



5.00 credits

30.0 h + 30.0 h

Q1

Teacher(s)	Riviere Etienne ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	This course assumes that the student already masters the programming skills in C language targeted by LEPL1503 and the algorithmic notions covered by the LEPL1402. <i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Main themes	<ul style="list-style-type: none"> • Levels of abstraction in computer systems • Processor architectures • Machine language, assembly language and C language • Roles and functions of operating systems • Using the features of an operating system in applications • Processes and threads: concepts, problems and solutions • Multi-processor systems
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <p>Given the learning outcomes of the "Bachelor in Engineering" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes:</p> <ul style="list-style-type: none"> • AA1.1, AA1.2 • AA2.4-7 • AA4.1, AA4.4 <p>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:</p> ¹ <ul style="list-style-type: none"> • S1.I4 • S2.2-4 • S5.2, S5.5 <p>Students who have successfully completed this course will be able to</p> <ul style="list-style-type: none"> • explain which functions are fulfilled by the different levels of the hierarchy ranging from the physical machine to the level on which the applications are based • explain the main architectures of operating systems and processors, as well as the main devices and techniques used to realize them • use and effectively implement the various services and functions offered by processors and operating systems

<p>Evaluation methods</p>	<p>January:</p> <ul style="list-style-type: none"> - participation in mandatory activities (10%) - continuous evaluation, mini projects (30%) - exam (60%) <p>September:</p> <ul style="list-style-type: none"> - participation in mandatory activities -- maintained from January session, cannot be redone (10%) - personal exercises and project (30%) - exam (60%) <p>Formative activities may become certificative and cover a part to all of the weight of the exam if the circumstances impose it.</p> <p>The professor may ask for an additional oral exam to the exam, including but not limited to the following circumstances: technical issues, suspicion of irregularities.</p> <p>The exam may use all or a subset of the following evaluation modalities. The respective proportion of points for each part is announced at the beginning of the exam:</p> <ul style="list-style-type: none"> • open questions on the course content • open problems requiring an application of skills and knowledge acquired during the course • multiple-choice and multiple-answer questions under the principle of the "standard-setting". An incorrect answer to one of the questions cannot lead to a negative grade, and the exam part as a whole cannot grant negative points. However, a minimum threshold (announced in the exam) of correct answers is necessary before effectively acquiring points for this exam part.
<p>Teaching methods</p>	<ul style="list-style-type: none"> - lectures; - online exercises and self-training using the Inginiuous platform; - exercices and work sessions with tutors. <p>Some of these activities may be organized online.</p>
<p>Content</p>	<p>The course presents the organization and the use of computer systems, and the principles and implementation of operating systems.</p>
<p>Inline resources</p>	<p>A link to the online syllabus is available on the Moodle page of the course.</p>
<p>Faculty or entity in charge</p>	<p>INFO</p>

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Data Science : Statistic	DATS2M	5		
Specialization track in Computer Science	FILINFO	5		
Bachelor in Computer Science	SINF1BA	5	LEPL1402 AND LEPL1503	