145

2018

Cloud Computing

5 credits	30.0 h + 15.0 h	Q1

Teacher(s)	Riviere Etienne ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	• Architectural principles of cloud computing • Scalability of cloud services (storage, computing, ...) • Building blocks for cloud services • Large scale computations in cloud environments • Programming models for cloud services • Providing scalable web services from the cloud
Aims	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 • INFO2.2-3, INFO2.5 • INFO5.2, INFO5.4-5 • INFO6.1, INFO6.3, INFO6.4 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: 1 • SINF1.M1 • SINF2.2-3, SINF2.5 • SINF5.2, SINF5.4-5 • SINF6.1, SINF6.3, SINF6.4 Students having completed this course successfully will be able to • explain the goals, benefits and models of cloud computing, providing practical examples • describe the main components of cloud computing • design and conceive cloud services which operate reliably at scale • explain how storage and virtualization are used in the cloud and apply this in practice • apply the fundamental principles of multi-tier web applications and services in a cloud environment • tackle big data computation problems (e.g., through the Map Reduce computing paradigm) - - - - *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	The final grade is computed as follows for the first session: • Project 45% • Final exam 45% • Online quiz and peer review of other students work 10% It will not be possible to redo the project or the quizzes for the second session.
Teaching methods	• Short lectures • Scientific readings • Quizzes (about readings, labs and lectures) • Practical lab sessions • Projects • Learning by peer-reviewing
Content	This course focuses on the issues and programming models related to cloud computing environments and distributed data processing technologies: data partitioning, storage schemes, stream processing, and "mostly shared-nothing" parallel algorithms.
Inline resources	https://moodleucl.uclouvain.be/course/view.php?id=9880

Other infos	Background : • LINGI1341 • LSINF1121 Recommended background: • Computer networks • Have a good understanding of computational complexity
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Data Science Engineering	DATE2M	5		
Master [120] in Computer Science and Engineering	INFO2M	5		
Master [120] in Computer Science	SINF2M	5		
Master [120] in Mathematical Engineering	MAP2M	5		
Master [120] in data Science: Statistic	DATS2M	5		
Master [120] in data Science: Information technology	DATI2M	5		