UCL Université catholique de Louvain

LBIRE2214

2015-2016

Projet intégré en technologies environnementales eau-sol-air

7.0 credits	50.0 h + 20.0 h	1q

Teacher(s) :	Sonnet Philippe (coordinator) ; Delvaux Bruno ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	iCampus
Prerequisites :	Prerequisites: all courses of the BIRE program that are mandatory for the "Environmental Technologies Water-Soil-Air" option.
Main themes :	The "Integrated Environmental Technology Project" requires students to implement in an integrated manner the knowledge and skills acquired throughout their bioengineering coursework, to analyze and understand a real-world problem in a case study pertaining to environmental pollution and to identify and document possible solutions. The case study should present a level of complexity compatible with the time limit imposed by the course schedule. The project's end-result will consist in the oral the written communication of the analysis and the proposed solutions. The report and the presentation should be understandable and useable by any engineer without specific prior knowledge of the project or its specific context.
Aims :	a. Contribution de l'activité au référentiel AA (AA du programme) M1.5, M3., M3.2, M3.6, M3.7, M3.8, M3.9, M4.1, M4.3, M4.5, M4.6, M4.7, M5.1, M5.2, M5.3, M5.4, M5.7, M5.9, M6.2, M6.5, M6.8, M7.3, M8.1 b. Formulation spécifique pour cette activité des AA du programme Upon completion of this course, the students will know how to mobilize their knowledge of basic sciences and confront the technical and socio-economic constraints to carry out the study of a real case and propose a suitable solution. The student will know how to discern the determinants of the problem, how to determine the most effective approach in a typically ill-defined problem, often involving many factors and how to develop a technically appropriate solution. He/she will know how to write a report following professional standards, combining scientific rigor and conciseness, highlighting the main aspects and detailing in a comprehensive manner the proposed solution. He/she will know how to communicate orally to justify the approach, to present the main results of the analysis and to defend the proposed solution not only in front of the teachers, but also face-to-face to the sponsor of the study outside academia. By performing a relatively important group project, the student will learn the succession of stages necessarily involved in any group work, the sense of initiative and the management skills that are required, the creativity and the efforts which are necessary in order to meet the deadlines and to comply with a series of specifications. *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 :	Assessment: Written report and oral presentation of the completed project.
Teaching methods :	This course takes the form of a course-workshop. Following a first step consisting in the familiarization with the problem and its context, the steps and the distribution of tasks and deadlines are defined by the students in collaboration with the teachers. Students establish a schedule of meetings: internal working group sessions, interactions with the teachers responsible for the course and with the outside sponsor who proposed the project. During the sessions of interaction, work progress is discussed as well as the choices that must be decided on at the end of each stage to proceed to the next step. The project report is due for the last week of classes and presented orally during the examination session in January to the teachers responsible for the course and the sponsor.
Content :	The purpose of the Integrated Project is to put students in a real-life situation and make them work in groups of four, in the manner of a consulting firm, for two months in close interaction with a sponsor. To do this, one or more environmental issues relevant to real-life situations (pollution, waste management, remediation) are presented to students by sponsors (stakeholders, regional or local public authorities, companies). Having chosen their subject, students organize themselves in working groups, structure their approach, collect existing data and analyze the problems by mobilizing the scientific knowledge gained during the first four years of their studies. The aim of this project is to develop a solution that is technically appropriate while taking into account the constraints. For the sponsor, the added value of the work is to obtain a relatively thorough and comprehensive study on a problem which is relevant to the business at hand. The course concludes with the submission of a report at the end of the first quadrimester and an oral presentation in January.
Faculty or entity in charge:	AGRO

Programmes / formations proposant cette unité d'enseignement (UE)				
Intitulé du programme	Sigle	Credits	Prerequis	Acquis d'apprentissage
Master [120] in Environmental Bioengineering	BIRE2M	7	-	