

6 credits

30.0 h + 30.0 h

Q2

Teacher(s)	Francis Laurent coordinator ;Glineur François ;Louveaux Jérôme ;Nysten Bernard ;Oestges Claude ;
Language :	French
Place of the course	Louvain-la-Neuve
Aims	<p>Contribution of the course to the program objectives</p> <p>Regarding the learning outcomes of the program of Bachelor in Engineering, this course contributes to the development and the acquisition of the following learning outcomes:</p> <ul style="list-style-type: none"> • LO 1.1, 1.2 • LO 2.1, 2.2, 2.4 • LO 3.1, 3.2 • LO 4.1, 4.2, 4.3, 4.4, 4.5 • LO 5.1 <p>The development of these transversal competences is achieved progressively, cumulatively and in-depth between the three projects LFSAB1501, LFSAB1502 and LFSAB1503.</p> <p>1 Specific learning outcomes of the course</p> <p>More precisely, at the end of the course the students will be able to</p> <ul style="list-style-type: none"> • AA 1.1 apply newly acquired competences in physics : to identify and calculate fundamental elements of electrical circuits (sources, resistances, capacitors, inductors), to understand the operating principle of basic electrical circuits, and to provide their aspects of energy and power • AA 1.1 apply newly acquired knowledge in chemistry to explain the basic properties of conducting, dielectric, and magnetic materials used in the project • AA 2.4 make a prototype that fulfils a dedicated function (linked to the theme of the project, variable from year to year) • AA 1.2 establish a simple model of the circuit behaviour, or of one of its components • AA 1.2 master software tools (variable every year, for instance Matlab) and to master basic laboratory equipment. <p>-----</p> <p><i>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".</i></p>
Evaluation methods	<p>An oral defence is organised for the project at mid-quadrimester (pre-jury), on the basis of precise indications. It serves to check the advancement state and the quality of the work already performed at this stage. An evaluation grid is communicated to the students to prepare them to the different components of this evaluation. The objective is formative, but it can provide a bonus for the group's final note.</p> <p>The final evaluation of the project is organised during the session. The final note includes :</p> <p>A group note (2/3) : presentation by the group in front of a jury, group report and continuous evaluation by the tutor.</p> <p>An individual note (1/3) : written individual exam to check that each student has gained some of the individual competences given here above.</p> <p>The « 2/3-1/3 » ponderation can be adapted in case of effective lack of participation to the work group by the student, or in case of an insufficient or very insufficient individual note.</p> <p>Evaluation grids will be communicated to the students to allow them to get prepared to the various aspects of the evaluation. At the end of the jury presentation, a debriefing is organized between the students group and the jury immediately after the deliberation of this one.</p>
Teaching methods	<p>The project is composed of different steps and organised around tutored working-group sessions. Each of these sessions is taking place before a working session in the laboratory. The method is casting a pre-jury, a testing and validation session, a jury, and the possibility of a public demonstration or a contest (according to the theme of the year).</p>
Content	<p>The content is directly linked with the disciplines of the quadrimester.</p>
Inline resources	<p>http://moodleucl.uclouvain.be/course/view.php?id=5113</p>

Bibliography	Les documents de référence (énoncé du projet, notices de laboratoire, grilles d'évaluation, planning, fiches techniques des appareils et du matériel, consignes, transparents de présentation ou de restructuration,...) sont disponibles sur le site web du cours.
Other infos	The reference documents (project statement, laboratory notices, evaluations grids, planning, technical datasheets of the instruments and the components, instructions, presentation slides or restructuration, ') are available on the website of the course.
Faculty or entity in charge	BTCI

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Bachelor in Engineering	FSA1BA	6		