

5.00 credits

30.0 h + 30.0 h

Q1

Teacher(s)	Schaus Pierre ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	This course assumes the mastery of programming and program design in an obje6am 37 63 l5oPrerequisites

<p>Evaluation methods</p>	<p><b>Computer exam on Inginious <a href="https://inginius.info.ucl.ac.be">https://inginius.info.ucl.ac.be</a>.</b></p> <p><b>One mid-term quizz quizz might be proposed on two points during smart week. It can only impact positively your grade.</b></p> <p><b>We may organize an algorithmic contest at the end of the semester, which could add two points to the exam score if it helps improve the grade.</b></p> <p>Generative AIs cannot be used for the quiz or the exam. The quiz and exam are individual; no discussion or collaboration is allowed during the test.</p> <p>Failure to comply with these guidelines may result in a reduction of grades or other academic penalties.</p> <p>The same consequences will apply to a student who willingly shares their code or makes it available to other students.</p> <p>If the professor deems it necessary, an additional interview can also be organized for verification.</p>
<p>Teaching methods</p>	<p>The active pedagogy method followed in this course is inspired by reverse classes. There are six two-week modules. Each module includes an introductory course to the subject, theoretical exercises to prepare, chapters from the reference book to read, a practical work on correcting exercises in the middle of the model, work on inginius to be carried out (Java programs) and finally a restructuring course at the end of the module. One of the essential components of this pedagogy consists in making each student learn by himself. The success of the learning process therefore presupposes a significant involvement of each student. The actual learning remains the responsibility of each student. To pass the exam it is imperative that the student programs regularly.</p>
<p>Content</p>	<ul style="list-style-type: none"> <li>• Computational complexity,</li> <li>• Sorting,</li> <li>• Trees, binary search trees,</li> <li>• Balanced trees,</li> <li>• Tries,</li> <li>• Dictionaries and hash tables,</li> <li>• Priority queues and heaps</li> <li>• Graphs,</li> <li>• Text processing (pattern matching, compression algorithms)</li> </ul>
<p>Inline resources</p>	<p><a href="https://moodle.uclouvain.be/course/view.php?id=1049">https://moodle.uclouvain.be/course/view.php?id=1049</a> (mainly for communications with students)</p> <p><a href="https://pschaus.github.io/LINFO1121/">https://pschaus.github.io/LINFO1121/</a> (main website, with the exercices to do each week)</p>
<p>Bibliography</p>	<p>Livre obligatoire:</p> <p>Algorithms, 4th Edition by Robert Sedgewick and Kevin Wayne, Addison-Wesley Professional.</p> <p>ISBN-13: 978-0321573513</p> <p>ISBN-10: 032157351X</p>
<p>Other infos</p>	
<p>Faculty or entity in charge</p>	<p>INFO</p>

## Programmes containing this learning unit (UE)

Program title	Acronym	
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