**UCLouvain**

**linfo1002**

*2024*

# IT projects 2

| 5.00 credits | 30.0 h + 30.0 h | Q2 |
|---|---|---|

| | |
|---|---|
| Teacher(s) | Barbette Tom ; |
| Language : | French |
| Place of the course | Louvain-la-Neuve |
| Learning outcomes | |
| Evaluation methods | • Evaluation of individual and group participation during the year, based on the follow-up by the person from the teaching staff delegated to follow up the group (15%).<br>• Evaluation of the different phases of the project on the basis of written reports and documentation (65%).<br>• Evaluation of the final phase of the project based on the oral presentation (10%).<br>• Peer review assessment (10%).<br><br>Although participation counts for 15%, a student who does not actively participate in the work of his group may see his other grades (such as the mark of a phase of a project) reduced based on, for instance (non-exhaustive), code tracking via Git, group evaluation, monitoring by tutors, assistants and the professor.<br>Participation in all teaching activities is compulsory. The non-submission of a project will result in an absence rating. There is no exam.<br>Students who fail in June will be able to redo an individual project during the summer which will replace the 65% of the evaluation of the phases of the project. An oral presentation of the project will also be organized (10%). The other activities are not organized during the summer, so the marks of participation (15%) and peer review (10%) will be kept for the second session.<br>Non-compliance with the methodological instructions defined on moodle, in particular with regard to the use of online resources, the use of generative AI such as ChatGPT, Consensus, Perplexity,..., or collaboration between different groups, or different students in the second session, will result in an overall score of 0 for the activities involved in the non-compliance. |
| Teaching methods | Project learning in groups of multiple students. Each group will be followed by a member of the teaching staff.<br>4 or 5 lectures are organized (depending on progress) to give the basics of web technologies, the python Flask framework, SQL, unit tests or Graph.js.<br>Students are encouraged to ask questions during the lecture, and of course the follow-up sessions.<br>This teaching unit addresses issues related to sustainable development and transition through a module dedicated to exploring the performance and power consumption of web servers according to the technological choice among various web technologies. |
| Content | The course presupposes basic knowledge of the python programming language as seen in the LINFO1101 course. Students work in groups to solve more complex problems than those covered in the programming course. Each group will work on a unique project, but with several deadlines and intermediate developments.<br>Generally speaking, students should learn to:<br><br>• work effectively in a group<br>• write correct programs<br>• document their codes<br><br>During the different phases, the following skills will be assessed:<br><br>• write tests that validate the proper functioning of their programs<br>• document their programs and associated testing<br>• take a critical look at the work of other groups of students to help them improve (constructive peer-review)<br>• evaluate the performance of their programs<br>• find python libraries and modules that solve similar problems<br>• compare the features and performance of different solutions to the same problem<br>• document and analyze these differences in functionality and performance<br>• build simple SQL queries<br>• quantitative analysis of the energetic impact of selecting a particular web technology |
| Inline resources | Moodle (https://moodle.uclouvain.be/enrol/index.php?id=3990)<br>Syllabus (https://sites.uclouvain.be/linfo1002/) |

| Other infos | The course presupposes knowledge of Python. If the student has missed the Computer Science 1 course, it is his/her duty to participate in the remedial sessions. |
| --- | --- |
| | Project-based learning means that **a significant part of the skills must be acquired by the students themselves** via the resources listed in the syllabus, such as online tutorials. |
| Faculty or entity in charge | INFO |

| Programmes containing this learning unit (UE) | | | | |
|---|---|---|---|---|
| Program title | Acronym | Credits | Prerequisite | Learning outcomes |
| Bachelor in Computer Science | SINF1BA | 5 | | 🔍 |